REPORT ON THE ETHIOPIAN ECONOMY

Volume VI   2006/07

THE CURRENT STATE OF THE CONSTRUCTION INDUSTRY

Ethiopian Economic Association (EEA)

i

The Analysis and policy recommendations of this Report do not necessarily reflect the views of the Ethiopian Economic Association, its Executive Committee or its members. The Report is the product of the team of experts in the Ethiopian Economic Policy Research Institute and external consultants and advisors.

Inquiries should be addressed to:

Foreword

Contributing to the economic development of the country, encouraging and supporting the teaching of economics in educational institutions, promoting and strengthening research in economics, creating discussion forums on economic issues, and, in general, informing regularly the public at large (policy makers, civil society, academia, international organizations, etc.) on the state of the economy are some of the core objectives of the Ethiopian Economic Association (EEA). This publication, "Report on the Ethiopian Economy", is the key instrument for fulfilling these objectives. EEA believes that producing an independent professional report in a continuous, systematic and constructive way would contribute to the success of the ongoing reform program in the country.

The 'Report on the Ethiopian Economy' usually addresses most of the economic sectors. The idea is to carry out intensive analyses on the major sectors of the economy, including agriculture, manufacturing, public finance, monetary sector, external trade and social infrastructure – education and health. However, not all these sectors are often adequately covered due to lack of extensive and consistent data for producing reliable and rigorous analyses. Data permit, future reports will try to address all socio-economic activities in the country.

This year's Report is the sixth in the series. Similar to the previous publications, the Report has two parts: performance evaluation and analytical assessment of key issues and challenges facing the economy in part one and analysis of a thematic issue in the second.

Apart from the regularly addressed major sectors noted above, this year's Report introduces some new features of the economy in the first part of the Report. For the first time, a profile of the characteristic features of domestic trade is introduced. Also, and most importantly, it addresses one of the critical issues in external trade – supply side constraints. Irrespective of other

external trade barriers, the underlying factor for limited global trade integration and unsustainable balance of payment deficit of developing countries is believed to be domestic supply side constraint. This Report extensively discusses the challenge that Ethiopia is facing in enhancing exports. Furthermore, the Report raises the central concern in today's economic woes of many countries, including Ethiopia – the inflationary pressure. Across the board and fast increasing prices in Ethiopia for the past few years has been a source of great concern. The country has been under the grip of inflationary pressure for the last four years. This Report broadly discusses the severity of actual and potential impact of inflation on the poor.

Past reports have presented a number of thematic issues considered and selected on the basis of their relevance and priority for national development. Similarly, the thematic focus of this year's Report takes up the entry point to one of the critical determinants of development – physical infrastructure, specifically, construction of transport infrastructure and buildings. Construction of transport infrastructure needs to be in place ahead of time if it is not to chock the progress of socio-economic activities in general. As in most developing economies, the stock of transport infrastructure in Ethiopia (roads, rails, air- and sea-ports) is far from adequate. As such, its significance in a growing and reforming economy such as Ethiopia can hardly be exaggerated. This fact seems to be appreciated by the government which has recently launched extensive and visible construction activities in roads and expansion of airports. In this respect, the Report investigated existing domestic and foreign construction capacity and recent performances in buildings, roads and airports country wide.

A special feature of construction activity is the huge cost incurred. As such, financing construction works is the most pressing challenge of developing economies. In light of this, the Report extensively discusses past financing modalities in Ethiopia and identified some future financing sources.

EEA very much hopes that, as past reports, this specific Report would be useful to all categories of readers, particularly to policy makers in various economic activities who have key roles to play in guiding the economy.

Finally, I would like to express my appreciation to all those people whose contribution has made this Report possible.

Wolday Amha
President
Ethiopian Economic Association

Acknowledgment

Table of Contents

x

Chapter 5

Could WTO Accession Remove Ethiopia's Supply Side

Chapter 10

Financing of the Construction Industry 289

Chapter 11

Summary, Conclusions and Recommendations 307

List of Tables and Figures

A.   List of Tables

xviii

xix

B.   List of Figures

xxii

C. List of Boxes

PART I

REVIEW OF ECONOMIC PERFORMANCE

Introduction to Part One

Part I of this Report focuses on the performance of the Ethiopian Economy during 2006/07. The main aim of Part I is to highlight developments in the main aggregates of the economy during the year in review. This will cover the overall performance of the macro-economy and the various sub-sectors that include agriculture, industry and the service sector.

While the first Chapter of Part I will examine the various indicators of macro-economic performance ranging from nominal to real aggregates of the economy, the remaining chapters will deal into the various aspects of agriculture, industry, trade and inflation during the year in review. After a review of the economic developments during the period in Part I, Part II, the *Current State of the Construction Industry* (the thematic issue of this year's Annual Report) investigates the status of the construction industry of the country in detail.

Chapter 1

Macro-economy

1.1   Introduction

The Key macro-economic changes that took place in the Ethiopian economy during fiscal year 2005/06 are the focus of the First Chapter of the Report. This includes both overall and sectoral growth rates of macro-economic aggregates. The Chapter also highlights the structural changes that took place and the performance of the aggregates during the year in review relative to a historical trend[1] and in absolute terms.

After reporting the overall performance of the aggregates to gauge their relative contributions to the overall GDP, a brief description of their historical trend and the components that made up these sub-sectors are also outlined. To capture the overview of the macro-economy, therefore, the Chapter is organized as follows.

Section 1.2 focuses on the growth performance of the overall economy as measured by GDP and its main components. These components include: Agriculture, industry and the service sectors. The analysis in this sub-section is couched in terms of the aggregate performance of GDP and the contributions of each sub-sector to the overall performance of the economy. As a prelude to what follows, among the major points that this sub-section highlights, are: first, GDP exhibited a healthy growth as it did in the last two preceding years which seemed to have exhibited its robustness with a

---

[1] It is worth noting that care is required when comparing National Accounts data across various years as adjustments in the data have been frequent over the last few years. And this Annual Report follows the new officially released data even when the reported data seems inconsistent with previously published data.

consecutive double digit growth; second, the dominance of the agricultural sector in the economy continues unabated as has been the case for years while the shares of the industrial and the service sectors remained almost the same for at least the last three years ; third, despite their constant shares, the growth rates of these two sectors improved in the last two years even surpassing that of the growth in the agricultural sector; fourth, in particular the growth rate in the services sector, exhibited a growth rate of about 3 percentage points higher relative to that of the agricultural sector during 2005/06; fifth, after almost being stagnant for more than a decade, the industrial sector seems to have registered a significant growth in the last three years, averaging about 10% per year between 2003/04 to 2005/06; and, fifth, GDP growth registered an average of about 12 per cent in the last three years, which if the predicted robust growth rate for 2006/07 is realized, will mark the highest consecutive growth rate registered for more than two decades.

Section 1.3 examines the flow of investment and the rate of saving relative to GDP and their respective shares to GDP during the reporting period. In addition to its size at a national level, the regional distribution, the origin, and the sectoral distribution of investment is also outlined in this sub-section. Furthermore, the expected contributions of the newly approved investment to both permanent and temporary employment opportunities (for each type of investment approved) are also discussed.

The structure of exports and imports and the overall performance of the foreign sector are reported in Section 1.4. This includes the trade balance and the overall balance of payments recorded during the year in review both relative to preceding years and in absolute terms. Both the composition of exports and imports and their relative contributions to the growth of each category is also outlined to gauge the structural change of the respective flows over the years.

Section 1.5 focuses on the behavior of the monetary aggregates. This includes the various components of the stock of money supply, the structure

of interest rates, and the activities of the financial institutions. More specifically, the intermediary role of the financial institutions in both mobilizing deposits and allocating credits is examined in some detail to assess the overall developments of the financial sector during the year in review.

The inflows and outflows of government revenues and expenditures are evaluated in detail in Section 1.6. After outlining the various sources of revenues and expenditures it examines the relative contributions of various sources of financing and the relative share of the various sectors in absorbing the allocation of the total expenditures. The net balance of the various inflows and outflows, therefore, determines the net balance or the surplus/deficit of the government budget for the year in review.

Section 1.7 investigates the recently debated topic of price movements or inflation in the country during the year 2005/06. As is noted, the upward movement in prices started in 2002/03 and has been increasing ever since culminating in the historical peak of the current year. The factors that might have contributed to these uncharacteristic co-movements between prices and agricultural output is also explored in this section.

And finally, Section 1.8 concludes by briefly outlining the major salient features of the Ethiopian macro-economy.

1.2   Economic Growth Performance

The Ethiopian economy recorded a healthy consecutive economic growth since 2003/04. Based on the recently revised national accounts data, the Ethiopian economy grew by 11.7%, 12.6% and 11.6% during 2003/04, 2004/05 and 2005/06, respectively. According to recent projections, the economy is expected to grow by a similar average in 2006/07. The economy has, therefore, been in a robust growth trajectory over the last four years. The important aspect of this growth is that, all the three sectors (agriculture, industry and services) grew by double digits during the year in review

(2005/06) suggesting, more or less, a balanced growth in the economy, with only slight edge in the service sector. It is worth emphasizing that the economic growth recorded in the last three years is one of the highest consecutive performances of the economy compared to any averages over the last four decades

As was the case in 2004/05, the service sector recorded the highest growth rate during the year in review even though GDP growth was more influenced by the performance of the agricultural sector owing to its dominant share. As noted in the introduction and indicated in Table 1.1, all sectors, albeit with minor differences, contributed to the overall growth in the economy. For instance, agriculture, industry, distributive services and other services grew by 10.9%, 10.2%, 14.2%, and 12.5%, respectively, during 2005/06. Consequently, GDP grew by 11.6% in 2005/06 (see Table 1.1 and Figure 1.1).

Table 1.1: Sectoral growth performance

	1960/61 - 05/06	1960/61 - 73/74	1974-75 -90/91	1991/92 - 05/06	1991/92 - 96/97	1997/98 - 05/06	2002/03	2003/04	2004/05	2005/06
Agriculture and allied activities	1.6	2.1	0.6	2.9	4.5	4.3	-10.5	16.9	13.5	10.9
Industry	3.6	7.0	3.6	6.7	8.7	7.4	6.5	11.6	9.4	10.2
Distributive Services	3.6	7.8	2.5	6.4	8.9	7.0	5.5	6.4	14.7	14.2
Other Services	5.7	6.9	4.7	7.5	8.1	7.2	6.5	6.1	10.9	12.5
GDP	2.7	3.7	2.0	4.8	6.3	5.8	-2.1	11.7	12.6	11.6
Per capita GDP	0.2	1.4	0.5	1.9	3.4	2.9	-4.8	8.7	9.6	8.6

Source: Ministry of Finance and Economic Development, Central Statistical Authority and Staff compilation.

Figure 1.1: Growth rates in real GDP
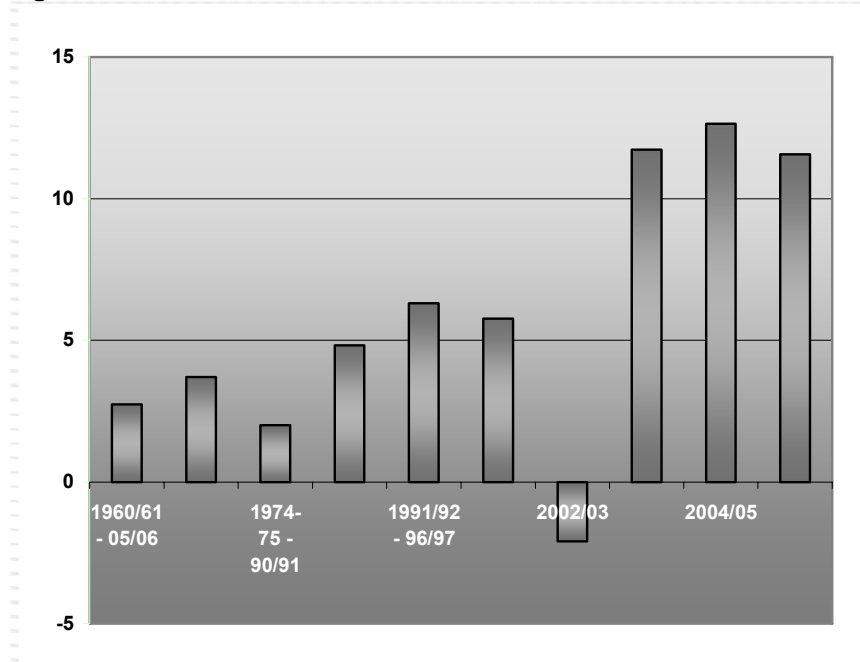
Source: Ministry of Finance and Economic Development, Central Statistical Authority, and Staff compilation.

The growth rates recorded in the last three years and the projected double digit growth for 2006/07 suggest that the economy is in a robust growth trajectory as the growth rate is healthy by any standards and it encompasses all sectors of the economy unlike previous years in which the growth focused on few sectors.

Further, in addition to the aggregate growth rate registered outlined above, there was also an appreciable increase in per capita income during the year in review. As is the case in GDP, per capita income also increased for three consecutive years. More specifically, GDP per capita increased by 8.7%,

9.6% and 8.6% in 2003/04, 2004/05 and 2005/06 respectively, reversing the 4.8% decline recorded in 2003/.

Unlike in previous years in which per capita GDP in agriculture was much higher than that of GDP per capita in the non-agricultural sector, GDP per capita in both sectors grew by almost a similar rate during the year in review. As was the case in the growth rate of the overall GDP, the growth rate of GDP per capita was also dominated by what happens to agriculture per capita regardless of what happens to the non-agriculture component as could be noted in 2002/2003 in which overall GDP per capita was negative because the agriculture component was negative even though the non-agriculture was positive. This is mainly because (a) the majority of the population live in the rural areas and (b) it follows, agriculture is the dominant sector in the structure of the Ethiopian economy.

Table 1.2: Total and sectoral per capita income-(growth rate-%)

	GDP	Per capita GDP	PC GDP AGRI	PC GDP NON-AGRI
1960/61 – 05/06	2.7	0.2	-0.1	0.0
1960/61 – 73/74	3.7	1.4	-0.1	4.1
1974-75 -90/91	2.0	0.5	-1.7	-0.9
1991/92 – 05/06	4.8	1.9	0.0	2.4
1991/92 – 96/97	6.3	3.4	1.8	3.7
1997/98 – 05/06	5.8	2.9	1.7	2.9
2002/03	-2.1	-4.8	-12.8	1.8
2003/04	11.7	8.7	14.0	3.2
2004/05	12.6	9.6	10.7	7.4
2005/06	11.6	8.6	8.2	8.0

Source: Ministry of Finance and Economic Development, Central Statistical Authority, and Staff compilation.

Note: - The growth rates for the periods 1960/61 - 2004/05, 1960/61 – 1973/74, 1974/75 - 1990/91, 1991/92 - 2004/05 and 1997/98 - 2004/05 are based on a time trend whereas the rates for the remaining years are simple arithmetic means.

Before moving to the composition and the structural change of the economy, noting few salient features of the GDP per capita will be worth while. First, the urban-rural divide in terms of improvements in per capita income almost disappeared during the year in review, mainly because the growth in GDP in both the agricultural and the non-agricultural sectors were similar; second, as has been the case over the past decades or so, the growth rate of the population (which is a result of high fertility rate) is still high, which is undermining the economic progress made. And, third, as Table 1.2 and Figure 1.2 show, GDP per capita grew by a substantial margin higher than the population growth in the last three years compared to the last four decades or so. And, therefore, if the economy continues to grow as projected and population growth stabilizes, a significant improvement in the standard of living of the population may be witnessed before long, as the government envisages a marked shift in the standard of living.

Figure 1.2: Growth rates in per capita
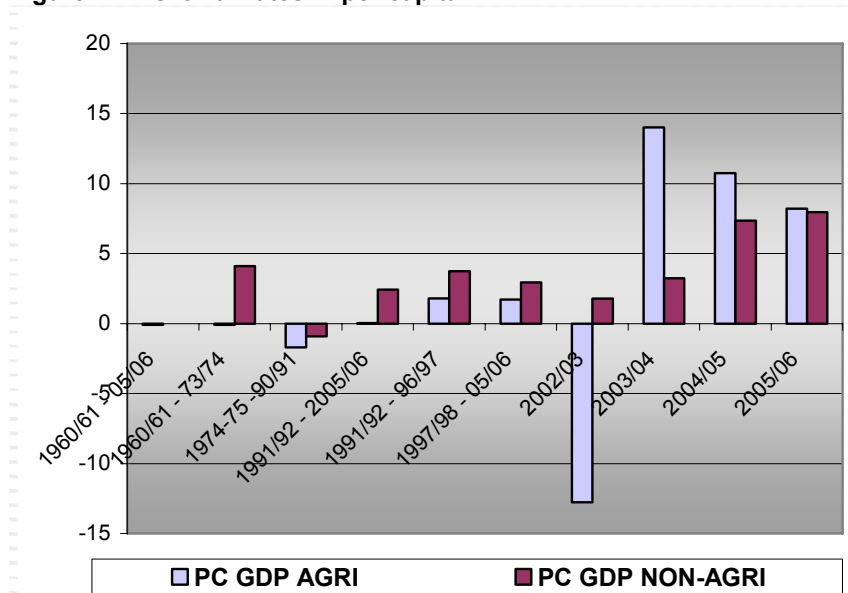
Source: Ministry of Finance and Economic Development, Central Statistical Authority, and staff compilation.

Despite the all encompassing growth rates registered in the last three years, the structure of the Ethiopian economy remained intact with agriculture playing the dominant role. Consequently, the patterns of GDP growth and decline are still dictated by what happens to the agricultural sector, owing to its dominance. To cite an example, GDP growth was negative by 2.1% in 2002/03 even though all the other sectors grew by about 6% on average because the growth of agriculture was negative. And, interestingly, even during the year in review in which there was a balanced growth in all the sectors, no significant change was recorded in terms of the respective share of the sectors in GDP. That is, as noted in Figure 1.3, the relative share of the sectors remained the same as was the case over the last few years

In terms of employment, no new and accurate historical data has yet been available but a 2006 survey[2] suggested that about 88% of the active population lived in the rural areas while the remaining 12% lived in the urban areas, suggesting that the bulk of the Ethiopian work force is mainly engaged in agriculture. According to this survey, 89.4% of the employed population lived in the rural areas while the remaining 11% lived in urban areas.

Needless to say, the role of the industrial sector has been minimal. Over the last three years (2003/04 - 2005/06), the share of industry in GDP was about 13% and only slightly increased in almost over the last three to four decades. The role of the service sector had significantly increased over the last decade following the liberalization measures carried out in the last fifteen years compared to a decade ago. In the last three years, however, no appreciable change was registered as it remained at about 40% of GDP between 2003/04 - 2005/06 (see Figure 1.3).

---

[2] The Federal Democratic Republic of Ethiopia, Central Statistical Agency "Report on the 2005 National Labor Force Survey," Addis Ababa, May 2006, Statistical bulletin 365.

Figure 1.3: Composition of real GDP
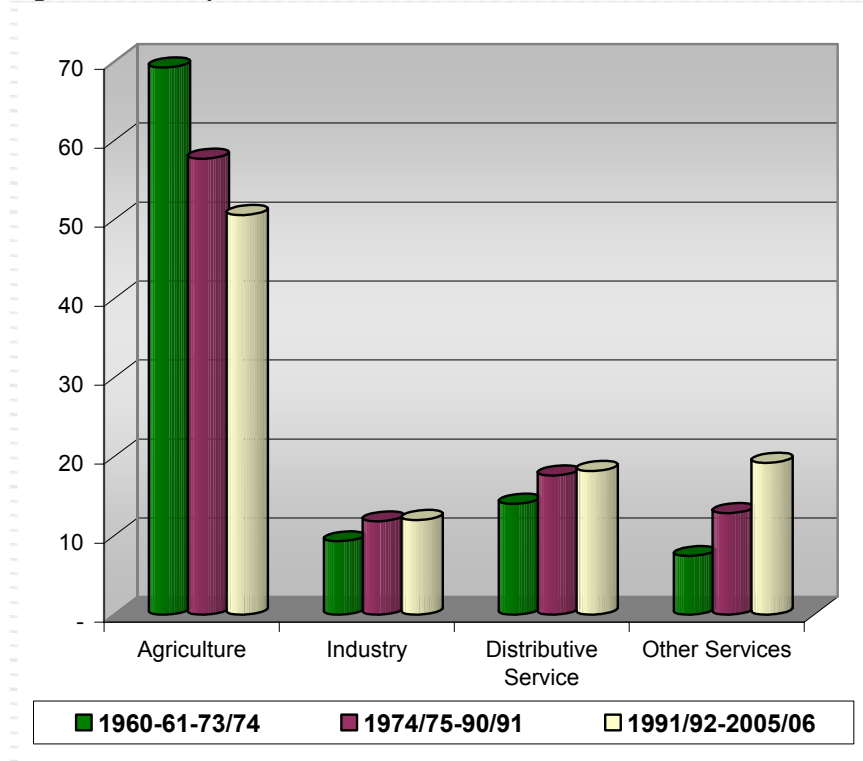
Source: Ministry of Finance and Economic Development, Central Statistical Authority, and Staff compilation.

1.2.1 The agricultural sector

As has been the case for decades, agriculture is the back-bone of the Ethiopian economy. It dictates both GDP growth and employment. Consequently, the performance of the sector (or the lack of it) influences the economic wellbeing of the population. This dominance has remained intact

mainly because the other sectors have not developed quickly and the overwhelming majority of the population live in the rural areas.

Despite small attempts to expand irrigation schemes in recent years, the sector has remained dominated by traditional and rain-fed subsistence agriculture. As could be seen from Figure 1.4, the three years consecutive growth performance of the sector could, mainly, be attributed to the favorable weather conditions that prevailed in the last three years. And the projected high performance in 2006/07 is due to the attendant good rain during the year.

Figure 1.4: Growth rates in the value added of agricultural sector
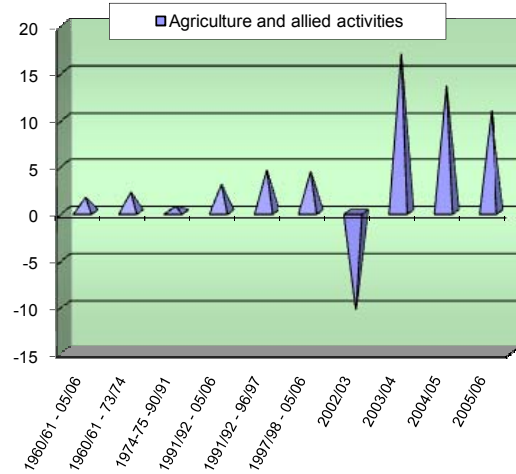
Source: Ministry of Finance and Economic Development and Staff computations

This is not to suggest that other factors have not contributed to the performance of the agricultural sector but to indicate the total dependence of the sector on the vagaries of nature. Otherwise, even though difficult to quantify the contribution of other factors as well as, the policy focus that the sector received in recent years have also contributed to the high performance of the sector. This focus has been reflected in the significant effort to facilitate the availability of fertilizers, selected seeds, expert advice and supervision under what is referred to as extension package. All these efforts added to the suitable weather conditions in making the agriculture sector the main contributor to GDP.

1.2.2 The industrial sector

As noted above, the Ethiopian industrial sector has been small relative to the other two sectors (agriculture and service). It averaged about 13% of GDP in the last fifteen years. Surprisingly, it is not the large & medium scale industries that have had the highest share in GDP but the construction sub-sector. This is another indication that the industrial sector is at its infancy and, hence, has a limited backward and forward linkage to the rest of the economy. Admittedly, its share has slightly increased in recent years, but it is still a very small sector both relative to the other sectors and in absolute terms.

And in terms of its composition, the construction sector and the medium & large scale industries constituted more than half of the sector. Over the last 15 years they had a share of about 65% of the sector in terms of total output. The relative shares of electricity & water, small scale industries & handicrafts and mining & quarrying were 16.9, 14.1 and 3.5%, respectively. The average share of construction which stood at 39.9% of the total dominated the sector in the last fifteen years. This was followed by large & medium scale industries at 25.5%. As could be seen from Table 1.3, small scale industries & handicrafts and electricity & water constituted 14.1% and 16.9% of the total,

respectively, during the same period. The smallest sub-sector was mining & quarrying which constituted about 3.5% of the total.

Table 1.3: Growth performance in the industrial sub-sectors

Sub-Sectors	Share in Sector	Share in GDP	Growth					
	1991/92-2004/05	1991/92-2004/05	1991/92-2004/05	2001/02-04/05	2002/03	2003/04	2004/05	2005/06
Industry	100.0	13.1	6.7	9.2	6.5	11.6	9.4	10.2
Mining & Quarrying	3.5	0.5	5.1	4.0	4.1	2.0	4.1	7.2
Large & Medium Scale Industries	25.5	3.3	6.3	8.4	1.4	7.7	11.6	13.7
Small Scale Industries & Handcrafts	14.1	1.9	4.1	6.4	-0.4	4.5	15.0	4.9
Electricity & Water	16.9	2.2	4.0	6.8	4.8	6.6	7.9	8.8
Construction	39.9	5.2	4.6	12.1	13.6	19.5	7.5	10.5

Source: Ministry of Finance and Economic Development and staff calculations

And in term of growth performance, while the growth rate of the sub-sectors varied, the overall sector grew by about the same rate (9.4% on average) in the last four years as it did between 2001/02 and 2005/06 (9.2%). But, as can be seen in Table 1.3, there has been an appreciable improvement in the growth rate of the sector relative to previous years. In fact, compared to the average growth rate of 6.7% over the last fifteen years or so, its performance in the last four, but particularly three years which averaged between 9.4 to 10.4% was significant.

Looking at the growth performance of each sub-sector, the construction sector registered the highest growth rate in the last eight years. As can be seen in Table 1.3 and Figure 1.5, it averaged about 13% per year in the last four years compared to only 4.6% between 1991/92 to 2005/06, and 12%

between 2001/02 and 2005/06. Large & Medium Scale industries recorded the second highest growth rates at 8.6, 6.3 and 8.4% during similar periods.

Figure 1.5: Growth rates in the value added of the industrial sector
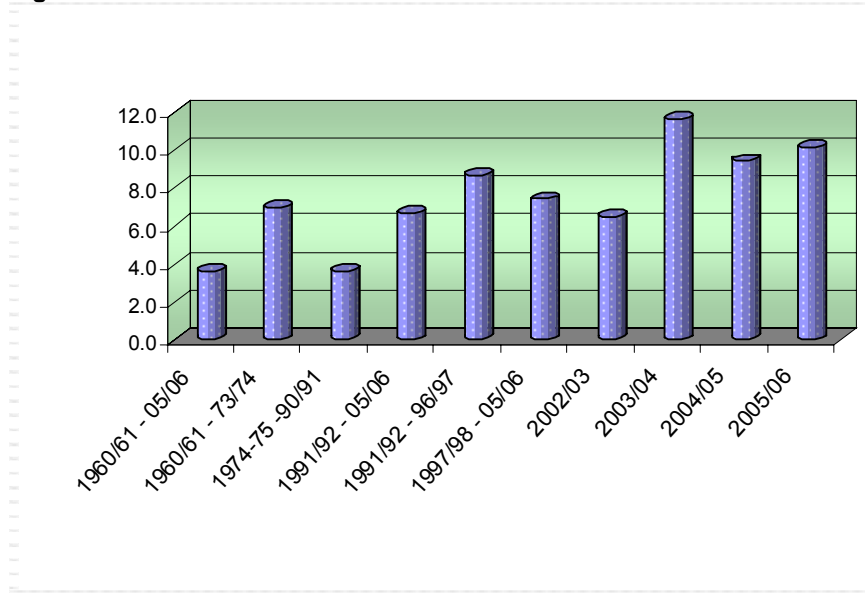
1.2.3 The service sector

This sector is composed of various sub-sectors that range from trade and restaurants to education and health service provisions. More specifically, the service sector includes: trade, hotels & restaurants, transport & communication, banking & insurance, public administration & defense, education, health and domestic & other services. The first two sub-sectors are referred to as distributive services while the remaining are categorized as the 'other' services sector.

The services sector has had the second highest share in GDP in recent years, following agriculture. Its share in GDP averaged about 37% between 1991/92 to 2005/06. As noted in previous reports, the growth in the service sector has been significant following the reform carried out since the early 1990s. Consequently its growth rate and hence its share in GDP has progressively increased during the current regime. Similarly, as indicated in Table 1.4, with 37.4% share in the total, the dominant category within the service sector is the trade, hotels & restaurant sub-sector followed by the banking & insurance sub-sector, constituting about 14% of the total.

The services sector grew by 13.4% during 2005/06. Consequently, all the sub-categories of the service sector had registered a significant growth during the year in review. Further, this growth has been consistent in the sector following the reform period that started in the early 1990s. Particularly in the last two years, the sector grew by about 13%. With about 18% each, during the year in review (2005/06), the trade, hotels & restaurants and banking & insurance sectors had the highest growth rate followed by the domestic & other services and the education sector.

Taking the average growth rate of the sector, the services sector grew by about 11% in the last three years. The average growth rates of the specific sub-sectors in the last three years, on the other hand, varied ranging from a high of about 12% in the health and trade, hotels & restaurants sub-sectors to a low of 6.1% in the public administration & defense sub-sector. Being an important sector in terms of its share in GDP, its growth rate is more or less comparable to the growth rate of GDP, except that it is more stable over time due to agriculture's volatility and attendant influence on GDP. Another salient feature of the service sector worth noting is that, its growth rate and share in GDP exceeds that of the industrial sector even though one would think the growth of the latter is what predominantly dictates the growth of the former as facilitating its expansion. But, in what seems unparalleled growth scenario, the growth of the service sector exceeded the growth of the industrial sector in the last fifteen years or so.

Table 1.4: Service sector growth performance

Sub-Sectors	Share in Sector	Share in GDP	Growth					
	1991/92-2004/05	1991/92-2004/05	1991/92-2004/05	2002/03-2004/05	2002/03	2003/04	2004/05	2005/06
Services	100.0	36.7	7.5	8.3	6.0	6.3	12.8	13.4
Trade, Hotels & Restaurant	37.4	13.7	6.3	9.1	3.6	5.2	12.8	17.9
Transport & Communication	13.7	5.0	7.2	11.1	10.5	9.5	19.2	5.7
Banking & Insurance	22.6	8.3	8.4	10.1	9.9	6.8	10.2	18.0
Public Administration & Defense	11.6	4.3	7.8	4.9	1.4	0.2	11.6	6.4
Education	6.6	2.4	6.7	10.7	11.6	11.5	12.6	8.6
Health	2.3	0.9	7.6	9.2	-4.2	15.9	16.9	4.8
Domestic & Other Services	5.7	2.1	4.2	5.5	1.9	4.4	7.4	8.8

Source: Ministry of Finance and Economic Development and staff calculations

1.3   Saving and Investment

This sub-section deals with the behavior of saving and investment and their developments during the year in review. The sub-section briefly examines the rate of domestic saving and the extent to which it has covered the country's investment, and hence the attendant resource gap and debt. It also examines the structure of investment.

1.3.1 Saving

Saving in Ethiopia is generally low mainly due to the subsistence nature of the economy where output is barely enough for consumption. Between 1993-2006 average gross domestic saving as a percentage of GDP was 7.9%. Domestic saving in the past five years (2001-2006) was even lower (3.9%) than the thirteen years average. Gross investment as a percentage of GDP, on the other hand, has been steadily increasing and has reached 24.2% in 2005/06. Thus, the country's investment has basically depended on foreign sources.

During the year in review, domestic saving has slightly improved reaching 3.7% of GDP from its level of 3.0% in 2004/05. However, it was still short of the increase in investment as percentage of GDP. Thus, the resource gap slightly widened to 20.6% of GDP. As shown in Table 1.5, the country's dependence on foreign sources to finance its investment has been increasing in the past thirteen years. During the year in review, 85% of the investment had to be covered from foreign sources. Since foreign sources also include current transfers (private remittances and official grant), the saving-investment gap would not necessarily be reflected in external debt of the country. Both private and official transfers have been rising in the past thirteen years covering most of the resource gap. In the year under review, transfers in general have covered about 67% of the saving-investment gap.

During the year in review, Ethiopia has also continued to receive debt relief assistance under HIPC. Thus, despite new loans (equivalent to Birr 1.6 billion net long-term loan in 2005/06) from bilateral and multilateral creditors to cover the saving investment gap, the country's stock of external debt as percentage of GDP has declined to 39.7% from 48.8% in 2004/05.

Table 1.5: **Gross Domestic Savings (GDS), Gross Fixed Capital Formation (GFCF), and the Resource Gap** (as share of GDP)

Year	GDS	GFCF	Resource Gap	Share of GFCF Financed from Foreign Sources	Consumption			Debt Service Ratio	Gross External Debt
					Total	Gov.	Private		
1993/94	9.4	17.6	-8.2	46.7	90.6	8.1	82.5	56.9	65.2
1994/95	11.0	19.1	-8.1	42.4	89.0	8.7	80.3	30.2	58.7
1995/96	11.2	19.6	-8.4	42.8	88.8	8.1	80.6	35.0	51.2
1996/97	10.0	19.8	-9.8	49.4	90.0	8.0	82.0	49.8	45.9
1997/98	12.0	21.2	-9.2	43.3	88.0	9.8	78.2	15.0	50.3
1998/99	8.0	21.9	-13.9	63.5	92.0	15.6	76.4	18.2	53.7
1999/2000	9.0	20.3	-11.3	55.6	91.0	17.9	73.1	25.2	67.0
2000/01	10.0	21.5	-11.5	53.4	90.0	14.6	75.4	22.2	68.0
2001/02	6.0	23.9	-17.9	74.9	94.0	14.8	79.2	15.4	79.6
2002/03	4.0	21.8	-17.8	81.7	96.0	13.4	82.6	14.0	79.4
2003/04	5.0	25.5	-20.5	80.4	95.0	13.1	81.9	12.3	71.8
2004/05	3.0	23.0	-20.0	87.1	97.0	12.3	84.8	9.8	48.8
2005/06	3.7	24.2	-20.6	84.9	96.3	12.1	84.3	9.9	39.7
Average (1993/94-2005/06)	7.9	21.5	-13.6	62.0	92.1	12.0	80.1	24.2	60.0
Average 2002/03 - 2005/06	3.9	23.6	-19.7	83.5	96.1	12.7	83.4	11.5	59.9

Source: MoFED, NBE and Staff computation

1.3.2 Investment

Both domestic and foreign investment capital continued to flow to the Ethiopian economy over the past decade after the introduction of the economic liberalization measures in the early 1990's. Accordingly, the

Ethiopian Investment Agency and Regional Investment Bureaus licensed a total of 5,808 new investment projects with a total capital outlay of close to Birr 79.5 billion during the period. During the year in review, the number of investment projects increased by around 87% and total investment capital outlays by (86%) compared to a similar fiscal year 2004/05.

Domestic projects (comprised of private and public projects) constituted around 87.2% of the total licensed investment projects while non-Ethiopians owned the remaining 22.8% of the projects licensed during the year in review. Compared to 2004/05, domestic investment projects increased by 104.3% whereas the number of foreign owned investment projects licensed increased by only 20.5% during the period under consideration. In terms of investment capital, domestic investment projects planned to raise close to Birr 60 billion (around 75% of the total investment capital) while foreign-owned investment projects planned to raise close to Birr 20 billion. As was the case in preceding years, the flow of investment projects in Ethiopia was dominated by domestic investment projects; and their dominance had been increasing over time. (Tables 1.6 - 1.8)

The licensed projects were expected to create an employment opportunity for a total of 511,380 persons of whom 208,326 (40%) were permanent employees while 303,054 (60%) were expected to be offered the jobs on temporary basis. During the year in review the number of employment opportunities created were significantly reduced in relation to the year 2004/05 as a result of the sharp decline in the number of temporary employment (by 50%). Nevertheless, the number of permanent employment has witnessed a 48% rise compared to the preceding year. Out of the total employment planned to be created, domestic investment projects created around 71% of the employment opportunities and the remaining balance was created by foreign-owned investment projects. In terms of offering permanent jobs, foreign-owned investment projects offered more (46.5% of the total jobs planned to be created) while domestic projects only created 38.4% of the total employment opportunity as permanent positions.

Table 1.6: Number, investment capital & employment creation of approved domestic private and public investment projects during 2005/06

Sectors	No of Project	Capital (in millions)	Permanent Employment	Temporary Employment
Agriculture	584	11,969	24,438	88,938
Mining & Quarrying	12	64	238	769
Manufacturing	1,074	13,087	52,463	48,279
Electricity Supply	7	18,208	41	5,084
Construction	291	1,912	9,082	36,091
Real Estate	2,100	8,831	21,993	27,252
Trade	81	134	1,041	803
Hotel & Tourism	481	1,878	11,630	8,318
Transport & Communication	91	1,287	982	840
Education	244	1,368	14,532	5,368
Health and Social Work	80	387	2,971	1,761
Other Businesses	22	732	613	1,106
Grand Total	**5,067**	**59,858**	**140,024**	**224,609**

Source: Ethiopian Investment Agency

The variation in the factor intensity of the investment projects is worth noting as it helps to assess the extent to which the new projects create more employment, transfer technology and utilize resources in the production of goods and services. Accordingly, a comparison of capital and labor intensities of the investment projects indicates that domestic investment projects were found to be more capital intensive relative to foreign projects. For instance, it was observed that domestic projects combined a capital which was worth Birr 164,160 with each labor hired, on average, whereas each unit of labor was combined with a capital worth Birr 133,883 in the case of foreign owned projects. However, the situation was different during 2004/05 in which foreign-owned projects were highly capital intensive relative to the domestic ones.

Table 1.7: Number, investment capital & employment creation of total approved investment projects during 2005/06

Sectors	No of Project	Capital (in millions)	Permanent Employment	Temporary Employment
Agriculture	755	16,061	60,949	129,997
Mining & Quarrying	15	1,003	495	1,369
Manufacturing	1,302	22,808	71,725	63,902
Electricity Supply	8	18,268	51	5,284
Construction	327	4,131	10,586	44,148
Real Estate	2,302	10,543	29,173	37,220
Trade	93	175	1,296	1,395
Hotel & Tourism	528	2,347	13,195	9,551
Transport & Communication	101	1,345	1,393	921
Education	262	1,443	15,292	5,982
Health and Social Work	90	626	3,312	2,094
Other Businesses	25	754	859	1,191
Grand Total	**5,808**	**79,504**	**208,326**	**303,054**

Source*:* Ethiopian Investment Agency

As was the case in previous years, the investment projects were concentrated in few sectors of the economy. In 2005/06 investments related to the real estate activities claimed about 40% of the total investment projects, followed by manufacturing and agricultural investment projects which claimed 22.4% and 9.1% of the investment projects, respectively. On the other hand, economic activities such as mining & quarrying and electricity supply constituted less than 1% of the total investment flows during the year in review. Similarly, few of the sectors attracted the lion's share of the investment capital during 2005/06. For instance, the manufacturing sector alone attracted 28.7% of the total investment capital whereas electricity supply claimed 23%, despite its insignificant share in terms of the number of investment projects it attracted. Economic activities such as trade, mining & quarrying and transport & communications claimed the least amount of

investment capital in the total investment capital. Similar to previous years, therefore, the structure of the flow of investment to the economy did not change since few sectors of the economy attracted a disproportionate share of the total.

Table 1.8: **Number, investment capital & employment creation of investment projects under the status of pre-implementation, implementation and operation during 2005/06**

Type of Investment	Pre-Implementation and Implementation				Operation			
	Number	Capital (in millions Birr)	Permanent Employment	Temporary Employment	Number	Capital (in millions Birr)	Permanent Employment	Temporary Employment
Domestic	4,676	40,412	135,551	212,448	385	1,231	4,432	7,111
Foreign	627	19071.7	64168	73267	-	-	-	-
Public	6	18,215	41	5,050	114	576	4,134	5,178
Grand Total	**5,309**	**77,699**	**199,760**	**290,765**	**499**	**1,807**	**8,566**	**12,289**

Source*:* Ethiopian Investment Agency

As has been observed in previous years, licensing investment projects does not necessarily guarantee the implementation of the projects within the reference period. Some projects may require more than one fiscal year to start operation and even some of them might not be realized at all for various reasons. Among the licensed projects 499 investment projects started operation during the year in review. These projects were expected to create employment opportunity for a total of 20,855 persons both on permanent and temporary basis.

In sum, the flow of both domestic and foreign investment projects in 2005/06 was encouraging. That is, in terms of the number of projects licensed, planned capital outlays and the employment opportunities to be created were

significant both in relative and in absolute terms. However, the investment activities were concentrated in few sectors such as the real estate which attracted the majority of the projects and the investment capital and only few of the projects were able to be implemented and start operation during the year in review. This seems to call for a deliberate government action to diversify the focus of investment activities in favor of a more balanced distribution of investment flows across many sectors of the economy. This is particularly necessary to focus more on the major sectors of the economy such as agriculture and manufacturing which are likely to have more impact on employment and overall stability of the economy.

1.4   The External Sector

The changes recorded in the external sector during 2005/06 are discussed in this section. This is done by looking at the overall balance of payments and its details. Mainly the report will focus on the performance in the trade arena. It then views the developments of the main components of the balance of payments.

In spite of the growth in overall agricultural production, the growth in exports has slowed down during 2005/06. Total exports grew by 18% compared to 36% and 26% during 2004/05 and 2003/04 respectively. The slowing of growth in total exports came from the dramatic slowdown in the growth of coffee exports (5%) during the year. During 2004/05 growth in the exports of coffee reached 50%. The reduction in the growth of exports of coffee came as a result of a reduction in the volume exported by 8% in spite of an increase in the unit value of coffee export from USD2.08/kg to USD2.33/kg.

Table 1.11 shows that the export of non-coffee exports also slightly declined to 26% from 28% in the previous year. This coupled with the very small increase in coffee exports pulled down the growth of total exports to 18.1% which is half the growth rate registered in the previous year. Regarding the structure of exports the export share of coffee declined during 2005/06. It has

gone down to 35% of the total value of exports compared to 41% share in 2003/04.

Table 1.9: Growth rate and structure of exports

Year	Annual Growth Rates of Exports(Value)			Percentage Shares	
	Coffee	Non-coffee	Total	Coffee	Non-coffee
1995/96	-4.2	-14.8	-8.0	66.1	33.9
1996/97	33.8	79.4	49.3	59.3	40.7
1997/98	25.2	-21.0	6.4	69.8	30.2
1998/99	-26.9	21.8	-12.2	58.1	41.9
1999/00	1.0	19.7	8.8	53.9	46.1
2000/01	-28.8	28.6	-2.3	39.3	60.7
2001/02	-8.3	5.3	-0.1	36.1	63.9
2002/03	1.8	10.3	7.2	34.2	65.8
2003/04	35.8	21.8	26.6	36.7	63.3
2004/05	50.1	27.9	36.5	41.0	59.0
2005/06	5.7	26.2	18.1	35.4	64.6

Source: National Bank of Ethiopia

On the imports side the value or total merchandise imports amounted to USD 4275.7 million showing 20% increase compared to the value in 2004/05.

Componentwise (it is not component, but structure) the value of capital goods imports continues to dominate the total import taking 31% share. This share has declined when compared to 33% in 2004/05. Capital goods import is followed by consumer goods import continuing the 27% share it had during 2004/05. Also with a slight decline the share of semi-finished goods import remained around 18%. Coupled with the fact that 31% share of capital goods import around 49% of the total imports were inputs to industrial sector. This would assist the development of the sector. However, it's important to note that parts of semi finished goods are fertilizers and chemicals used to increase agricultural output.

Table 1.10: Percentage share in total import value

Year	Raw Materials	Semi-finished Goods	Fuel	Capital Goods	Consumer Goods	Miscellaneous
1995/96	2.5	17.5	12.9	35.9	27.1	4.1
1996/97	2.0	19.2	18.4	38.8	20.6	0.9
1997/98	2.0	16.4	24.4	29.8	19.7	7.7
1998/99	1.7	16.8	11.4	33.7	28.1	8.3
1999/00	1.2	12.7	15.5	29.2	26.8	14.5
2000/01	1.5	18.3	18.8	28.6	30.1	2.8
2001/02	1.8	17.0	15.8	28.3	34.6	2.5
2002/03	1.2	14.8	15.5	29.6	35.2	3.7
2003/04	1.3	18.1	12.2	31.6	35.1	1.5
2004/05	1.4	18.3	18.4	33.0	27.1	1.8
2005/06	1.7	17.9	18.7	31.6	27.9	2.1

Source: National Bank of Ethiopia

Regarding the rest of the import components raw materials depict slight increase in share of imports. Miscellaneous imports also depict a slight increase in share to total imports.

Resulting from the relatively slower growth in total exports and the normal increase in imports the trade balance during the year deteriorated further reaching USD 3504 million (23% of GDP) from USD 2708 million (22% of GDP) the year before. This results further in the deterioration of the current account deficit, including public transfer, amounting to 8.9% of GDP. This deterioration took place despite a decline in the openness indicator which is measured by the ratio of the nominal sum of imports and exports to GDP. This ratio slightly declined to 0.35 in 2005/06 from 0.36 in 2004/05.

The capital account, on the other side, resulted in a surplus of USD 618 million (4.2% of GDP). This has shown 8.8% increase compared to the value

in 2004/05. Its share to GDP, however, has declined by 0.5% age points compared to the share in previous year.

As interplay between the current account and the capital account the overall balance of payments depicted a deficit of USD 202 million amounting to 1.4% of GDP. This deficit has increased compared to USD 98 million deficits in 2004/05 (0.8% of GDP)

The balance of payments deficit followed the decline in gross foreign reserves which decreased to USD 1158 million at the end of 2005/06. This is equivalent to 2.5 months of the following year's imports of goods and services. This amount depicted a substantial decline from Birr 1581.4 million or 3.5 months of imports of goods and services in 2004/05.

The official exchange rate remains to be determined by the inter-bank foreign exchange market. This market is a market where the commercial banks and the National Bank participate in. It is assumed that the commercial banks would bring the demand and the supply pressures to this market and the exchange rate in this market would reflect demand and supply of foreign exchange in the official market. Accordingly, the inter-bank average weighted exchange rate continued to depreciate reaching an annual average of Birr 8.6810/USD. This depicted a 0.33% depreciation compared to 0.37% depreciation in 2004/05. In this market the total amount of foreign exchange traded amounted to USD 134 million during the year in review. Out of this amount, foreign exchange worth only USD 10 million was traded among commercial banks. This shows that the flow of foreign exchange during the year was mainly from the National Bank to the commercial banks. This implies a relative shortage of foreign exchange with the commercial banks for the settlement of their import bills and other sales of foreign exchange.

Table 1.11: BOP indicators as a percentage of GDP

Indicators	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Exports	6.8	7.5	6.2	5.9	5.7	5.8	5.6	6.0	6.9	6.6
Imports	-14.7	-16.8	-19.9	-17.2	-18.1	-21.8	-21.7	-25.7	-29.5	-30.3
Trade Balance	-8.0	-9.4	-13.7	-11.2	-12.4	-16.0	-16.0	-19.8	-22.6	-23.7
Net Services	1.1	1.3	0.9	1.2	1.1	1.3	1.4	2.4	2.0	1.0
Net Private Transfers	2.9	3.9	3.5	4.7	4.6	4.5	5.8	6.7	6.6	8.1
Net Public Transfers	2.5	2.8	2.4	2.6	4.8	5.6	7.0	5.6	6.1	5.7
Current Account Deficit (Including Public Transfers)	-1.4	-1.3	-6.8	-2.8	-1.9	-4.6	-1.8	-5.0	-8.0	-8.9
Current Account Deficit (Excluding Public Transfers)	-3.9	-4.1	-9.3	-5.3	-6.7	-10.1	-8.8	-10.6	-14.1	-14.6
Non-Monetary Capital	-2.0	1.9	1.5	0.9	3.1	6.5	4.7	5.1	4.7	4.2
Overall Balance	-4.4	0.4	-0.6	-3.8	-1.2	3.7	3.6	2.3	-0.8	-1.4

Source: National Bank of Ethiopia.

On the other hand, the parallel market exchange rate reached an average of Birr 9.0258/ USD. This shows a dramatic depreciation of 3.6% from its value of Birr 8.7110/USD in 2004/05. As a result the parallel-official premium reached 3.97% of the official exchange rate. This has exceeded the target of 2% premium that the National Bank aims to maintain. The purpose of maintaining the 2% target is to avoid the existence of multiple exchange rates in the country.

1.5   Developments in Monetary Aggregates

This section reviews developments in monetary and financial aggregators during fiscal year 2005/06. The main aspects of the monetary sector that is examined include the stock of money supply and demand aggregates, the interest rate, and the overall activities of the banking sector. That is the overall intermediation activities of the banking sector both in absolute terms and relative to their historical status will be briefly discussed.

The stock of broad money supply (M2) showed a 15.4% growth relative to fiscal year 2004/05 and reached birr 46.6 billion at the end of 2005/06 fiscal year. The expansion of domestic credit to the economy which more than offset the decrease in net foreign assets accounted for the surge in money supply during the year. The fall in the net foreign assets could probably be attributed to the decline in the flow of foreign loans in the last few years.

The National Bank of Ethiopia seems to have followed a mild expansionary monetary policy in the last few years. For instance, the stock of broad money supply grew on average by 15% during the last three years (2003/04-2005/06) showing 2 percentage point increase vis-à-vis the three years average growths of 13% registered during (2000/01-2002/03). Similarly, as Table 1.12 shows, components of broad money supply from the asset side revealed a mixed development during 2005/06 fiscal year. In this regard, domestic credit grew by 22.3%, but net foreign assets, dropped by 12.9%. However, since the share of the domestic credit in the money supply was

larger compared to the foreign assets, the rise of the former outweighs the fall of the latter and as a result money supply grew by 15.4% during the period in review. Of the two components of domestic credit, credit to other sectors[3] showed the highest growth (29%) compared to the growth of credit to government sectors (16%). In terms of share, however, credit to government sectors was larger than that of the private sector although the gap had narrowed in recent years. During 2005/06, for instance, the share of credit to government sectors was 51.3%, the other sectors taking the balance (48.7%). When we compare their shares with the previous year (2004/05), the share of the government sectors was 54.1% while the share of other sectors was 45.9%.

Table 1.12: Determinants of money supply (in billions of Birr)

	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Domestic Credit(Net)	26.3	27.6	27.5	28.8	31.1	40.3	49.3
Claims on Government(net)	14.8	15.2	16.0	17.2	19.2	21.8	25.3
Claims on Other Sectors	11.5	12.4	11.5	11.6	11.9	18.6	24.0
Net Foreign Assets	4.8	4.8	7.8	11.0	13.0	13.9	12.1
Other Items	-9.9	-7.8	-8.0	-9.3	-9.1	-14.0	-15.0
Broad Money Supply	21.1	24.6	27.3	30.5	33.6	40.2	46.4
Annual Percentage Change							
Domestic Credit(Net)	30.7	5.1	-0.4	4.7	8.0	29.6	22.3
Claims on Government(net)	54.2	2.9	5.3	7.5	11.6	13.5	16.1
Claims on Other Sectors	9.4	7.9	-7.3	0.9	2.6	56.3	29.0
Net Foreign Assets	-21.6	0.6	62.5	41.0	18.2	6.9	-12.9
Broad Money Supply	9.0	16.3	11.0	11.7	10.2	19.6	15.4

Source: National Bank of Ethiopia

---

[3] Other sectors are composed of State Enterprises, Cooperatives, Private Enterprises & Agencies and Banks

From these developments, one can see that non-government sectors are beginning to emerge as an important beneficiary of the banking sector as this probably is a sign that the non- government sectors are playing an increasingly bigger role in the Ethiopian economy if the observed shift is to persist in the years to come. The expansion in economic activities (as witnessed in the construction sector boom and the expansion of trade sector both international and domestic) seems to support this conjecture. However, since other sectors are composed of both private and state enterprises, it does not necessarily mean that the private sector has been benefiting more than the government sectors in terms of financial resources.

Looking at the liability side, narrow money supply grew by 11.8% vis-à-vis 2004/05 and registered birr 23.8 billion at the end of 2005/06 fiscal year. In this regard, currency outside banks, the most liquid component of narrow money, showed persistent growth while demand deposits had declined continuously since 2003/04 fiscal year. By the same token, the share of narrow money supply to broad money declined from a high of 54% in 2003/04 to 51% at the end of 2005/06. On the other hand, quasi money supply showed the highest (19.3%) growth and reached birr 22.5 billion at the end of 2005/06 fiscal year. Componentwise, saving deposits grew by 18.3% and took the lion's share (91%) of the quasi money supply observed at the end of the year in review. The contribution of saving deposit to the 19.3% growth of quasi money was, as a result, 16.6%. On the other hand, the share of time deposit was only 9% and hence its contribution to the growth of quasi money was only 2.7%.

As Figure 1.6 shows, income velocity of money[4] rose from the fixed 2.6 level recorded in the last two fiscal years to 2.8 in 2005/06. This suggests that although the domestic credit to the economy had increased in 2005/06, the monetization rate of the economy which is measured by the inverse of the income velocity of money had dropped in recent years. Similarly, other

---

[4] The number of times a unit of currency is used for transaction purposes during a given period, usually a year**.**

monetary ratios such as narrow money and broad money to reserve money ratios increased from 0.9 and 1.7, in 2004/05 to 1.1 and 2.2 in 2005/05, respectively

Table 1.13: Components of broad money (in millions of Birr)

Particulars	Year End June			Annual Percentage Change		
	2003/04	2004/05	2005/06	2003/04	2004/05	2005/06
1. Narrow Money Supply	18,036	21,290	23,812	15.9	18	11.8
Currency outside banks	7,844	10,021	11,423	16.6	27.8	14
Demand Deposits(net)	10,192	11,268	12,389	15.4	10.6	9.9
2. Quasi-Money Supply	15,590	18,922	22,566	14.3	21.4	19.3
Savings Deposit	14,370	17,311	20,486	14.9	20.5	18.3
Time Deposit	1,220	1,612	2,080	7	32.1	29.1
3. Broad Money Supply	33,626	40,212	46,377	15.2	19.6	15.3

Source: National Bank of Ethiopia

On the other hand, the significant increase in credit to both the private and the government sectors mopped up the huge unutilized resources of commercial banks held as idle at the NBE Consequently, the excess reserve of the commercial banks dropped from about birr 10.9 billion in 2004/05 to birr 6.3 billion in 2005/06. That is, excess reserves declined by about 42.6% in 2005/06 relative to what they were in 2004/05

Similarly, the actual reserve of commercial banks which is comprised of excess reserve and required reserves, showed a 33.3% decline in 2005/06 compared to the fiscal year 2004/05. The reserve requirement ratio, one of the monetary policy instruments of any National Bank, was set at 5% during the year in review and hence the amount of reserve requirement did not show substantial fluctuations during the year in review.

To control the current inflationary pressures in the country the National Bank of Ethiopia revised the reserve requirement ratio from 5% to 10% in July 2007 and then to 15% in March 2008. But since this annual report covers

developments till 2005/06 only, the implication and impact of this policy will not be discussed in detail in this annual report.

Figure 1.6: The income velocity of money
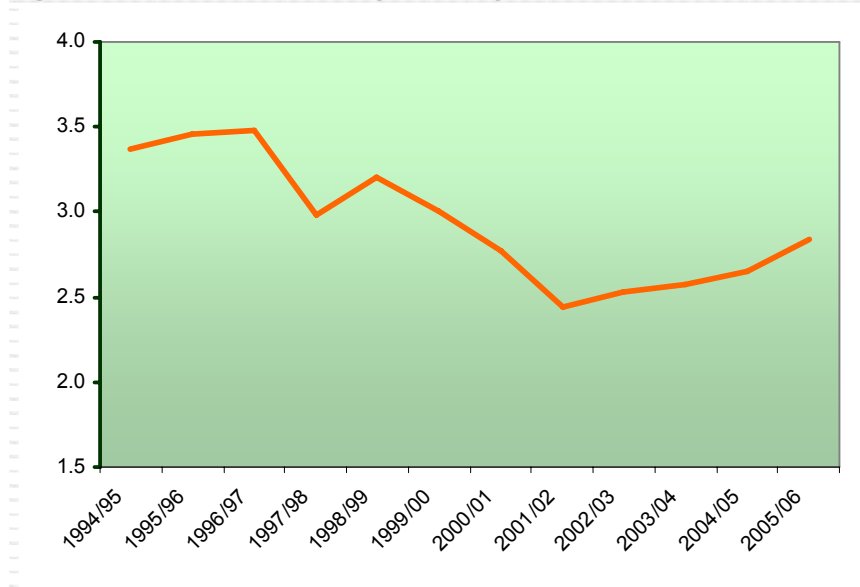
Source: National Bank of Ethiopia

On the interest rate development, despite the increase in inflation that has been witnessed since 2004/05 fiscal year and which reached 12.2% during 2005/06, the National Bank of Ethiopia has not made any significant and effective policy changes to reflect that change in the existing interest rate. Consequently, due to the inflation rate, the attendant real interest rate has been negative. As noted in Table 1.16, the saving deposit rates ranged between 3-3.15% in 2005/06 while the inflation rate was double digit. It was also noted that the minimum saving rate has not been revised since 2001/02 when it was reduced from 6% to 3% to stimulate the economic activities of the country. Time deposits on the other hand, showed a slight change – increasing from 3.63% on average in 2004/05 to 3.71% in 2005/06. Similarly,

33

the minimum, maximum and average lending interest rates had remained at 7%, 14% % and 10.5%, respectively, in 2005/06.

Table 1.14: Monetary aggregates and ratios (in millions of Birr)

Particulars	year ended June 30			percentage change		
	2003/04	2004/05	2005/06	2003/04	200405	2005/06
1.Reserve requirements(CB'S)	1,549	1,828	2,121	17	18	16
2. Actual Reserve(CB'S)	4,911	12,740	8,452	29	159	-34
3. Excess Reserve(CB'S)	3,362	10,912	6,331	35	225	-42
4. Reserve Money	14,434	24,029	21,182	30	67	-12
Current in circulation	9,599	10,962	12,560	33	14	15
Bank Deposited	4,835	13,068	8,622	24	170	-34
5.Money multiplier (Ratio)						
Narrow Money to Reserve Money	1.2	0.9	1.1	-14.3	-25.0	24.9
Broad Money to reserve money	2.3	1.7	2.2	-11.5	-26.1	28.8
6. Other Monetary Ratio (%)						
Currency to narrow Money	53.2	51.5	52.7	13.9	-3.2	2.4
Currency to Broad money	28.5	27.3	27.1	14.9	-4.2	-0.8
Narrow Money to Broad Money	53.6	52.9	51.3	0.9	-1.3	-2.9
Quasi Money to Broad Money	46.4	47.1	48.7	-1.1	1.5	3.3
$M_{2/GDP}$ ratio (%)	38.8	37.8	35.2	-2.0	-2.7	-6.7
Velocity of money (GDP/M_2)	2.6	2.6	2.8	2.0	2.7	7.2

Source: National Bank of Ethiopia

34

Consequently, given the recorded high inflation of 12.2% during the year in review the real average saving and lending rates were negative in 2005/06. Since the inflation rate had continued to increase in recent years, the National Bank of Ethiopia had changed the minimum deposit rate from 3% to 4% in July 2007. As a result, other interest rates had also accordingly increased by one percentage point. However, given the movements of credit, inflation and overall economic aggregates, the interest rate does not seem to be adequately playing its conventional role in conducting monetary policy in the Ethiopian economy.

Table 1.15: Interest rate structure

Description	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Deposit Rate							
Saving Deposit (Average)	6	6	6	3	3	3	3
Minimum	6	6	6	3	3	3	3
Maximum	6	6	6	3.15	3.15	3.15	3.15
Time Deposits							
Up to 1 year	6.27	6.28	6.36	3.3	3.35	3.4	3.47
1-2 years	6.36	6.54	6.67	3.51	3.62	3.64	3.71
Over 2 years	6.43	6.69	6.8	3.57	3.82	3.84	3.94
Average	**6.35**	**6.50**	**6.61**	**3.46**	**3.60**	**3.63**	**3.71**
Lending Rates							
Minimum	10.5	10.5	10.5	7.5	7.5	7	7
Maximum	13	13.5	15	14	14	14	14
Average	**11.8**	**12.0**	**12.8**	**10.8**	**10.8**	**10.5**	**10.5**

Source: National Bank of Ethiopia

Regarding developments in the financial sector, it was noted that, as of fiscal year 2005/06, the financial sector was composed of one central bank, 10 commercial banks, 9 insurance companies and 26 micro finance institutions. In terms of ownership, 3 of the commercial banks were publicly owned while the remaining were privately owned. Out of the 9 insurance companies only one was owned by the public sector. In terms of branch networks and distributions, 421 branches of commercial banks were functional at the end of 2005/06 indicating additions of 32 branches from 389 branches which were registered at the end of fiscal year 2004/05. Out of the total braches of commercial banks, 148 branches (35%) were functioning in Addis Ababa and 273 branches (65%) were out of Addis implying that the distributions of branches are skewed in favor of the capital city.

On the other hand, the total capital of the banking sector registered birr 5.4 billion at the end of 2005/06. The share of public banks dropped from 70% in fiscal year 2004/05 to 65% in the 2005/06 indicating that private banks are becoming more competitive in time.

Table 1.16: Capital and branch networks of the banking system

Banks	Branch Networks (In numbers)						Capital (In billions of birr)	
	2004/05			2005/06				
	Addis A.	Regions	Total	Addis. A	Regions	Total	2004/05	2005/06
Public Banks	48	184	232	49	187	236	3.3	3.5
Private banks	86	71	157	99	86	273	1.4	1.9
Total	**134**	**255**	**389**	**148**	**273**	**421**	**4.7**	**5.4**

Source*:* National Bank of Ethiopia

1.6 Public Finance

During fiscal year 2005/06 there was a decline both in revenue collected and grants received. These were mainly due to declines in tax revenue and grants received. Total government revenue, including grants, increased by 15.3% during the year in review relative to 2004/05 to reach Birr 23.3 billion. This was, however, 20% less than the amount targeted to be collected during the year. Both revenue and grants were below the budgeted amount. Revenue was 10% below the target while only 52% of the expected grant was received. Grants decreased by 18.2% compared with 2004/05 largely due to a delay and/or shift of official disbursements by bilateral and multilateral donors following post-election instability in the country.

During the year under review, tax collection reached birr 14.1 billion and contributed 72% of the total revenue. Though tax collection grew by 14%, it was below the 24% increase in nominal GDP. As a result, tax revenue as a percentage of GDP declined to 10.7% from its level of 11.6% in 2004/05. Tax as percentage of GDP in 2005/06 was the lowest in the last six years.

As an internal revenue source Ethiopia has usually relied on indirect taxes as the major source of government tax revenue due mainly to its relative simplicity to collect. Accordingly, about 69% of the tax revenue during the year in review came from indirect taxes, which included sales and excise taxes, VAT and customs duties. Direct taxes, which included income and profit taxes, contributed only 27% of total tax revenue while the remaining 4% came from land use fees.

Table 1.17: General government revenue (million Birr)

	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05 Pre Actual	2005/06 Pre Actual
Tax Revenue	6,483	7,440	7,928	8,243	10,520	12,398	14,122
Income & Profit Taxes	2,169	2,495	2,980	2,878	2,832	3,569	3,783
Land Use Fee	198	240	141	132	300	361	641
Indirect Taxes	4,116	4,705	4,807	5,233	7,388	8,468	9,698
Domestic	1,440	1,382	1,499	1,668	2,112	2,721	3,111
Foreign	2,676	3,323	3,308	3,565	5,276	5,747	6,587
Non-Tax Revenue	3,665	3,137	2,550	2,907	2,666	3,194	5,371
of which Government Investment Income	1,183	1,353	1,017	1,102	1,250	1,106	3,136
Sales of Goods & Services	357	340	338	330	376	856	433
Charges and Fees	200	179	237	252	321	616	379
Privatization proceeds	650	400	68			10	0
External Grants	1,724	2,628	2,425	2,446	4,001	4,565	3,732
Total Revenue & Grants	11,872	13,205	12,903	13,596	17,187	20,157	23,225
Growth Rates (Percent)							
Tax Revenue	15.9	14.8	6.6	4.0	27.6	17.9	13.9
Income & Profit Taxes	18.3	15.0	19.4	-3.4	-1.6	26.0	6.0
Land Use Fee	12.9	21.2	-41.3	-6.4	127.3	20.3	77.6
Indirect Taxes	14.9	14.3	2.2	8.9	41.2	14.6	14.5
Domestic							
Foreign							
Non Tax Revenue	-5.1	-14.4	-18.7	14.0	-8.3	19.8	68.2
of which Government Investment Income	-16.9	14.4	-24.8	8.4	13.4	-11.5	183.5
Sales of Goods & Services	26.4	-4.8	-0.6	-2.4	13.9	127.7	-49.4
Charges and Fees	13.3	-10.5	32.4	6.3	27.4	91.9	-38.5
Privatization proceeds	-18.8	-38.5	-83.0	-100.0	-	-	-100.0
External Grants	-2.2	52.4	-7.7	0.9	63.6	14.1	-18.2
Total Revenue & Grants	5.9	11.2	-2.3	5.4	26.4	17.3	15.2

Source: Ministry of Finance and Economic Development

Table 1.18: Structure of revenue (as percent of GDP)

Components	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05 Pre-Actual	2005/06 Pre-Actual
Tax Revenue	9.7	10.9	11.9	11.2	12.1	11.6	10.7
Direct Tax	3.6	4.0	4.7	4.1	3.6	3.7	3.4
Of Which : Income and Profit	3.3	3.7	4.5	3.9	3.3	3.4	2.9
Of Which : Land Use Fees	0.3	0.4	0.2	0.2	0.3	0.3	0.5
Indirect Tax	6.2	6.9	7.2	7.1	8.5	8.0	7.4
Of Which : Domestic	2.2	2.0	2.3	2.3	2.4	2.6	2.4
Of Which : Foreign	4.0	4.9	5.0	4.9	6.1	5.4	5
Non-Tax Revenue	5.5	4.6	3.8	4.0	3.1	3.0	4.1
Total Revenue(exc. Grants)	15.2	15.5	15.7	15.2	15.2	14.6	14.8
Grants	2.6	3.9	3.6	3.3	4.6	4.3	2.8
Total Revenue (inc. Grants)	17.8	19.4	19.4	18.5	19.8	18.9	17.6
Annual Growth Rates							
Tax Revenue	2.3	12.4	8.9	-5.8	8.1	-4.1	-7.9
Non-Tax Revenue	-16.3	-16.1	-16.9	3.3	22.3	-2.5	36.0
Grants	-13.7	49.3	-5.7	-8.6	38.6	-7.1	-33.9
Total Revenue	-5.3	2.1	1.3	-3.6	0.2	-3.8	1.1
Total Revenue & Grants	-6.6	9.0	-0.1	-4.5	7.1	4.5	-6.8

Source: Ministry of Finance and Economic Development

Following the introduction of VAT in 2000, domestic indirect tax as a percent of GDP had been increasing consistently until 2004/05. In 2005/06, however, it declined to 2.4% from its level of 2.6% in 2004/05. On the other hand, the government's non-tax revenue was Birr 5.4 billion during the year in review. This was a 68.2% increase relative to the preceding year or by about 36% when weighted by GDP. Non-tax revenues consist of charges and fees, sale of goods and services, property sales and proceeds from privatization. This was mainly attributed to the significant increase in government investment income. That is, the higher profitability of public enterprises during the review period contributed to the surge in dividend for government which grew by 184% during the reporting period relative to 2004/05. The increase in

investment income had more than compensated the decline in revenue from sale of goods and services and charges & fees. There was no privatization proceed(s) during the year. After relatively sizable transfer of public enterprises to the private sector during 1997-2001, privatization proceeds have since declined. In fact there had not been any proceeds from privatization until 2002 except in 2004/05 during which only Birr 10 million was collected.

On the expenditure side a total of Birr 29.3 billion was spent by the central government during the year under review which was 18.2% higher than the expenditure in 2004/05. Recurrent expenditure reached Birr 15.2 billion, (15% increase over 2004/05) while capital expenditure went up by 24% reaching Birr 14 billion

Table 1.19: The share of sectors in recurrent expenditure (%)

Sectors	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
General Services	60.6	48.9	43.9	38.0	42.2	43.9	42.8
Economic Services	5.9	9.1	9.9	10.8	11.3	11.5	13.2
Social Services	15.3	21.5	26.5	25.9	27.2	29.0	32.8
Interest and Charges	8.9	11.1	10.1	10.3	13.4	10.1	7.4
External Assistance	9.4	9.4	9.5	15.0	5.8	5.4	3.8

Source*: Ministry of Finance and Economic Development*

On the recurrent expenditure side, the share of general services had been declining since 1999/2000 because of the demobilization of soldiers following the Ethio-Eritrea conflict, and then it slightly went up in 2003/04 and 2004/05. On the other hand, the share of economic and social services was on an increasing trend. During the year in review, the shares of both economic and social services were the highest for more than four decades. The share of economic services reached 13.2% evidencing the special attention given by

government to the agriculture sector. The bulk of recurrent expenditure on economic services was spent on agriculture. From social services, about 78% of the recurrent expenditure was spent on education while health expenditure takes about 16%. During the year in review, the share of recurrent expenditure on social services reached a record high (32.8%) largely associated with the expansion of schools and increase in number of teachers and their salaries.

Table 1.20: The share of sectors in capital expenditure (in millions of Birr)

Sectors	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Economic development	60.0	63.2	54.3	57.4	59.1	67.5	74.2
Social development	18.2	26.6	16.2	22.9	27.8	29.0	22.1
General services	10.1	10.2	11.3	7.6	13.1	3.5	3.7
External assistance	11.8	0.0	18.2	12.1	0.0	0.0	15.6

Source: Ministry of Finance and Economic Development

From the capital expenditure, the share of expenditure for economic development had been increasing in the last five years and it reached 74% of total capital budget in 2005/06. Most of the capital expenditure on economic development was spent on road construction indicating the government's priorities to infrastructure development. The share of social development services in capital expenditure, on the other hand, decreased to 22% from its level of 29% in 2004/05 due to the sharp decline (98%) of expenditure on urban development and housing especially in Addis Ababa Administration following the post election pause on public housing activities.

Due to the increase in government budgetary expenditure by 18.2%, which outweighed the 15.3% rise in revenue & grants, the review year witnessed a fiscal deficit (including grants) of Birr 6.1 billion. This was 4.6% of GDP which is higher than the fiscal deficit recorded in 2004/05 (4.4% of GDP). A

41

significant portion (about 45%) of the deficit was financed from domestic borrowing. That is, borrowing from the banking system, which was Birr 2876 million, covered all of the domestic borrowing.

Table 1.21: The budget deficit and its financing

Particulars	2004/05	2005/06		Percentage	Performance Rate
	A	B	C	Change	
	Pre. Act	Budget	Pre. Act	C/A	C/B
Revenue and Grants	20,147	29,047	23,261	15.5	80.1
Revenue	15,582	21,818	19,529	25.3	89.5
Grants	4,565	7,229	3,732	-18.2	51.6
Total Expenditure	24,803	35,098	29,325	18.2	83.6
Current Expenditure	13,235	16,182	15,234	15.1	94.1
Capital Expenditure	11,314	18,916	14,042	23.8	74.2
Special Programs	224	0	50	-77.7	
Overall Surplus/Deficit					
(Including Grants)	-4,656	-6,051	-6,064	30.2	100.2
(Excluding Grants)	-9,221	-13,280	-9,796	6.2	73.8
Total Financing	4,655	6,051	6,063	30.2	100.2
Net External Borrowings	2,384	2,050	1,512	-36.6	73.8
Gross Borrowing	2,507	2,015	1,520	-39.4	75.4
Special Programs	273	0	459	68.1	
Amortization Paid	851	980	934	9.8	95.3
HIPC Relief	728	1,015	926	27.2	91.2
Net Domestic Borrowings	3,492	4,001	2,735	-21.7	68.4
Banking System	3,156	4,001	2,876	-8.9	71.9
Non-Bank Sources	336	0	-141	-142.0	
Privatization Receipts	10	0	0	-100.0	
Others and Residuals	-1,230	0	1,815	-247.6	

Source: National Bank of Ethiopia and Ministry of finance and Economic Development

1.7   Price Developments

This section attempts to analyze the movement of prices of goods and services at a national level and it also gives some highlights on the situation at regional level for the Fiscal year 2005/06. In contrast to the declining trend in prices observed up to 2003/04, there was (and continues until today) a high surge in the prices of goods and services during the period in review in which prices escalated from 6.8% in 2004/05 to 12.3% in 2005/06 (Table 1.22 and Figure 1.8). A 14% rise in the prices of food items coupled with an 8% increase in the prices of non-food items contributed to the double-digit increase in the overall prices of goods and services in 2005/06. It was also observed that the rise in food prices was significantly higher than that of the increase in prices of non-food items. Accordingly, the growth in GDP deflator increased from 9.9% in 2004/05 to 11.6% in 2005/06.

Table 1.22: Trends in prices, GDP deflator, agriculture and broad money

Year	General *CPI Inflation Dec 2000=100*	Food	Non-Food	Growth in GDP Deflator (in %)	Growth in Agricultural Output (in %)	Growth in Broad Money (M2) In %
1998/99	4.8	9	-1.3	0.7	3.4	8.8
1999/00	6.2	8.6	2.4	6.9	3.1	9.0
2000/01	-5.2	-10.4	1.9	-5.8	9.6	16.3
2001/02	-7.2	-12.9	0.9	-3.6	-1.9	11.0
2002/03	15.1	24.8	0.5	12.8	-10.5	11.7
2003/04	8.6	11.8	2.8	3.9	17.0	10.2
2004/05	6.8	7.7	5.2	9.9	13.5	19.6
2005/06	12.3	14.0	8.1	11.6	10.9	15.4

Source: Central Statistical Authority, Ministry of Finance and Economic Development
and National Bank of Ethiopia

Among the food items prices of meat products recorded the highest increase, 26.2%, followed by prices of cereals and bread & other prepared foods, which climbed by 16.4% and 13.7%, respectively. On the other hand, the increase in prices of house rent, construction materials, water, fuel and power by 19.7% coupled with a 14.4% increase in prices of transport and communications was mainly attributed to the increase in prices of non-food items by 8.1%.

Figure 1.7: Agricultural growth and inflation (1998/99-2005/06)
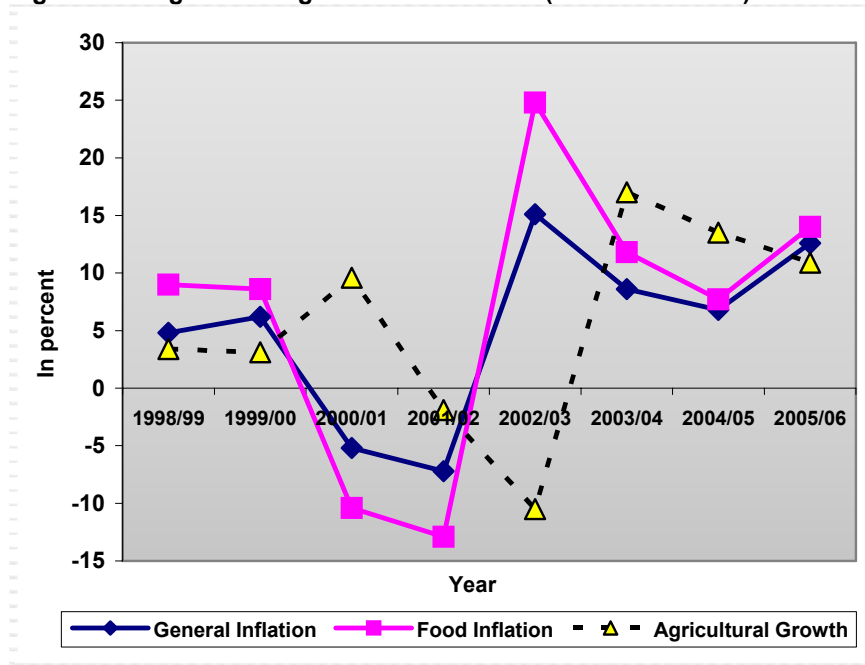
Despite the increase in prices of goods and services, the rate of growth in money supply exhibited a slower pace from 19.6% in 2004/05 to 15.4% in 2005/06. A similar relationship, though an opposite one, was also evident during 2004/05 where the growth in consumers' prices witnessed a

downward movement in the presence of a notable growth in money supply in relation to the preceding year. This indicates that inflationary pressures in the Ethiopian economy are not as closely linked to the amount of money supplied as theory predicts even though they have recently exhibited some correlation.

Until recently the movement of prices of goods and services was mainly linked to the agricultural output whereby prices tend to decline when there is a good harvest and vice versa. However, over the past three years this relationship didn't hold in the economy as inflation and agricultural output started to move in the same direction. As depicted in Figure 1.7, in the presence of a higher rate of growth in agricultural output (more than 10% since 2003/04) the economy was also experiencing a higher inflation rates in general prices on the whole and in the prices of food in particular.

Even though there are noticeable variations, there was also an upward movement in prices in all the regional states. In 2005/06 the highest rate of inflation, 17.6%, was recorded in Gambella Regional State followed by SNNP and Amhara Regional States in which inflation stood at 15.3% and 13.3%, respectively. On the other hand, the lowest increase in general prices was observed in Afar Regional State where consumer prices rose by only 7.7%, way below the national average.

In relative terms, Gambella Regional State experienced the highest rate of food inflation of 15.6%, during 2005/06. All other regional states also recorded a double-digit increase in prices of food items, except Benishangul Gumuz Regional State, where food inflation was only about 8.6%. Apart from the increase in prices of food items, the rise in general prices of goods and services in the regional states was also aggravated by the high surge in prices of non-food items which ranged from 20.1% in Gambella Regional State to a 3.2% increase in Afar Regional State.

Figure 1.8: General, food and non-food inflation rates (1998/99-2004/05)
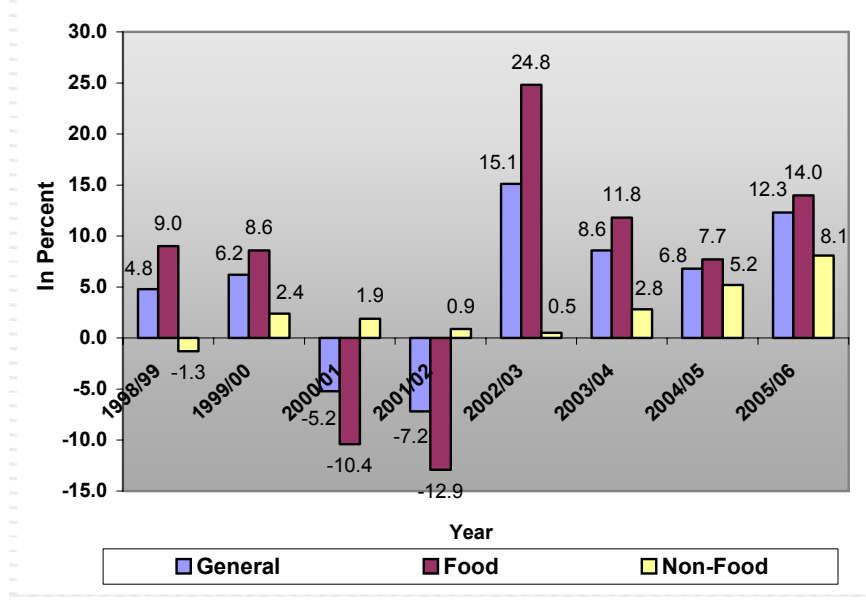
Source: CSA and Staff computation

1.8   Summary and Conclusions

This final sub-section attempts to highlight the main points discussed in the chapter. It will focus on summarizing the main issues described in the various sub-sections, the salient features of the aggregate economy noted in the various sub-sectors and the policy-related issues highlighted throughout the chapter. This analysis will be done both in absolute terms and relative to the performance of the economy in previous years. And, finally, in addition to underlining the main macro-economic developments during the year, it will also attempt to identify the main challenges that the economy faced and is likely to face in the foreseeable future.

The Ethiopian economy exhibited a robust growth in the last three years. It grew by a yearly average of about 12% between 2003/04, and 2005/06. And, even though actual data is not available yet, projections also suggest that the economy is expected to grow by a similar average in 2006/07. Hence, since its negative growth rate in 2002/03, the economy has registered a healthy growth rate to date.

Unlike in previous years in which the sectoral growth was unbalanced, all the three sectors (agriculture, industry and services) grew by double digit during the year in review (2005/06). This suggests that, more or less, there was a balanced growth in the economy, with only slight edge in the service sector. It is worth emphasizing, the economic growth recorded in the last three years is one of the best consecutive performance of the economy compared to any averages over the last four decades. Needless to say, the overall growth was influenced by the agricultural sector due to its size in the economy.

In light of the fact that the economy repeated the healthy growth performance for another year as predicted, it is worth repeating the observations made in the last report. First, the fact that the economy grew for four consecutive years (including the projection) and this is serving as a source of optimism is understandable and to be encouraged. Second, despite the overemphasis by policy makers for their contribution in bringing about the observed growth, it is important to recognize that the performance of the economy, is mainly the outcome of good weather conditions that ensured the good performance of the agricultural sector in particular and that of the economy in general in the last four years. And, third, this will remain the case as long as the economy continues to rely on rain-fed agriculture and the availability of rain on any given year. But weather and particularly availability of rain is uncertain and hence the growth performance of the economy that depends on it. Therefore, while the policies and the efforts that went into implementing those policies are to be applauded and the luck for the attendant conducive weather conditions over the last four years to be grateful for, the uncertainties of the latter does not ensure the continuity of such performance in subsequent years. This is particularly the case when the sector that is the

most affected by the uncertainty is the dominant sector of the economy (both in terms of output and employment). On the other hand, the growth rate of the other sectors, namely industry and services, though relatively good in the last four years and relatively stable over the years, only play a relatively secondary role in the performance of the overall economy.

And following the GDP growth observed in the last three years, GDP per capita grew by about 9% in the last three years. As could be noted from previous publications, this is the highest average per capita increase over the last decades as was the consecutive GDP growth. As could also be noted, these figures are based on the revised national accounts data and hence, due to the significant changes, probably not directly comparable with previous figures. What is further worth noting is that given the population growth rate of about 2.7%, the growth of GDP per capita seems in tandem with the overall GDP growth.

Another sector worth highlighting is the investment sector. The Ethiopian Investment Agency and Regional Investment Bureaus licensed a total of 5,808 new investment projects with a total capital outlay of close to Birr 60 billion during 2005/06. And during the year in review, the number of investment projects increased by around 87% and total investment capital outlays by (86%) compared to a similar fiscal year of 2004/05. Domestic projects (comprised of private and public) constituted around 87.2% of the total licensed investment projects while non-Ethiopians owned the remaining 22.8% of the projects licensed during the year in review. Compared to 2004/05, domestic investment projects increased by 104.3% whereas the number of foreign-owned investment projects licensed grew by only 20.5% during the period under consideration.

The growth of exports slowed down during 2005/06. Total exports grew by 18% compared to 36% and 26% during 2004/05 and 2003/04, respectively. The relatively slow growth in total exports was mainly due to the significant slowdown in the growth of coffee exports during the year. During 2004/05 growth in the exports of coffee reached a whopping 50%. Hence it dwarfed

any growth during the year in review when compared to the huge growth recorded in the preceding year. The reduction in the growth of exports of coffee was as a result of a reduction in the volume exported despite an increase in its unit value. On the other hand, the value of total merchandise imports increased by 20% compared to its value in 2004/05. Due to the relatively weak growth in total exports while imports significantly increased, the trade balance during the year deteriorated further reaching 23% from 22 percent of GDP in the preceding year. This resulted in the further deterioration of the current account deficit (including public transfer) to 8.9 percent of GDP.

Again, as stated in our previous report, even though export revenue increased (albeit marginally) during fiscal year 2005/06 it lagged behind the increase in imports bill and consequently the trade balance deteriorated during the year in review. It is interesting to note that this pattern has dominated the external sector of the Ethiopian economy for some time. That is, no matter how fast exports have improved they do not seem to catch up with imports. And one would suspect that this pattern is likely to continue because as the economy grows it will need more imports of raw materials, semi-finished and capital goods as inputs of production in excess of its capacity to export goods in the foreseeable future. Other notable aspects of the external sector, as were also previously stated, include: (a) despite efforts to diversify, the composition of exports has largely remained intact with coffee as the dominant commodity; (b) The openness of the economy as measured by the nominal value of the ratio of the sum of imports and exports to GDP amounted to 0.35 during the year in review; and (c) the domestic exchange rate continued to depreciate reaching annual average of Birr 8.6810/USD (a 0.33% depreciation compared to 0.37% depreciation in 2004/05).

On the monetary front, the following points are worth highlighting. First, the stock of broad money supply grew by 15.4% in 2005/06 slightly less than the 20% growth rate recorded in fiscal year 2004/05. Second, the growth during the year in review was due to the expansion in domestic credit. However, since the share of the domestic credit in the money supply was larger

compared to the fall in foreign assets, the rise of the former outweighs the fall of the latter and as a result money supply grew by 15.4% during the period in review. Domestic credit to the private sector grew by 29% compared to that of the government sector's 16%.

The fiscal balance of the government indicated an increase in deficit owing to declining revenue & grants relative to targets while expenditure increased during the year in review. Specifically, in fiscal year 2005/06, revenue collected was 10% below the target while only 52% of the expected grant was received. On the expenditure side, a total of Birr 29.3 billion was spent by the central government during the year in review which was 18.2% higher than the expenditure in 2004/05. Due to the increase in government budgetary expenditure by 18.2%, which outweighed the 15.3% rise in revenue & grants, the review year witnessed a fiscal deficit (including grants) of Birr 6.1 billion. This was 4.6% of GDP which is higher than the fiscal deficit recorded in 2004/05 (4.4% of GDP). A significant portion (about 45%) of the deficit was financed from domestic borrowing.

And, finally, the creeping inflation that started a year earlier was a serious concern during the year in review. In contrast to the price declining trend observed up to 2003/04, there was (and continues until today) a high surge in the prices of goods and services during the period in review in which prices escalated from 6.8% in 2004/05 to 12.3% in 2005/06. A rise in the prices of food items coupled with an 8% increase in the prices of non-food items contributed to the double-digit increase in the overall prices of goods and services in 2005/06. It was also observed that the rise in food prices was significantly higher than that of the increase in prices of non-food items. Accordingly, the growth in GDP deflator increased from 9.9% in 2004/05 to 11.6% in 2005/06.

In sum therefore, while the economy recorded significant economic performance as measured by GDP growth during the year in review, it also was inflicted by a worry-some inflation that is continuing un abated. The recent upward surge in inflation, chronic unemployment and the vulnerability

of the observed economic growth performance to the vagaries of nature were then the main challenges facing the Ethiopian economy during the year in review as have been for years.

Chapter 2

REPORT ON THE AGRICULTURAL SECTOR

Performance of the Agricultural Sector

The report looks at the performance of the agricultural sector for 2006/07 agricultural season vis-à-vis the preceding few years, and also provides a brief technical analysis on agricultural productivity. The first section is on the performance of crop production, the supply and use of modern inputs and agricultural credit in the smallholder farming system. This is followed by a brief overview of the performance of the livestock sub-sector in terms of the management of livestock, livestock production, productivity, consumption, and constraints the sector encountered. The first part of the report concludes with a brief discussion on food security situation.

2.1   Performance of the Crop Sub-sector

Overall, the performance of agriculture in 2006/07 is better than the previous year due to increased yields and larger cultivated area. Official[5] statistics indicate a good harvest during the 2006/07 crop year. Grain production reached close to 15 million tons[6] , about 11.8% bigger than the previous year harvest (Figure 2.1). Compared to the average of the past five years, this year's performance exceeds the average level by 31%. The FAO/WFP (2007) report indicates that on average only about 68% of the production is used for food/consumption while the rest is utilized for other purposes- export (3.84%), seed (4%), post harvest losses, feed and other uses including carry over for the next crop year (24.2%).

---

[5] In this report, official statistics imply the data from the Central Statistical Agency (CSA).
[6] This refers to production from the smallholder farming system in the Mehr season only.

Even though this is an encouraging performance, the food supply situation has improved only marginally as the recent growth in production had only a mild impact on per capita food terms. In terms of per capita, production grew to a level of 194 kilogram or increased by 8.9 % from what was achieved in the preceding year (CSA, 2006/7)[7]. The improvement in per capita grain food production has been only slight. It was 170 kg, 177kg, and 183 kg, respectively for the years 2003/04, 2005/06 and 2006/07. According to a World Bank publication (World Bank, 2007a), Ethiopia had only a one time steep increase in per capita grain production in 1995/96. There has been no significant increase since then. The steep increase in per capita grain production in 1995/96 was also due to the government policy intervention based on increased fertilizer, credit and extension services.

Figure 2.1: Grain production in selected crop years
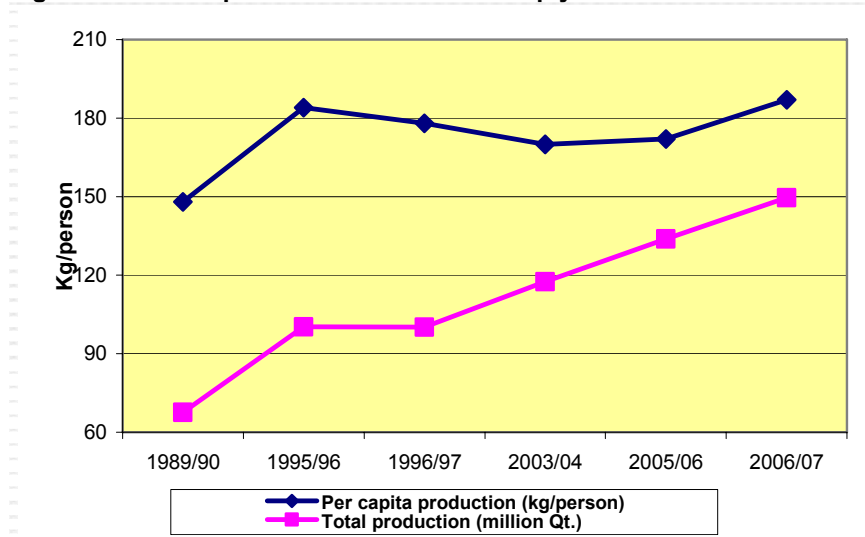
Source: Various CSA data.

_____

[7] To compute per capita production, population estimates used in 2005/06 and 2006/07 were 75.1 and 77.1 million, respectively.

2.1.1 Area of small farmers' holdings and land planted with crops

In 2006/07 crop year, 11.32 million farmers[8] cultivated about 10.6 million hectares of land (i.e. 0.94 hectare per farmer) that is planted with annual/temporary crops. Annual crops occupied about 74% of the total area of cultivated land (see Annex 2.1). The average farmer planted different kinds of grain crops on about 0.94 hectare of land and harvested 13.2 quintals of cereals, pulses and oil crops.

Area planted with grain crops in 2006/07 was about 4% (or 420,000 ha) bigger than that of the 2005/06 crop year. The Ministry of Agriculture and Rural Development gave the following explanations for the expansion in 2006, as quoted in FAO/WFP (2007):

- farmer confidence in agriculture given the sustained high prices of all crops;
- very good rains;
- an increased use of fallow land in Oromia and SNNP regions;
- expansion into forest and grazing lands, particularly in the vast uncultivated areas of the western lowlands;
- young farmer entrant programs in Oromia and Amhara.

Capability of ploughing is another factor that affects area cultivated. Looking at the situation countrywide, there has been a sustained level of cultivation since 2003. Hence, there do not appear to be any widespread constraints on ploughing capability. However, in the wetter and forest areas (Dawro, Keffa and Wolaita in SNNPR, and lowland areas of Jimma Zone in Oromia) the debilitating effects of trypanosomiasis on draft animals are noted to be of concern with regard to cultivation (FAO/WFP, 2007).

---

[8] Even though CSA's definition of a holder is much similar to agricultural household, the latter seems to incorporate one or more holders. For instance, in 2006/07 CSA reports the existence of 11.75 million agricultural households and 12.19 million holders (of whom 11.32 million cultivated different grain crops) (CSA, 2006/7).

Also the number of farmers is reported to have increased by 3.05% to 11.32 million in 2006/07. However, most of the new entrants cultivated extremely small areas of land. The distribution of area of land under grain production for the year 2006/7 is given in Table 2.1 below. About 29% of the farmers cultivated land having area less than 0.5 ha, while another 25% cultivated between 0.5 hectare and less than one hectare. The average size of cultivated land of the latter group was only 0.54 ha (CSA, 2006/7).

Table 2.1: The distribution of area of land under grain production in 2006/07 crop year

Farm size	Percent of all holders (%)	Average area/holder (ha)
Under 0.1 ha	4.26	**0.03**
0.10 – 0.5 ha	24.19	**0.20**
0.51 – 1.0 ha	25.01	**0.54**
1.01 – 2.0 ha	27.88	**1.11**
2.01 – 5.0 ha	17.18	**2.18**
5.01 – 10.0 ha	1.36	**4.26**
Above 10 ha	0.12	**7.00**
N of holders	**11,732,535**	

Source: CSA (2006/7). Report on Land Utilization, Volume IV.

Even though such small-sized farms may not be classified as sub-economical (unviable) especially based on experience from countries like China where agricultural productivity (both land and labour) increased rapidly on comparable size farm holdings, experiences from the recent extension program in Ethiopia shows the difficulty of becoming self-sufficient for farmers who cultivate very small land holdings[9].

---

[9] A recent study carried out by IFPRI (Xinshen and Alejandro, 2005) shows the difficulty to make the extremely small-sized farms productive even with improved technology. They stated further that it is not enough to address rural poverty issues by the extension programmes. The study has found that the major constraint to food security especially in food deficit areas where more than Ethiopia's 25 million people reside is extremely small farmland (0.57 ha compared to 1.38 ha in food surplus areas). Of the 184 woredas constituting the food deficit area, per household farmland is less than 0.4 hectare in half of them and less than 0.3 hectare in one-third of them. The negative impact of very small farm holdings is also reflected by low land productivity. The same report indicates that the average cereal yield, in food deficit areas where the average farm size is less than 0.6 hectare, is about 1 metric ton per hectare, 20% below the national average.

2.1.2 Production and yield of grain crops

Yield reflects the amount of grain harvested per unit of area. Its sustained growth is essential for agriculture to contribute to the overall economic growth and rural poverty reduction. Recent official statistics (CSA, 2006/7) show improvements in grain yield. The report indicates that yield of cereals per unit of cultivated land has increased by 5.7% from 1.44 ton/ha in 2005/06 to 1.52 ton/ha in 2006/07 (Figure 2.2). Similarly, yield of pulses and oil crops increased by 16.8% and 9.8%, respectively. The average land productivity in the production of pulses and oil crops was 1.14 tons/ha and 0.67 ton/hectare, respectively, in 2006/07 crop year.

Figure 2.2: Yield for major grain crops (ton/ha)
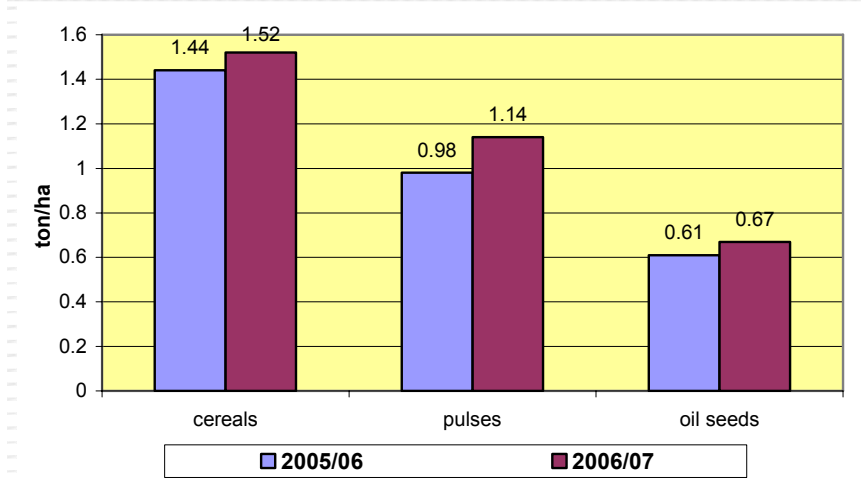
Source: CSA (2006/7) Report on Area and Production of crops. Volume I.

In general, the national average yield compares favorably with the averages estimated over the past five years reflecting a sustained performance of

Similarly, in these areas, return from the use of modern inputs is also low at 1.24 tons per hectare (0.2 ton less per hectare when compared to food surplus areas).

cereal production in all regions. Reports (FAO/WFP, 2007; CSA, 2006/7) indicate that rainfall adequacy, timely cultivation, better supply of inputs (seeds, fertilizers and chemicals) and low pest and disease profiles during the growing season and at harvest time had a positive impact on yield during the year.

Despite some improvements in productivity per unit of land, the progress realized is very limited especially compared to the yields achieved in research trial and demonstration plots across the country (Figure 2.3). It is also low when compared to other countries in general and those who experienced the green revolution in particular. A study commissioned by MoFED and UNDP (MoFED and UNDP, 2007) indicated that reported yield of cereal crops in Ethiopia is less than a quarter of the yields achieved in Asia during the green revolution and substantially less than what was achieved on trial and demonstration plots in Ethiopia (see Figure 2.3).

Figure 2.3: **Yield for major cereal crops in peasant farms and demonstration plots (ton/ha)**
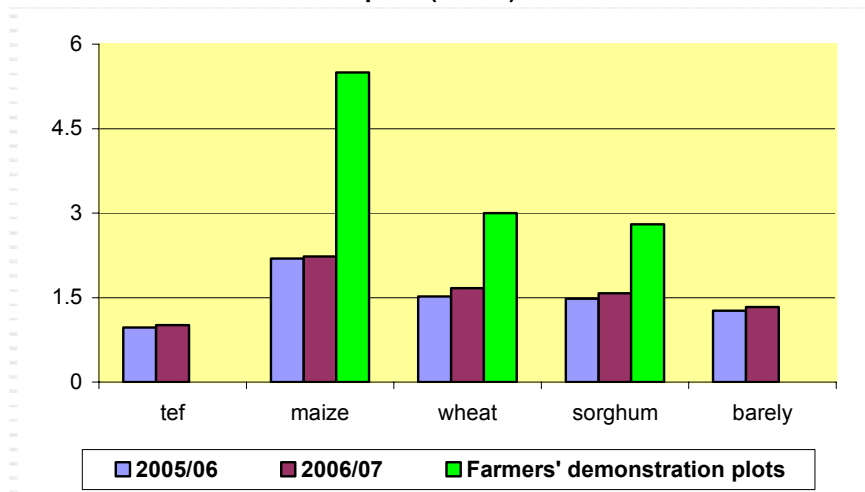
Source: CSA (2006/7). Report on Area and Production of Crops, Volume I; and MoFED and UNDP (2007).

In this report an attempt is made, using a survey data, to explore some of the reasons behind the low level of land productivity in crop production in Ethiopia. The detail is provided in part II which analyzes land productivity.

The following section provides a disaggregated assessment of the performance of the grain production by crop category.

2.1.2.1   Production of cereals

Cereals constitute the major staple food items as well as the main source of income for the majority of small farmers in Ethiopia. Production of cereals accounts for the largest share of cultivated land and farm inputs such as chemical fertilizers. In terms of cultivated farm land, they are the dominant crops grown in all regions of the country. Out of the total grain cultivated area, about 80% was covered by cereals in 2006/07 crop year. Tef and maize covered larger area followed by wheat and sorghum. The two crops occupied 28.4% (2.4 million hectares) and 20% (1.7 million hectares) of the grain crop area, respectively, while nearly an equal amount of land (1.5 million hectares or 17.3%) was cultivated by wheat and sorghum each (Table 2.2). When compared to the previous year, the area allocated to cereals increased by 4.8% from 8.08 to 8.47 million hectares. Tef and maize were again the major contributors for the area expansion; land under these crops grew by 7% and 11%, respectively, in 2006/07 crop year.

Table 2.2: Cultivated land, yield and production of major cereal crops in 2006/7.

crops	Cultivated land (ha)	Area share (%)	Yield (qt/ha)	Production (million qt)	Share in grain production (%)
Tef	2.4 million	28.4	10.1	32.6	25.3
Maize	1.7 million	20	22.3	21.5	16.7
Barley			13.3		
Wheat	1.5 million	17.3	16.7	21.0	16.3
sorghum	1.5 million	17.3	15.8	20.0	15.5
Total cereals	8.47 million	80	15.6	128.8	86.12

Source: CSA (2006/7), Volume I.

On the other hand, cereals account for 86.12% share (about 128.8 million quintals) of the total grain harvest in 2006/07 production year. Maize, wheat, tef and sorghum constitute 25.3%, 16.7%, 16.3% and 15.5% of the grain production, respectively (CSA, 2006/7).

The latest CSA data shows that the average cereal yield attained ranged between 10.1 quintals per hectare for Tef and 22.3 quintals per hectare for maize. Wheat follows maize at 16.7 quintals per hectare (Table 2.2). Average yields did not show significant increase for the 2006/7 season despite the efforts made since mid 1990s when the intensive use of improved input packages (fertilizer, seeds, crop protection chemicals and agronomic and other practices) has been introduced.

Figure 2.4: Area under cereals, per holder and per capita production in 2005/06 and 2006/07 crop seasons[10]
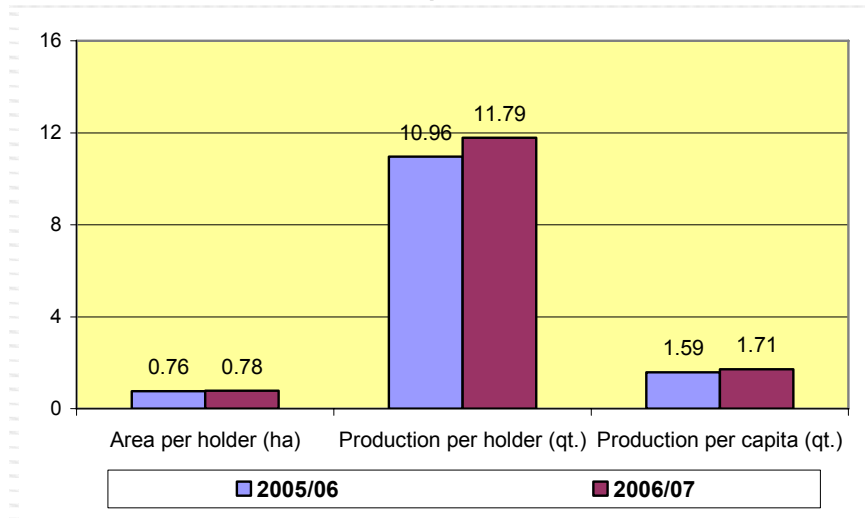
Source: Computed based on CSA (2006a) and CSA (2006/7).

[10] Population figures used to estimate per capita production in 2005/06 and 2006/07 were 75.1 and 77.1 million, respectively.

CSA's latest agricultural survey data indicated that an average cereal producer cultivated about 0.78 ha of land and harvested 11.8 quintals of cereals in 2006/07 crop year (see Figure 2.4). On per capita basis, the nation produced only 1.67 quintals of different kinds of cereals. When compared to the situation in the preceding year (2005/06), a growth of 2.6% in area cultivated by an average grain producer and about 7.6% and 7.7% growth in production per farmer and per capita, respectively is obtained in the 2006/7 cropping season.

2.1.2.2.   Production of pulses

Pulses are grown for cash and staple food purposes. In 2006/07, pulses covered about 13% (or 1.38 million hectares) of the crop area. Farmers harvested 15.6 million quintals, which implies an average land productivity of 11.35 quintals per hectare. In 2006/7, performance is far better than the previous agricultural year. In terms of area, production and yield, an increase of 6.7%, 24.1% and 15.6%, respectively, were registered in the year.

Figure 2.5: Percentage share of different pulse crops in total cultivated land under pulses
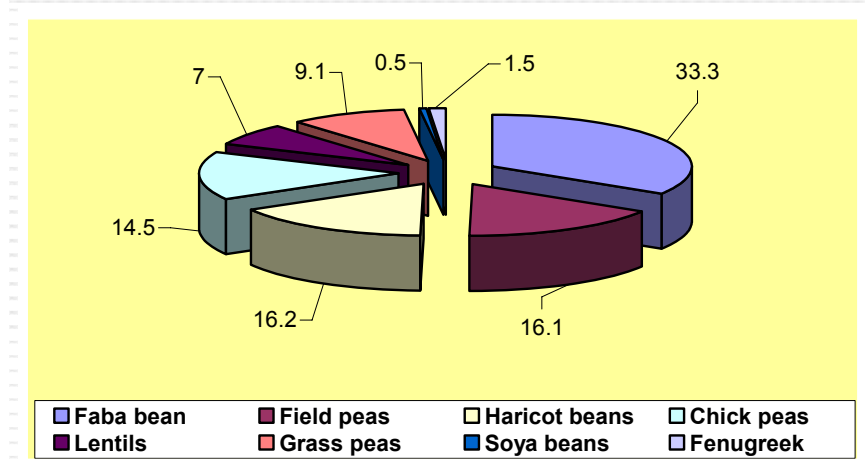
Source: Computed based on CSA (2006/7). Report on Area and Production of Crops, Volume I.

Faba bean was the most common crop grown by over 3.4 million smallholder farmers (52% of pulse grower. It covered about 33% (or 0.46 million hectares) of the land to pulses (Figure 2.6). The average grower cultivated faba bean only on 0.14 hectare of land. Following faba bean, haricot bean and field peas were planted on about 0.22 million hectares of land each. The average cultivated land per grower was 0.1 ha and 0.15 ha. 5.8, 2.2 and 2.1 million quintals of faba beans, haricot bean and field peas, respectively, were harvested in 2006/07. Seen on per grower basis this production is very low. The average holder of faba bean harvested only 1.7 qt while haricot bean and field peas' production per holder were only 0.95 qt and 1.4 qt (CSA, 2006/07).

The average yield of pulse crops in 2006/07 was 11.4 qt/ha and varies between 14.7 qt/ha and 7.9 qt/ha for grass peas and fenugreek, respectively. In general, yield in 2006/07 was reasonably higher compared to the level achieved in 2005/06 (Figure 2.6).

Figure 2.6: Yield for different pulse crops (qt/ha)
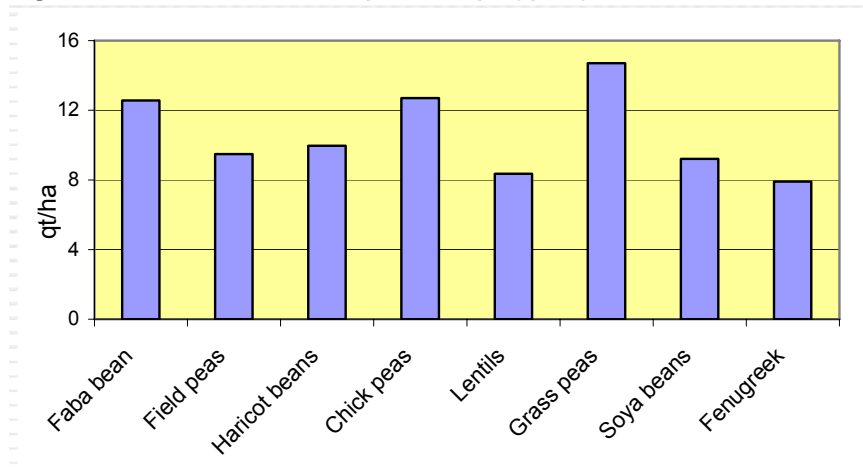
Source: Computed based on CSA (2006/7). Report on Area and Production of Crops, Volume I.

Land productivity of faba beans, field peas, haricot beans and chick peas increased by nearly 12%, 21%, 18% and 21%, in that order while the yield for soya bean declined by 20%, between 2005/06 and 2006/07 (CSA, 2006/7).

While the performance in 2006/07 was good, a lot has to be done to narrow the gap between the level of actual yield achieved in farmers' field and the potential yield from research and demonstration plots.

2.1.2.3   Production of oil crops

The major oil crops produced in Ethiopia include neug, linseed, groundnuts, sunflower, sesame and rape seed. Oil seeds occupied 7% (742 thousand hectares) of the total area under grain and contributed 3.32% to the national grain production (about 5 million quintals).

The CSA data indicates that about 3.3 million growers cultivated different kinds of oil crops on 741,791 hectares of land in 2006/07. When compared to 2005/06, total cultivated land declined by 7%, and this is mainly attributed to 10.5% and 19% reduction in area cultivated by neug and linseed, respectively. The average grower cultivated 0.22 ha and harvested 1.5 quintals (Figure 2.7).

Figure 2.7: Oil crops production (qt/holder) and land cultivated (ha/holder)
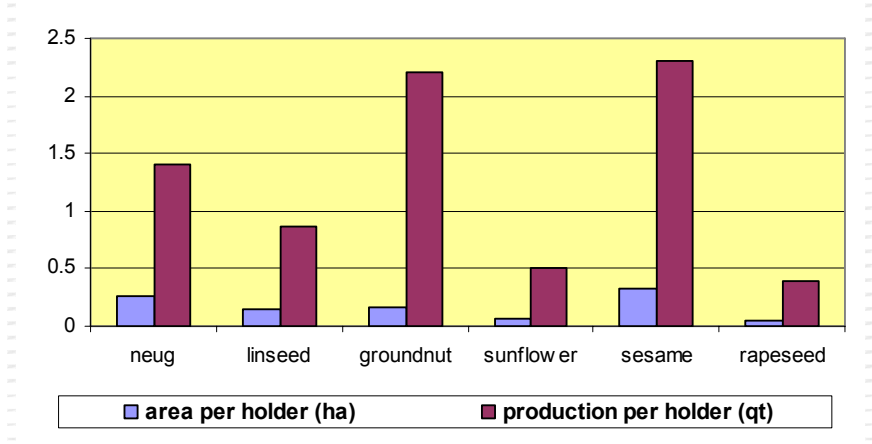
Source: Computed based on CSA (2006/7). Report on Area and Production of crops, Volume I.

Yield of oil crops vary between 5.4 qt/ha for neug to 13.8 qt/ha for groundnuts. Similar to other crops, the official data indicate an average yield increase of oilseeds by 9.8% in 2006/07 as compared to the preceding year (Figure 2.8).

Figure 2.8: Yield of oil crops (qt/ha)
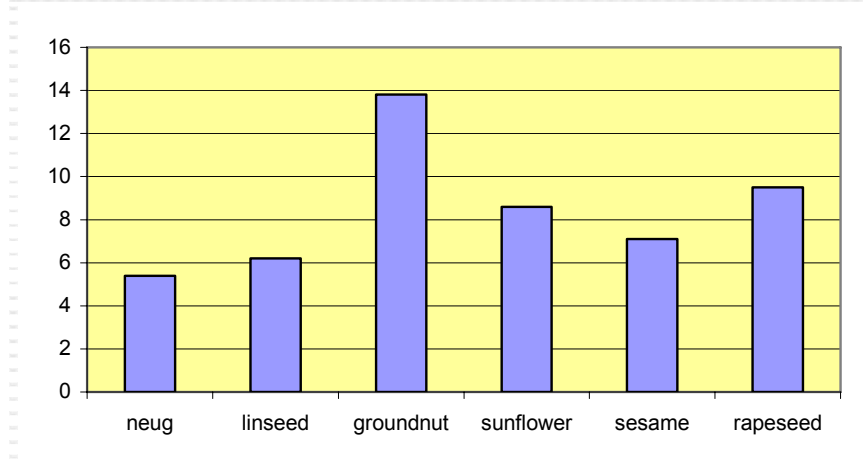
Source: Computed based on CSA (2006/7). Report on Area and Production of Crops, Volume I.

2.1.2.4   Production of other crops

2.1.2.4.1   Vegetables

In the agricultural year 2006/7, vegetables production covered 0.84% of the area (or 95,226 hectare) under all crops at national level. Out of the total area under vegetables 59.7% and 24.6% were planted with red peppers and Ethiopian cabbage, respectively. There were about 4.9 million vegetable growers and on average they cultivated 0.02 ha of land. The recent high rise in the price of *berbere* might have influenced the area covered by red peppers as farmers reacted to the favorable price situation. On the other hand, in 2006/7 production of vegetables declined by about 1.1 million quintals and this is attributed to a 19% decline in area cultivated and a 0.2% decline in yield (CSA, 2006/07, Volume I).

2.1.2.4.2   Root crops

Next to grain, root crops are the major crops in terms of production. Although the cultivated area share of root crops was only 2%, root crops contributed 8% of the total crop production in 2006/07. About 14.1 million quintals of various kinds of root crops was produced on 189 thousand hectares of land. This implies average land productivity of 74.6 quintals/ha. The average root crops growing farmer cultivated 0.04 ha of land and harvested 2.95 quintals of root crops (CSA, 2006/07, Volume I). The common root crops are potatoes, sweet potatoes, taro and onion which make up for 38.6%, 28.1%, 15.7% and 12.6% of the total root crops production, respectively.

2.1.2.4.3   Fruits

Fruit crops grown by smallholder farmers cover only a small proportion of the cultivated area and production. Only 2.6 million farmers practiced fruit crops farming in 2006/07 and the average holder cultivated about 0.02 hectares of land. A little more than 50 thousand hectares of land were under fruit crops in 2006/07. Bananas take a share of about 61% of the fruit crop area followed by mangoes at 13.4%. Nearly 4.6 million quintals of fruits were produced. Bananas, Papayas, mangoes and oranges constitute 49.6%, 16%, 13.6% and 10.1% of the fruit production, respectively (CSA, 2006/07, Volume I).

2.1.2.4.4   Stimulant crops

According to the latest statistics (CSA, 2006/7, Volume I), area covered by t'chat, the second most important stimulant crop after coffee (in farm income generation as well as export earnings) is almost three times the size of area planted with all fruit trees combined. Over 2 million farmers are reported to grow t'chat. Data of 2006/7 show that 295,238 and 147,805 hectares of land were planted by coffee and t'chat, respectively. The average landholding per holder was 0.1 ha for coffee and 0.07 ha for t'chat. However, the t'chat area is expanding fast.

Table 2.3: **Distribution of t'chat grower farmers in Ethiopia by region (2006/07)**

Region	T'chat growers	
	Number	**Percent**
Tigray	6169	0.29
Amhara	127686	6.10
Oromia	1267660	60.53
Somalie	27585	1.32
Benishangul Gumuz	8261	0.39
SNNP	630958	30.13
Gambella	1778	0.08
Harari	13793	0.66
Dire Dawa	10436	0.50
Total	2094326	100

Source: CSA (2006/7).

For instance, t'chat production increased by 27% in 2006/07 to 1.5 million quintals (CSA, 2006/07, Volume I). This is attributed to 8.5% increase in cultivated land and the balance is due to the increase in yield. Over 92% of t'chat growers reside in Oromia and SNNP regions, followed by Amhara (6.1%) (Table 2.3). The increase in area under t'chat production could be explained by a rising demand both for domestic consumption and export.

The effect of the growth in production of T'chat should be assessed in terms of its contribution to income for t'chat farmers and foreign currency earning capacity, on the one hand, and the social cost of increased and widespread consumption of the plant and its adverse competing effect for land that otherwise could have been used for food production helping the food security objective, on the other hand.

Similar to t'chat, coffee production has improved in the year under review. Production from peasant holdings[11] increased almost by 41% to 2.4 million quintals in 2006/7. The CSA (2006/7) report indicates that this improvement is attributed to 24.3% improvement in coffee yield (the average yield is 10.3 quintals/ha) and a 13.04% increase in area planted to coffee. There is no detailed explanation of the reasons for increase in average yield i.e. whether due to improved genetic material or due to other reasons.

2.2   Crop Production and the Situation of Food Prices

Even though the sharp increase in food prices[12] in the face of bumper harvests needs its own study, it is normally expected that food prices should not have increased as high as this level if productivity has improved by a meaningful margin. Although high farm product price is beneficial for farmers especially for those who are net sellers of farm products, sustainable and overall positive benefit comes only from rapid increase in agricultural productivity. The growth in agricultural productivity should be sufficiently high in order to transfer some of its gain to the non-farm sectors, among others, through lower food prices and inflation.

As the recent high and unprecedented food price development is reported to coincide with a relatively high agricultural growth, it needs policy attention especially in view of the following facts. First, 60% or more of Ethiopian farmers are net buyers of food (EEA/EEPRI, 2006), an emerging landless segment of the population and a fast growing mouth to feed. Second, by raising a living cost, high food price could affect the competitiveness of domestic industries negatively. Third, high and unstable food price could reduce the proportion of income the non-farm people spend on domestic

---

[11] There is a small proportion of coffee produced by state and private investors, which is not reported.
[12] Despite good harvests, food prices rose on average by 14% in the past year, on top of 7.7% increase the previous year, (MoFED and UNDP, 2007).

industrial goods. Finally, high food prices can negatively affect peoples' mobility or migration due to unbearable living costs. The implication is that agriculture's critical role in igniting a structural transformation of the economy (from agricultural economy to an urban-based non-agricultural economy) will be hampered if the negative effects of rising food prices outweigh the positive effects in terms of revenue for farmers. The implication is that Policy makers should focus on the strategies and means of improving agricultural productivity as well as improvement in the operation and effectiveness of agricultural markets.

2.3   Agricultural Inputs and Credit Market

2.3.1 Fertilizer

Fertilizer is considered as one of the strategic agricultural inputs for Ethiopian agriculture. The country depends totally on imports for fertilizer consumption. The foreign exchange needed for fertilizer import often comes from loans, donor assistance (grant) and government treasury. As domestic fertilizer consumption increases and foreign assistance doesn't grow as required, the government is increasingly spending more from its coffer.

The fertilizer market has been deregulated and opened for private competition since the mid 1990s. Following the issuance of the fertilizer policy, the pan-territorial fertilizer pricing system was eliminated and subsidies were removed (FAO/WFP, 2007). However, aware of the strategic role of fertilizer in achieving food self-sufficiency and alleviating poverty, the government of Ethiopia is still involved in the sector by making credit available to farmers and encouraging more fertilizer use based on sources from MoARD, FAO and WFP. Crop and Food Supply Assessment Mission to Ethiopia (2006/7) reported that the country had 521,000 metric tons of fertilizer comprising 386,000 metric tons of new imports and 135,000 metric tons of carry over stocks in 2005/06. This is the total amount of fertilizer supply during the crop season. Out of the total stock, 23%, 21.2% and 55.8% was supplied by

government-owned marketing agencies, two government affiliated organizations and cooperatives, respectively (Table 2.4). There is no private company involved in the import, wholesale or retail market of fertilizers.

In terms of fertilizer use, the CSA estimates (2006/7) indicate that about 404,583 tons of DAP and urea were used by the peasant sector in 2006/07 crop year[13].

---

[13] This is much higher than the 375, 700 tons reported by FAO/WFO (2007) whose estimates are based on information obtained from AISE and MoARD. We could not verify the difference for lack of information on the methodology and source of data used by the two organizations.

Table 2.4: Fertilizer balance for the year 2005/06 (tons)

Market institutions	Carryover stock			New purchase			Total available		
	DAP	**Urea**	**Total**	**DAP**	**Urea**	**Total**	**DAP**	**Urea**	**Total**
Gov.- AISE	26 617	42 880	69 497	25 000	24 976	49 976	51 617	67 856	119 473
Quasi-government									
Ambassel	4 154	2 071	6 225	28 498	28 521	57 019	32 652	30 592	63 244
Wondo	15 493	6 847	22 340	25 067		25 067	40 560	6 847	47 407
Sub-total	19 647	8 918	28 565	53 565	28 521	82 086	27 212	37 439	110 651
Cooperatives									
Lume Adama	758		758		25 000	25 000	758	25 000	25 758
Erer F.C.U.	298	6 664	6 962	24 954		24 954	25 252	6 664	31 916
Merekb F.C.U.	25 614	4 047	29 661				25 614	4 047	29 661
Ambo F.C.U.				24 995	24 697	49 692	24 995	24 697	49 692
Hetosa F.C.U.				24 905		24 905	24 905		24 905
Becho Woliso				24 914	25 082	49 996	24 914	25 082	49 996
Licha Hadiya				28 967		28 967	28 967		28 967
Gozamin					25 000	25 000		25 000	25 000
Enderita				25 000		25 000	25 000		25 000
Sub-total	26 670	10 711	37 381	153 735	99 779	253 514	180 405	110 490	290 895
TOTAL	72 934	62 509	135 443	232 300	153 276	385 576	305 234	215 785	521 019

Source: Agricultural Input Market Department, Ministry of Agriculture and Rural Development (Quoted in FAO/WFP, 2007).

Figure 2.9: Fertilizer users by type of crops in 2006/07 (% of users)
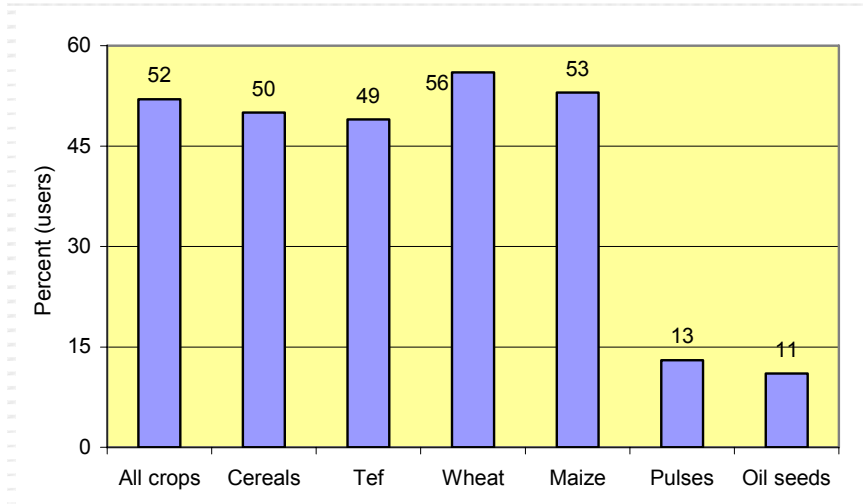
Source: CSA (2006/7), Volume I.

About 50% of the farmers applied inorganic fertilizers in 2006/07 crop year (Figure 2.9). The variation in number of users among the major cereal crop growers is low. But the lower share of pulses and oil seeds grower farmers use fertilizer. The CSA data (2006/7) indicates that less than 15% of the oil crop farmers applied DAP and Urea.

Compared to the previous crop year, a 3.0% growth in the amount of fertilizer used and a 6.1% increase in fertilizer applied area is shown (CSA, 2005/06a, CSA, 2006/07)[14]. Fertilizer sales went up in 13 of 16 zones in Oromia, 8 of 10 zones in Amhara, 9 of 20 zones in SNNPR and in 2 of 5 zones in Tigray (FAO/WFP, 2007)

---

[14] On the other hand, the FAO/WFP report indicates a 6.9% growth in fertilizer use during the crop year, despite a 5.3% and 10.1% rise in basic price of DAP and Urea, respectively.

Table 2.5: Regional share of fertilizer distribution (percent)

Regions	Cultivated area of grain (%)	Share of fertilizer (%)			
	2006/7	2006/07	2005/06	2004/05	2003/04
Tigray	8.1	2.5	3.9	2.7	5
Amhara	34.3	31	31	31	29
Oromia	45.9	46	50	46	44
SNNP	8.7	11.5	9	10	8
Others	3	9	6.1	10	14
Total	100	100	100	100	100

Source: FAO/WFP (2007)

With regard to the distribution of fertilizer across the regional states, there has been slight change during the years 2003/04 to 2006/07. Compared to 2003/04, the amount distributed to Tigray and other regions was reduced from 5% to 2.5%, 13% to 9%, respectively, while it was increased from 29% to 31% in Amhara, from 44% to 46% in Oromia and from 8% to 11.5% in SNNPR in the year 2006/07. This distribution seems to also correspond with the share of cultivated land under grain crops production in the different regions (Table 2.5).

Fertilizer price (both DAP and urea) has been rising over the past years (Figure 2.10). Between the cropping years 2004/05 and 2006/07 the average price of a 100 kg of DAP increased by 5% and that of urea by 12% annually. The price in 2007/08 is said to be much higher than the previous years. Before three months, price of DAP was around 600 birr per 100 kg[15]. Currently, (as of May 2008) it must have surpassed 700 birr per 100 kg. The international price (FOB) of fertilizer in May 2008 reached 1200 USD per ton. This means that it will be more than 1200 Birr per 100 kg in Ethiopia. Fortunately, the stock needed for this year's (i.e. 2007/08) cropping activity is said to have been already purchased.

---

[15] Author's personal communication with a staff of the MOARD when this report is being prepared.

The CSA survey data (2006/7) indicate that about 5.8 million holders (48% of the total) utilize DAP, Urea or a combination of the two (Figure 2.9). Nearly half of them (48%) applied DAP, while the remaining 42% and 10% used a mixture of the two and urea, respectively.

Figure 2.10: Average fertilizer price (Birr/qt)[16]
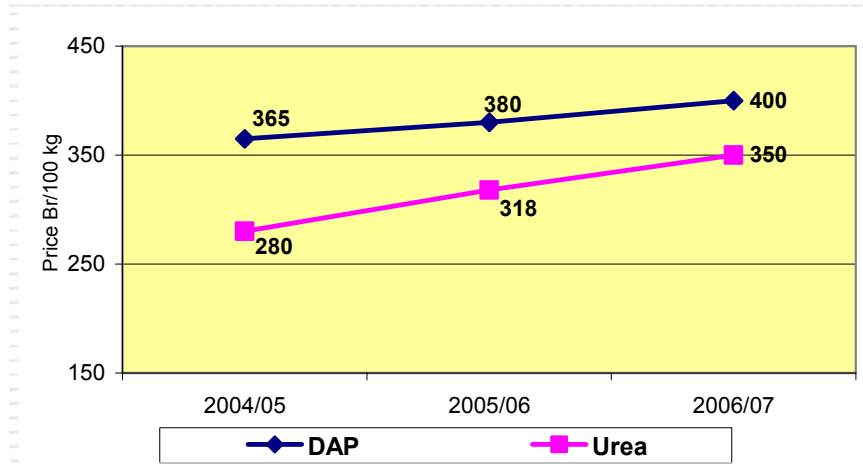
Source: FAO/WFP reports (2007, 2006 and 2005).

The average fertilizer application rate was 110 kilogram per hectare of fertilizer-applied cultivated land. This shows that it is still around 50% of the recommended rate (i.e. 100 kg of DAP and urea per hectare of land each). However, the general level of fertilizer use per hectare of all cultivated land in the country is around 30 kg per hectare. This shows improvement in fertilizer use over time, but is still very low compared to other countries. Considering the application by type of grain crops, the amount applied to oil crops is almost double that of other grains. Around 240 kg is applied to a hectare if oil crops land. The amount applied to maize is around 140 kg per hectare while to Tef it is 80 kg per hectare.

---

[16] Transport costs from main warehouses to farm village should be added to this.

73

Figure 2.11: Intensity of fertilizer use (DAP and Urea)
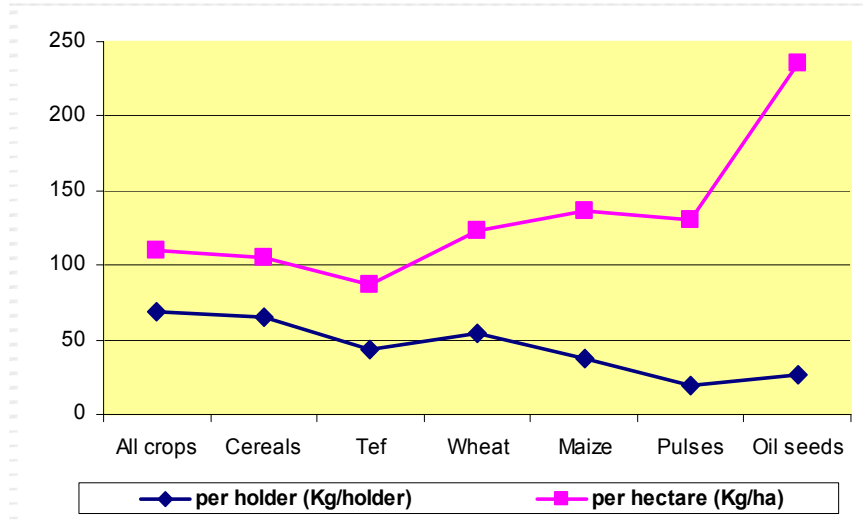
Source: CSA (2006/7, Volume I).

2.3.2 Improved seeds

While the use of good quality seeds of adapted and improved varieties is widely recognized to be fundamental for increased crop production and productivity, the majority of Ethiopian farmers use local seeds. Today, not more than 3% of smallholders use improved seeds. FAO/WFP (2007) reports that 97% of all the seeds used is local seeds, while the remaining 3 percent, amounting to about 22,500 tons, is certified seeds directly purchased from registered suppliers. Of this volume of improved seeds, about 6,500 tons, 13,230 and 2,550 tons, respectively, were maize, wheat and pulses seeds[17].

---

[17] Similar to other data cases, figures reported by CSA are slightly different and lower than the figures reported by FAO/WFP which uses sources at the Ministry of Agriculture and Rural Development and mainly indicate amount purchased by farmers, unlike CSA's which reports amount applied from sampled surveys.

The CSA (2006/7) estimated that a little more than 17,500 tons of improved seeds were used on about 360 thousand hectares of land. This is 3.4% of total area[18] of land under annual crops (Figure 2.12). Wheat and maize are the major crops in terms of improved seeds use. About 90 thousand quintals of improved wheat seeds were applied on 48 thousand hectares of land (which accounted for 3.3% of wheat area). This implies an average seeding rate of 188 kilograms per hectare. Similarly, 268 thousand hectares of land (15.8% of total area cultivated by maize) was covered by 65 thousand quintals of improved maize seeds. The seeding rate is only 24 kilograms per hectare land.

In comparison to the preceding year (2005/6) the use of improved seeds has significantly declined in 2006/7. The amount used had declined by 34% and land covered by improved seeds declined by 20%[19] . Similarly, the number of farmers who used improved seed has declined by over 20% from 1.57 million in 2005/06 to 1.23 million in 2006/07 (Figure 2.12).The rise in the price of improved seeds and the difficulty of timely availability could be some of the reasons for this decline.

In general, the use of improved seeds in Ethiopia is very low and the problem is not only the inability to produce adequate and high quality certified improved seeds but also related to marketing problems. Seed marketing is the weakest link in the production/marketing chain in Ethiopia. The formal seed sector in Ethiopia does not have small- to medium-size enterprises that produce and distribute seeds of improved varieties to the farmers.

---

[18] In the 2006/7 cropping season 10.6 million hectares of land were cultivated for annual crop production.
[19] Contrary to this report, FAO/WFP (2007) reported a 41% increase in the purchase of improved seeds in 2006/07, which raised the total purchased amount to 22,500 tons.

Figure 2.12: Use of improved seeds

Figure 2.13: Crop growers who applied improved seeds

	Amount used (qt)	Land applied (ha.)
2006/07	175382	359937
2005/06	265857	449186

	Holders applied (No.)
2006/07	1239816
2005/06	1574597
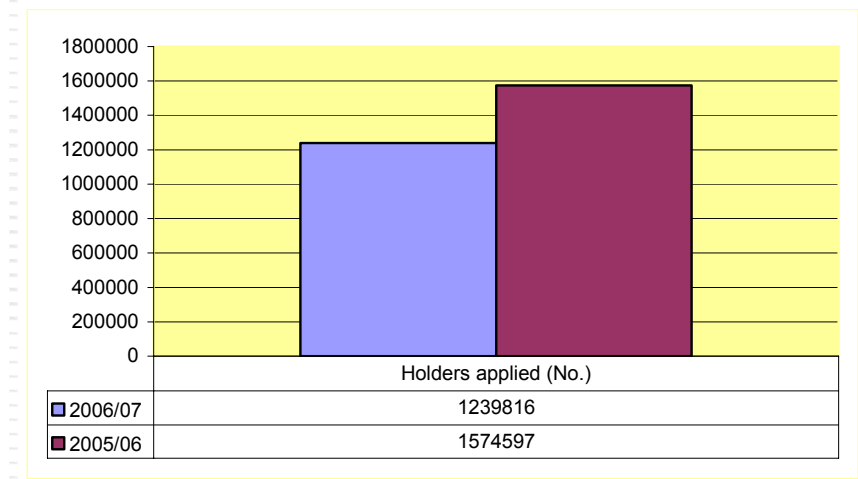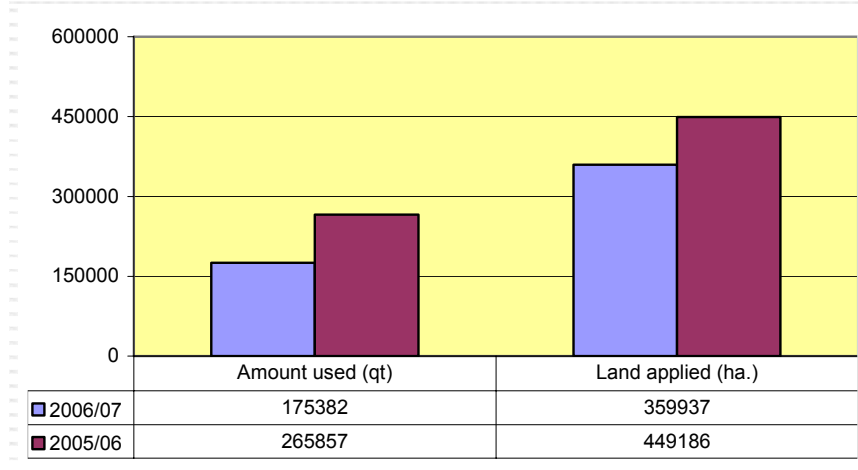
Source: Computed based on CSA (2006/7), and CSA (2006a).

2.3.3 Pesticide

The recent CSA data (2006/7) show that pesticides were applied to about 16% of grain area (1.7 million hectares). This shows that there is only a marginal change when compared to the 2005/06 performance level where 1.6 million hectares of cultivated land were treated with pesticide. The number of holders who applied pesticide was a little more than 2.7 million.

2.3.4 Agricultural credit

The Commercial Bank of Ethiopia (CBE) is the major source of agricultural credit in the country. Currently, more than 2.5 million farmers obtain credit annually for the purchase of farm inputs, mainly fertilizer. The bulk of this credit is provided by commercial banks with the intervention of the state governments to underwrite the loans. In 2005/06, CBE has approved almost Birr 1.4 billion of agricultural input loans based on credit requests submitted by the regional governments of Oromia, Amhara, SNNP, Tigray and Addis Ababa. As shown in Table 2.6, the amount of agricultural credit approved and disbursed in the year 2005/06 is the highest in the last five years. The interest rate on these loans is 7.5 percent shared between the CBE which receives 5.25 percent on the disbursed amounts and the regional governments which receive 2.25 percent for loan disbursement, recovery and administrative charges (FAO/WFP, 2007). The rate disbursed (of the approved amount) in 2005/06 has slightly declined by 3% from the level in 2004/05 although the amount disbursed increased by 35% during the same period.

Table 2.6: Amount of approved and disbursed agricultural credit during the last five years

Year	Approved ('000 Birr)	Disbursed ('000 Birr)	Disbursed (percent)	Overdue* ('000 Birr)
2001/02	641 362	455 242	71.0	-
2002/03	545 305	294 782	54.1	18 825
2003/04	780 148	376 532	48.3	-
2004/05	982 787	780 217	79.4	172 971
2005/06	1 383 941	1 051 882	76.0	490 480

* Unpaid, behind the payment schedule.

Source: Commercial Bank of Ethiopia (quoted in FAO/WFP, 2007).

Even though the Ethiopian government doesn't directly subsidize fertilizer, smallholder farmers have greatly benefited from direct access and low interest rate credit. Farmers are getting fertilizer loan on 7.5% interest rate.

2.4   Performance of the Livestock Sub-sector

Ethiopia has the largest livestock population in Africa. The livestock sector is estimated to account for10% of the GDP and provides employment to over 30% of the agricultural labor force. The activity in the sector has picked up since the government ended its monopoly on livestock trading in 1999, thereby encouraging local and foreign private investments in ranches, meat processing companies and abattoirs. Livestock and livestock by-products generate export income. The sale of leather and leather products increased from US$43.6 million in 2003/04 to US$75 million in 2005/06, while exports of meat and live animals rose even faster, from US$ 9.6 million to US$46 million over the same period (NBE, 2006). Despite some improvement in recent years especially in terms of aggressive policy and strategy on export of livestock and livestock products, however, the sector still remains underexploited.

The following section looks at and briefly discusses, based on the recent official statistics, Ethiopia's livestock population, livestock management, production, productivity, consumption, and constraints the sector faces.

2.4.1 Livestock population

2.4.1.1   Cattle

The official estimate by the CSA shows that there were about 43 million cattle in 2006/07 (CSA, 2006/07, Volume II). While 99.4 percent of the total cattle in the country are local breeds, the proportion of hybrid and exotic breeds is small, only 0.58% and 0.07%, respectively. Among cattle aged between 3 and 10 years, one out of four is used for draught purposes while the percentage share of beef cattle (i.e. cattle reared exclusively for meat) is

about 0.72%. On the other hand, dairy cows (cow that is primarily kept for milk production) are estimated to be around 6.31 million or about 14.6% of the total cattle population.

The predominant Cattle breed found in Ethiopia is Zebu. The main cattle "breeds"/populations identified and characterized so far include the Boran, Fogera, Horo, Sheko (Gimira), Abigar (Nuer), and the Afar. These main cattle breeds are indigenous to the specific regions of Ethiopia. The Fogera and Horo, well known for their milk production, are reared around Lake Tana and Eastern Wellega regions, respectively. The Boran, a renowed beef breed, is found in the southern and eastern part of the country, while the Gimira and Abigar breeds, which are considered to have tolerance to high tsetse fly-caused diseases, are found in the south-west. European breeds, especially Friesian and Jersey, have been imported for many years and cross-bred with the indigenous breeds (Azage et al, 2006).

The recent survey (CSA, 2006/07, Volume II) reported the existence of about 12.4 million farm holdings[20]. About 21% of the holdings had no cattle, and those with one to two, three to four and five to nine cattle constitute 27%, 25% and 21% of the holdings, respectively. On the other hand, out of the total 12.4 million holdings, 75%, 92%, 98% and 99% were reported to have no donkeys, horses, mules and camels, respectively

2.4.1.2   Sheep and goats

Ethiopia also has a large number of sheep and goats. There are 23.6 million sheep and 18.6 million goats. With respect to the type of breed, almost all of the sheep and goats are indigenous (CSA, 2006/07, Volume II). So far, some seven sheep and about twelve goat breeds /populations have been identified in Ethiopia. However, only few of these have been studied and characterized

---

[20] A holding is all the land and/or livestock kept which is used wholly or partly for agricultural production and is operated as one technical unit by one person alone, or with others, without regard to title, legal form, size or location (CSA, 2006/07).

to some extent. These include the sheep breeds of Horro, Menz, Afar, Arsi and Black-Head Ogaden, and the Afar, Long and Short eared Somali and the Hararghe Highland goats (Azage et al, 2006).

About 72% of the agricultural holdings have no sheep or goats, while about 17% and 7% of the holdings were reported to have one to four and five to nine sheep or goats, respectively (CSA, 2006/07).

2.4.1.3   Poultry

Data on poultry population indicate that the country has about 34 million poultry of different varieties, including cocks, cockerels, pullets, laying hens, non-laying hens and chicks. About 95 percent of the poultry are known to be indigenous, while the remaining 4% and 1% are hybrid and exotic, respectively (CSA, 2006/07, Volume II).

2.4.2 Livestock extension and management

The national survey conducted by the CSA (CSA, 2006/07, Volume II) indicates that only two percent of the total holders (196,000 holders) utilized livestock extension packages. More than half of those farmers who involved in livestock extension program packages participated in beef and poultry. About a quarter of them were engaged in dairy development packages whereas 12% have practiced honey and wax. Moreover, about 8% of the holders participated at least in two types of packages concurrently. A study by the Ethiopian Economic Association (EEA/EEPRI, 2006) shows that of the 4600 farm households surveyed in 2004, about 48% participated in extension packages on crops. The number of farmers who enrolled in livestock technology, natural resources management, post harvest technology, and farm implements programs was 12 %, 3%, 0.4 % and 0.1%, respectively. As the agricultural extension package programs have been largely focusing on crop production, low participation of farmers in the livestock sub-sector packages shows a serious problem of policy biases against the livestock

production. This undermines the potential economic gain that would have been obtained from the sector.

In the arid and semi-arid areas in the Eastern, Western and Southern lowlands, cattle, sheep, goats, and camels are managed in pastoral production systems. In the highlands, livestock are kept under settled or transhumant systems utilizing common pastures, many of which have high clover content, and crop residues. Such livestock includes some 9.3 million oxen providing draught power for the mixed farming system that prevails (FAO/WFP, 2007).

The constraints that hinder livestock development can be broadly categorized into environmental, technical, infrastructure, institutional and policy. A study by Azage et al (2006) provides a detailed assessment of production constraints. According to this report, the major technical constraints are under-nutrition and malnutrition, high prevalence of diseases, poor genetic resource management and poor market infrastructure.

2.4.3 Livestock products production and productivity

Although there is a difficulty to estimate livestock production from millions of small farmers, CSA estimates annual milk, egg and honey production by conducting an annual agricultural sample survey. However, this does not include meat production. Details on the survey methodology and result are provided in CSA 2006/07, Volume II). It was estimated that 2.63 billion liters of cow milk and 114.18 liters of camel milk were produced from rural sedentary and resettlement areas of the country in 2006/07. The average lactation period per cow and camel was estimated to be about six and ten months, respectively, and average milk yield per cow and per camel a day was 1.44 and 3.40 liters, respectively.

Annual egg production was estimated to be 81.7 million. The average number of egg-laying period per hen per year is about four, six and one for

the local, hybrid and exotic breeds, respectively. The average length of a single egg-laying period per hen was estimated to be about 20, 46 and 139 days. The average number of eggs laid per hen per egg-laying period is 12, 41 and 146 eggs, respectively.

Estimates also show that 51 million kilograms of honey was produced in the 2006/07 from 4.9 million beehives (CSA, 2006/07 Volume).

Despite the huge livestock resource and the important role expected of livestock, the livestock sub-sector of the country is, however, characterized by low productivity and production. Average yields per slaughtered cattle, and goats are estimated to be 105 kg of beef and 10 kg of mutton, respectively. Similarly, milk yield per cow is 213 kg. Egg production from indigenous poultry is between 40 to 60 with an average egg weight of 45g (Azage et al, 2006).

2.4.4 Consumption of livestock products

Livestock production and growth rates are very low and lag behind the human population growth. The result is a decline in per capita consumption of livestock products. A report by Azage et al, (2006) show that the per capita consumption of milk, meat, egg, fish and honey is estimated at 19 liters, 8 kg, 1.23, 0.25 kg and 0.29 kg, respectively, putting Ethiopia as the least even compared to its neighboring countries. The annual per capita consumption of meat is 43% below the African average of 14 kg. To reach this standard, it needs additional output of 378,000 tons which increases the present annual requirement to 508,778 tons. Furthermore additional annual increment of 3% (15,263 tons) is expected to meet the demand of the growing population. Ethiopia's milk deficit is even worse than meat. The annual per capita consumption of 20 liters is 49% below the African average. To at least reach this average level of consumption and also to meet the demand of the

increasing population, Ethiopia needs an incremental output of 1,216,546 tons per year[21].

A report by the FAO/WFP (2007) shows that throughout the country, grain and livestock prices remain firm or rising, boosted by a combination of economic growth and effective demand, formal and informal trade, higher oil prices, local purchases by cooperatives and relief agencies, and expectations of further price rise. Some more factors that are cited for the increase in livestock prices are the food-security based credit program that are designed to encourage the purchase of fattening stock, dairy stock, draught animals and chickens; and the safety–net programs that increase family incomes in marginal areas; increased daily labour rates throughout Tigray and northern Amhara; and increased exports to the Middle East via the five export abattoirs with a current capacity to export 2.4 million sheep/goats per year and through cross border trade to other countries.

2.4.5 Implication for livestock development policy and strategy

Ethiopia has a large number of livestock with considerable potential to contribute to the national economy if adequate attention is given to the development of the sector. It needs a change in attitude of policy makers and development practitioners that livestock development programs are relatively expensive, have long gestation period, and require continuous commitment. Generation of better technologies for application in the livestock management and production, efficient and effective input supply system, better management of livestock, allocation of adequate capital, etc, are required on the supply side. In addition, the development of suitable market infrastructure and availability of efficient market institutions is very important to exploit the potentials of livestock for development.

---

[21] Ibid

The development of the livestock export and the benefit the country earns face a number of challenges that include the sector's vulnerability to drought and effect on export supply, a high level of 'illegal' cross border trade in live animals, periodic import bans imposed on health grounds by key Middle Eastern buyers, unreliable supplies because of weak links between buyers and pastoralist producers, a scarcity of bank credit and poor infrastructures, and low world price for animal products (Azage et al, (2006).

There are recent attempts made to encourage private sector involvement in export of livestock products (live animals, meat, leather products and skin and hides). However, it needs more work and attention to be given to strategies and measures that enhance and enable active participation of the private sector in the production of livestock (both for domestic and export markets), livestock input supply, marketing and service provisions. These require policy and institutional interventions that also consider alternative modalities for specific production systems in highland and lowland parts of the country.

2.5 The State of Food Security in Ethiopia

2.5.1 The current situation of food security

The food security conditions in Ethiopia have always been fragile. The majority of the country's population depend on a rain-fed agricultural system for their livelihoods and food needs, and constantly run the risk of being victimized by the vagaries of nature. The major causes for this are low quality soils and over-farming that lead to soil degradation resulting in diminishing productivity. Thus, production has often not been able to meet the food requirements of a rapidly growing population. This report has largely benefited from the special report of the FAO/WFP's 2007 crop and food supply assessment mission to Ethiopia (FAO/WFP, 2007)[22].

---

[22] Unless and otherwise mentioned all reported statistics are taken from this report.

The level of crop production has traditionally been the main indicator of food security; therefore, food insecurity has not been assessed regularly in food surplus areas. During the last ten years (1996-2006), on average, about 6 million people have been identified as food insecure and in need of assistance. The lowest number was 2.69 million in 1996 while the highest number was 12.2 million in 2003.

Considering the other important food security indicator – nutritional status, Ethiopia is one of the countries in Sub-Saharan Africa with the highest rate of child malnutrition. According to the findings of the Ethiopian Demographic Health Survey (EDHS) of 2005 quoted in FAO/WFP (2007), about 47 percent of children less than five years are chronically malnourished and 24 percent were severely stunted. Thirty-eight percent were underweight (low weight for their age) and 11 percent were wasted (low weight for their height). The level of stunting, underweight and wasting was higher among rural children than urban children. A comparison of the data with that of EDHS 2000 shows that there has been some improvement in the nutritional status of children in the past five years. The percentage of children stunted fell by 5 percent from 52 percent in 2000 to 47 percent in 2005. Similarly, the percentage of underweight children declined by 19 percent from 47 percent in 2000 to 38 percent in 2005. There was, however, no change over the five years period in the percentage of children wasted. The trend for the prevalence of malnutrition from 2000 to 2005 is shown in Figure 2.14.

The prevalence of underweight children did not reduce in Harari, Dire-Dawa, Benishangul Gumuz, and Somali regions over the period 2000 to 2005. There were slight reductions in Addis Ababa, Oromia, Tigray, and Amhara regions. In Gambella and SNNPR the reduction was relatively significant i.e. by about 15% compared to the level of the year 2000. On the other hand, stunting did not reduce in Harari, Dire-Dawa, Benishangul, Somalie, and Amhara regions. There were slight reductions in Addis Ababa, Gambella, Oromia, Tigray and Afar regions.

Figure 2.14: Trend in nutritional status of children in Ethiopia by region
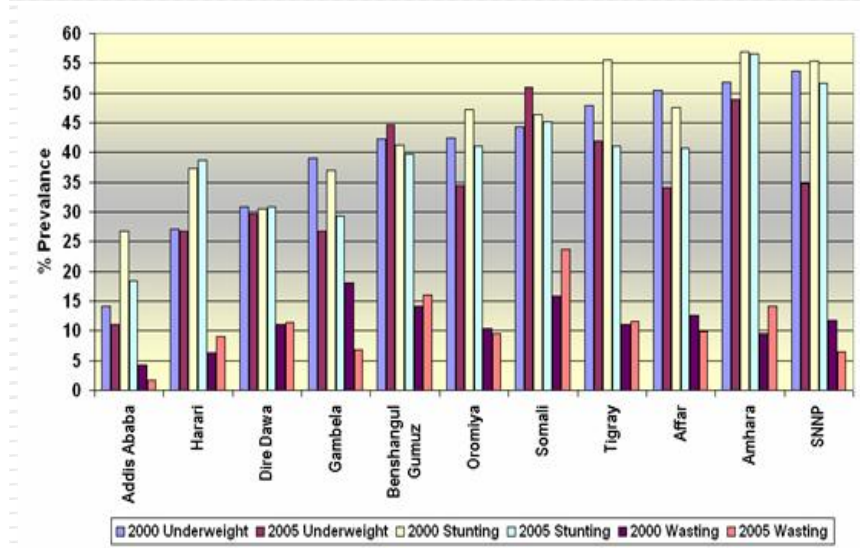
Source: FAO/WFP, 2007.

2.5.2 Current approaches to address the food security challenges

Agriculture and social protection in Ethiopia are strongly interconnected. The subsistence-oriented smallholder farming system is the dominant livelihood activity for the majority of Ethiopians; it is also the major source of vulnerability to poverty, food insecurity and their often fatal consequences – chronic malnutrition, premature mortality, and recurrent famines (Stephen and Bruce, 2007). Ethiopia is a known recipient of enormous volumes of food aid and other humanitarian assistance over many decades, to such an extent that emergency relief has become institutionalized within government structures and donor agency country programs. Data reported in the World Development Report of (World Bank, 2008) indicate that Ethiopia received an

average food aid volume of 1.28 million tons (grain equivalent) during the years 2003 to 2005.

Over the past years, policies and strategies have been devised to improve the performance of agriculture and the national economy at large in Ethiopia. The current Poverty Reduction Strategy Paper (PRSP), known as Plan for Accelerated and Sustained Development to End Poverty (PASDEP), designed for the period 2005–2009 (MoFED (2006), is based on the sustainable development and poverty reduction paper (SDPRP). In SDPRP priority was given to food security, rural development, human development, and capacity building. The current plan (PASDEP), however, introduces some new areas of emphasis, the most significant being an emphasis for the commercialization of agriculture as a strategy for stimulating broad-based development. In addition to its focus on agricultural commercialization, PASDEP renews the Government's commitment to the Food Security Program (FSP), which was initiated by the 'New Coalition for Food Security' in 2003/2004 after the drought and food crisis of 2002/2003.

The New Coalition for Food Security led by the Government recognized that each year a large number of people required "emergency" relief food assistance even as cereal production was increasing, while others only needed assistance when local production failures occurred. This has led to a re-categorization of the food insecure population (Stephen and Bruce, 2007). Accordingly, those who have regularly received relief assistance in the past ten years are categorized as the chronic food insecure. These are assumed to face periods of acute food insecurity even in "good" production years. Other people living in food-insecure areas who occasionally require relief assistance due to an external shock are classified as the "unpredictable" acute food insecure. This category is assumed to face sharp but only short-term declines in their food security situation. In any given year, there are some unpredictable acute food insecurity needs due to localized shocks in addition to the chronic needs.

Until the year 2004, food insecurity was assessed based on the impact of agricultural production failure on households who depend on own production for their consumption needs. The assessment process focuses on the two major harvest seasons, *Meher* and *Belg*. The harvest situation of *Meher* is assessed in late November/December in order to determine the emergency food needs and plan for the annual Humanitarian Appeal. The other assessment is made following the *Belg* harvest of the short rain season in the middle of the year. In addition, some ad-hoc assessments are done following disasters like floods.

Due to the regularity of this "emergency" assistance process and the large magnitude of food aid serious concerns and debates about a growing aid-dependency has been an issue. Hence, as of 2005 (following the New Coalition for Food Security) within the framework of Ethiopia's new poverty reduction strategy, the Plan for Accelerated and Sustained Development to End Poverty (PASDEP), the government began implementing a Food Security Program to address the needs of those people who are categorized as chronic food insecure. The Food Security Program has three main components, which are designed to attain household food security over a five-year period: (1) the 'Productive Safety Net Program which bridges food gaps with cash or food transfers while building community assets; (2) 'Household Extension Packages', which supports a range of non-farm livelihood activities; (2) 'Voluntary Resettlement Program', which relocates people from the most vulnerable and degraded highland areas to more productive land. The FSP aims to address food insecurity through a package that is estimated to cost $3 billion. The package consists of interventions that are intended to boost agricultural productivity for the estimated 8.3 million chronically (or 'predictably') food insecure, and to provide protection against agricultural vulnerability for the estimated 6.7 million transitory ('unpredictably') food insecure population[23].

---

[23] Ibid.

According to the WFP/FAO (2007) report, currently about 7.23 million people in rural Ethiopia have been taken out of the annual humanitarian appeal process and are provided with predictable resources in the form of cash and food transfers through the multi-year Productive Safety Net Program (PSNP), the main pillar of the Food Security Program. These households are selected by communities based on selected indicators, the predominant one being previous receipt of relief assistance. The share of population receiving PSNP benefits is shown in Figure 2.15.

With the PSNP in place, the annual Humanitarian Appeal has now focused on assisting the unpredictable food-insecure - those who face short-term acute needs as a result of a shock, mainly weather-related that affects crop harvest. Thus, the Government's assessment of food security situation and needs for intervention focuses on determining these short-term needs. The total number of people who require food assistance is first estimated based on production and other factors affecting needs in a given region. Then the number in the PSNP is deducted from it to arrive at the number of people who should receive relief assistance or be kept under close observation.

The WFP/FAO report concludes that since the government's *Meher* and *Belg* assessments focus on those living in food-deficit woredas who are "affected" by the shock, it is likely that it includes the chronically food insecure who are not included in the PSNP due to targeting and administrative issues (such as those in Somali region). However, it is also likely to exclude those living in food secure areas who lack access to food through loss of livelihoods.

Figure 2.15:   Percent of population targeted for Productive Safety Net Program (PSNP) in 2006
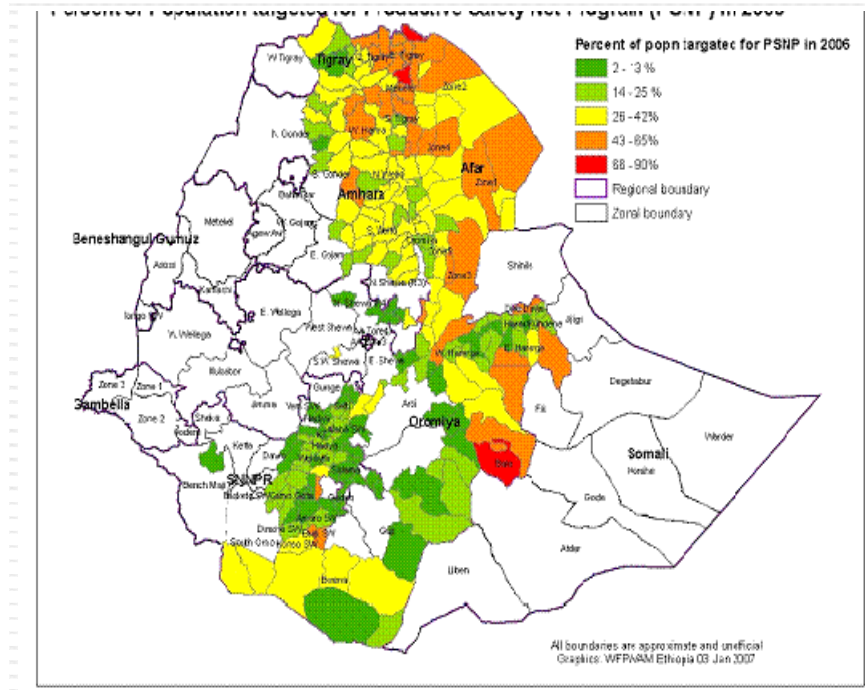
Source: FAO/WFP, 2007.

Analysis of Land Productivity

2.6 Background and Concepts

The low productivity of the Ethiopian agriculture is a major reason for the problems of pervasive food insecurity and prevalence of rural poverty. Productivity analysis relates to the amount of output obtained from agricultural activities using the standard inputs i.e. land, labour and capital. As discussed in part I, referring to the national statistics, yields of farm products per unit of land, labour and per head of livestock are very low. As noted in other reports (e.g. Byerlee et al, 2005, EEA/EEPRI, 2006, World Bank, 2007a) even the recent improvements in aggregate agricultural production are attributed mainly to expansion of agricultural land rather than improved productivity. In Ethiopia, data on labour and capital inputs used in agricultural production are very much limited. Sub-sectorwise, obtaining data on inputs in the livestock production is a more serious challenge compared to crop production. In this part of the report an attempt is made to explore some of the reasons that explain land periodicity in crop production making use of survey data. The scope of this analysis is restricted to land productivity as there is no consistent and adequate data on labour and capital inputs used in crop production.

Agricultural productivity depends on a variety of factors. Recent studies (e.g. Craig, Pardey, and Roseboom, 1997 and Frisvold and Ingram, 1995) indicate that most differences in agricultural productivity, whether across households or countries or over time, can be attributed to differences in the quantity of conventional inputs used in agricultural production, such as land, labor, fertilizer, and machinery. But agricultural productivity also depends on the quality of these inputs, including the quality of natural resources such as land (Abebayehu and Wiebe, 2001). Agricultural productivity could be measured in terms of land and labor productivities. Both are the important resources to

91

bring pro-poor growth, but their role in terms of raising farm incomes, labor employment and reducing food prices is not the same. Based on experiences of the green revolution, Byerlee et al, 2005 (citing Lipton, 2004), shows the need for agricultural productivity per unit of labor to raise farm incomes; but agricultural productivity per unit of land must increase at a faster rate in order to raise employment and rural wages, assuming land scarcity.

High agricultural productivity is essential to induce a sustainable and accelerated growth of the agricultural sector. It also plays a central role in the transformation of an agrarian based economy to an urban-based economy. Evidences from countries that successfully experienced the green revolution indicate the important role that increased agricultural productivity plays in promoting pro-poor growth, especially in the early stages of development and when productivity growth results in lower food prices (Byerlee et al, 2005). Sustained growth in agricultural productivity is critical to improvements in food security for two reasons. First, growth in agricultural productivity translates into increased food supplies and lower food prices for consumers. Second, growth in agricultural productivity means higher incomes, and, thus, improved ability to purchase food and other basic necessities for many food-insecure people who earn their livelihoods through agricultural production (whether they produce food or not) (Abebayehu and Wiebe, 2001). Broad-based agricultural productivity growth raises incomes of poor farm households as well as households of landless laborers who primarily depend on agricultural wages. Widely shared increases in incomes of farmers and farm workers also reduce poverty by providing market for labor-intensive consumer goods (Byerlee et al, 2005).

Agricultural productivity has received significant attention in the policies of the Ethiopian government. The government strategy to improve productivity is clearly stipulated in its ADLI development strategy which was drafted and implemented since the mid 1990s. The components of the strategy, stipulates the following main elements to transform Ethiopia's agricultural sector (FAO/WFP, 2007).

- provision of modern inputs- improved seeds and fertilizer, etc.,
- access to credit for small farmers and cooperatives,
- effective extension service to farmers,
- efficient product market and supporting producers prices,
- usurfractual right which enables land holders to use their land in whatever form they deem necessary (except selling), and
- development of physical infrastructure in particular small scale irrigation and rural roads.

These measures helped to reverse the downward trend of the agricultural sector performance, and more recently, to bring some modest improvements. A recent World Bank publication, however, indicates that agricultural growth in general keeps struggling with population growth. Despite concerted efforts to foster the adoption of land saving technologies the average agricultural growth has been flat between 1990 and 2004. More recently, agricultural growth appears to be accelerating. Nonetheless, already 20 percent of the rural households have not enough land to produce half of their caloric needs given current technologies (World Bank, 2007a).

The major difficulty stems from the low level of agricultural productivity which is not only low when compared to developed countries but also in view of the level achieved in similar developing countries. For instance, total factor productivity per agricultural worker in Ethiopia is only half of that of Cameroon or one third of the level achieved in Bangladesh (World Bank, 2007b)[24].

Even though the important and leading role of agriculture especially in the early stages of development has received a central attention in policy documents, the country could not be successful in improving the low and sluggish growth in agricultural labor productivity. A number of conditions are required for agriculture to play its leading role in the national economy and contribute to the development of the non-agricultural sectors.

---

[24] When compared to U.S, it is less than one percent (World Bank, 2007b).

Attaining a broad-based and pro-poor growth in Ethiopia requires an attention to be given to the productivity of the agricultural sector dominated by the small farmers. The land productivity analysis in this part of the report is based on a nationally representative data[25] collected by EEA/EEPRI in a sample survey made in 2003/04. The data provides information on the outcome of ADLI strategy and agricultural extension program formulated as a core instrument to implement the strategy.

The land productivity analysis provided in this part tries to address the following research questions: i) what are the determinants of land productivity in the smallholder farming system? ii) what level of variation in land productivity exists across the administrative regions and what explains these differences? ii) what are the possible measures that can be taken to improve land productivity? The objective is not only to contribute to future policy debates on how to improve agricultural productivity in the Ethiopian smallholder sector but also to highlight the need for further in-depth research on the issue.

2.7 Model Specification

To estimate the determinants of output per hectare of land, the Cobb-Douglas (C-D) production function is employed. The C-D function is a multivariate nonlinear relationship between outputs (production) and conventional and non-conventional inputs used in the production process. The C-D model has become popular since it is easy to transform the original non-linear relationship between output and inputs into linear form and enable work within the framework of the classical linear regression model. The model specified for this analysis is provided in Annex 2.

---

[25] The details on the data and survey methodology are provided in a study report (EEA/EEPRI, 2005) on Evaluation of the Ethiopian Agricultural Extension System with Particular Emphasis to the Participatory Demonstration and Training Extension (PADETES) Program.

The dependent variable is value of output per hectare of land. Value of output is the value of total agricultural production measured as the sum of price-weighted quantities of all agricultural commodities, expressed in Birr. This total value of output is divided by total cultivated land or labor time spent for farming operations to get output per hectare or agricultural worker, respectively.

The independent/exogenous variables that are assumed to affect the dependent variable are broadly classified into two groups: conventional and non-conventional inputs. The conventional or physical inputs include land, labor and ox or draft power used for production purposes. The non-conventional inputs are broadly classified into three groups:

- factors affecting the quality of the physical or conventional inputs. They are two types: those affecting the quality or efficiency of farm labor and land. In the former group are variables like literacy, age and sex of the household head and farmers access to information (e.g. in terms of owning radio to listen to information on agricultural and commodity prices), and households access to water service, health centers and electric power. On the other hand, those affecting the quality of farm land and considered in the regression model are soil moisture (as defined broadly in terms of location of farms in rainfall reliable and moisture stress areas), access to irrigation and the level of land degradation.
- modern farm inputs like fertilizers, improved seeds and pesticides and
- factors representing the institutional environment where the studied sample farmers live and work. Variables considered under this category include access to transport centers, extension, credit services and fertilizer distribution centers. These are dummy variables; access is defined based on the respondent's /farmer's responses to the questions like 'do you have access to credit services? etc.

2.8   Results and Discussion

The result of the regression model of the Cobb-Douglas (CD) production function is reported in Table 7. The overall model for the sample drawn from

the four regions indicates that about 71% of the variation in land productivity among sampled farmers is explained by the independent variables considered in the model. Except for Tigray region where the independent variables explain about 44% of the proportion of variance on the dependent variable, the R^2 is similarly high for the regressions of the other three regions.

Results from the total sample regression estimation indicate that the gender and owning radio (proxy for information) are not found to be important in explaining observed differences in land productivity. But literacy, age of the household and households access to electric power (27% of the sample had access), health centers (72% reported to have access) and access to water services which was reported affirmatively by 31% of the sample were found to have statistically significant association with land productivity.

The fact that literacy, access to electricity and health centers were found to have positive association with land productivity confirms the potential positive impact of the current government's rural electrification and health services extension programs implemented in the auspices of the Millennium Development Program. The coefficient of age of the head of the farm household was found to be negative and significant. This may imply that as farmers are getting older, their productivity declines.

To explore the role of land quality, three variables (dummy variables) were considered: soil moisture as defined by the Ministry of Agriculture whether the *Woreda* is rainfall reliable or moisture stress, land degradation as defined by farmers themselves whether their farmland is degraded or not, and access to irrigation. The survey data indicates that 43% of the sampled farm households are located in moisture stress areas, but only 6.3% of sampled households reported having access to irrigation. On the other hand, 41% of the farmers reported that their farmlands were degraded (when compared to better lands in their village). The regression results indicate the positive role of living in rainfall reliable areas. The coefficient is significant and positive at national level, and for Amhara and Oromia regions. The coefficient for land degradation has the expected negative sign which implies a negative

96

association with land productivity; it is only significant in the two largely fertile regions of the country, Oromia and SNNP. Irrigation is found to be statistically insignificant in the regression model which could be associated with small sample size problem (only 6% reported as having access to irrigation) and the bias in the sample associated with the overrepresentation of grain dominated areas in the sample where irrigation is not common.

Not surprisingly, econometric analysis reveals the importance of land quality in affecting agricultural productivity. The policy implication of these results is the importance of addressing land degradation problems in some areas characterized by poor and fragile soils (i.e. where land is degraded) as productivity loss could be significantly higher. On the other hand, the problem of moisture stress in some dry and rainfall unreliable areas should be addressed among others, through shifting the cropping pattern of those areas into crops requiring less water, adoption of early maturing varieties, and expanding irrigation.

The impact of institutional factors is mixed. The result for access to credit services reveals the positive and significant impact of having better access to credit services, but only in Amhara and Oromia regions, the two major agricultural regions. The result indicates the need to expand and strengthen the credit markets. Access to credit in regions is low; especially, in Oromia only 28% of the sample farmers reported to have access to credit services. Similarly, there could be a need for further linking of credit with agricultural activities. As expected, land productivity is positively affected by farmers' access to transport services. This coefficient is found to be significant in Oromia region and at national level. Similarly, the estimation reveals the positive role of farmers' access to (participation in) agricultural extension programs when the total sample is considered.

Farmers' proximity to fertilizer distribution centers has statistically insignificant role in explaining observed difference in land productivity in Tigray and Oromia regions, while it has a positive and negative impact on productivity in SNNP and Amhara regions, respectively. The negative coefficient for Amhara region is against the expectation and difficult to explain.

97

Table 2.7: Regression result on determinants of land productivity

Explanatory variables	Regression result				
	National	Tigray	Amhara	Oromia	SNNP
Conventional inputs					
Total cultivated land	-0.185	-0.126	-0.165	-0.252	0.046
	(4.68)***	(0.64)	(2.74)***	(4.29)***	(0.36)
Total labor input in hours	0.816	0.265	0.814	0.8973	0.879
	(53.42)***	(2.00)**	(25.83)***	(47.95)***	(14.03)***
Draft power (oxen-hours)	0.513	1.272	0.401	0.610	0.653
	(4.82)***	(2.46)**	(2.18)**	(4.59)***	(1.16)
Labor quality					
Illiteracy -dummy	0.127	0.216	0.188	0.194	-0.226
	(2.15)**	(0.97)	(2.25)**	(2.35)**	(0.94)
Age (years)	-0.445	-0.752	-0.243	-0.486	-0.227
	(4.64)***	(2.17)**	(1.72)*	(3.59)***	(0.57)
Sex, dummy	-0.075	0.027	-0.107	-0.148	0.040
	(-0.73)	(0.07)	(0.69)	(1.11)	(0.09)
Access to agricultural price information through radio, dummy	-0.077	-0.093	0.093	-0.020	-0.507
	(1.19)	(0.44)	(0.97)	(0.23)	(1.61)
Access to water service, dummy	0.178	0.766	0.058	0.072	0.657
	(2.86)***	(1.26)	(0.52)	(0.85)	(2.47)**
Household access to electric power, dummy	0.095	0.612	-0.402	0.359	0.823
	(1.68)*	(1.88)*	(2.38)**	(3.13)***	(2.24)**
Access to health center, dummy	0.128	-0.182	-0.124	0.178	-0.154
	(1.72)*	(0.36)	(0.90)	(1.72)*	(0.54)
Land quality					
Moisture of soil, dummy[26]	0.135	0.023	0.234	0.061	0.612
	(1.69)*	(2.34)	(0.09)*	(0.12)**	(2.89)
Access to irrigation, dummy	0.019	0.305	0.187	0.051	-0.672
	(0.16)	(0.80)	(0.66)	(0.35)	(1.25)
Problem of land degradation, dummy	-0.051	0.055	-0.019	-0.137	-0.517
	(0.90)	(0.24)	(0.22)	(1.77)*	(2.20)**
Use of modern farm inputs					
Total expenses for variable inputs – fertilizer, seeds, plus hired labor	-0.000	-0.001	-0.000	-0.000	-0.001
	(2.00)**	(3.21)***	(4.21)	(1.36)	(1.44)
Access to institutions (dummy variables based on respondents' response to questions in yes/no)					
Proximity to fertilizer distribution center	0.014	0.274	-0.234	0.006	0.624
	(0.22)	(0.59)	(2.25)**	(0.07)	(2.42)**
Access to credit service	0.103	0.394	0.349	0.356	0.085
	(1.49)	(1.22)	(2.89)***	(3.39)***	(0.36)
Access to telephone	-0.138	0.309	0.236	-0.278	-1.171
	(1.82)*	(1.08)	(1.51)	(2.45)**	(3.43)***
Access to transport service	0.154	-0.063	0.029	0.143	-0.095
	(2.10)**	(0.10)	(0.23)	(1.36)*	(0.35)
Participation in extension program	0.121	0.030	0.015	0.015	0.024
	(1.84)*	(0.13)	(0.15)	(0.18)	(0.13)
Constant	3.763	8.315	2.974	3.044	3.685
	(8.80)***	(4.84)***	(3.08)***	(5.12)***	(2.21)**
Number of observation	1422	175	359	654	234
R-squared	0.7084	0.4726	0.6933	0.7968	0.7128
Adj R-squared	0.7035	0.4426	0.6742	0.7900	0.6589

[26] A proxy for rainfall reliable or moisture stress areas. The data were taken from the Ministry of Agriculture handbook on Agro-ecological Zones of Ethiopia and published in September 2000. Any conclusion from this Woreda-level moisture based zonation should be looked carefully as it could mislead due to micro/ local level soil moisture variations.

In general, results from the regression show the importance of conventional inputs (land, labor and oxen) as the major resources for farming in the Ethiopian agriculture. Land productivity rises significantly with increases in quantities of labor and draft power spent for their farming activities. On the other hand, land productivity declines as the size of cultivated farmland increases. This result is statistically significant at national level and for the two major agricultural regions of the country: Oromia and Amhara. It does not necessarily mean that small farm sizes are preferable. It may imply that farmers with the smaller land holdings are more productive due to intensive use of land. It requires further analysis to verify whether this observed difference in land productivity among farms of different size is solely attributed to their difference in size or if it is a manifestation of other problems, for instance, the mix and intensity of inputs use. In addition, the question of optimal farm size should primarily be looked into in terms of the policy objectives and the long-term objectives set for the agricultural sector. For example, if policy objective is food security or commercialization of smallholder agriculture, farmers cultivating larger farm sizes could be in a strong position in realizing these policy objectives as indicated below from an initial two-way analysis of farm size with other key policy objectives, food security and the degree of farmers' participation (see Box 2.1 and 2.2).

On the one hand, farmers who cultivated a relatively large farm size had low land productivity. On the other hand, they do better in terms of other policy objectives. The implication is the need to design a two-tier program. For those farmers who cultivate above the average farm size, policy makers should focus on how to improve their relatively low land productivity through technical and other interventions. For smaller holding farmers, what is important is how to bring them in line with government policy objectives like commercialization. Policy makers should design interventions that limit further shrinking of the existing small-sized farms through, for instance, inheritance. Furthermore, whenever possible for those who cultivate very small lands policy options that could facilitate their smooth withdrawal from

99

agriculture should be sought. The latter helps to create conditions for others who could productively cultivate larger farm sizes.

Box 2.1: The relationship between farm size and food security

Keeping other factors unchanged and irrespective of difference in land productivity, farm size is important in determining farm household food security position. The survey data collected in 2003/04 at national level by EEA/EEPRI indicate that 37% of sampled households in major grain production areas of the country had marketable surplus while the rest 63% were food-deficit households. The former group (food self-sufficient) cultivated on average about 1.76 ha, while the latter or food deficit cultivated 0.92 ha and a group mean comparison test indicates that this difference is statistically significant at 1%.

Box 2.2: The relationship between farm size and market supply

Data collected in 2003/04 by the EEA/EEPRI indicate that about 51% of the studied farmers sold products worth 2000 Birr or less. A group means comparison test between farmers who sold less than 2000 Birr worth products and those who earned more than 2000 Birr from marketing indicates a statistically significant difference between the two groups in terms of the size of land they cultivated. The average farm size among the former group was 1.2 ha, while the later cultivated on average 1.9 ha.

Even though this two-way analysis doesn't give weights to cash crops and food crops producers which have different market participation associated to the crops they specialized in, the result implies the importance of the size of land cultivated by farmers.

2.9   Policy Implications

As discussed above, land productivity is important for food security through various effects: its impact on food supply and food prices, and its impact on the incomes and purchasing power of those whose livelihoods depend on agricultural production.

The econometric analysis shows that farmers who operated small-sized lands enjoyed relatively high land productivity; but they are not performing better in terms of other key policy objectives like agricultural commercialization and food security. This has important implications in terms of designing a two-tier policy that put different degree of emphasis to the relatively smaller and larger farmers. Along with current policy emphasis on the commercialization of smallholder agriculture, an equal, and if possible, a renewed, greater emphasis should be given to how to improve the productivity of the smallholder agriculture.

Chapter 3

Performance of Large and Medium Scale Manufacturing Industries – 2005/06

3.1 Introduction

This report on large and medium scale manufacturing (LMSM) industries is simply an update of last year's report which recorded the status of the industries for the six years period ending in 2004/05. The focus of last years report was on private investment in manufacturing industries, licensed by the Ethiopian Investment Agency (EIA) and Regional states. The report highlighted the step decline of actual investment, particularly as a proportion of approved capital, since the second half of the reform period.

A marked development in manufacturing can be expected primarily with a conscious policy direction in favor of industrial policy at the centre of a national integrated development strategy. Such a strategy inevitably materializes only in the medium to long-term period. In the past few years, there has been little qualitative change in the policy direction from what has been pursued in the last decade or so.

As such, much is not expected to change in the performance of manufacturing industries over a year or so. However, apart from the incentives provided to specific industries engaged in export (mainly textiles and leather), government has been further updating state-owned textile industries and studying the status of some chemical industries. Though such an isolated measure focusing on state owned enterprises is not expected to make an impact on the industry at large, some marginal changes in the performance of individual enterprises might be effected.

So this years report highlights changes noted in the industries in 2005/06 with respect to major variables such as production, employment, export, investment, etc.

3.2   Size   and   Production   Performance   of Manufacturing Industries

3.2.1 Changes in the number of establishments

For decades growth of manufacturing establishments has been modest. For the five years period ending in 2005/06, it increased, on average, by 10 percent annually, though unevenly (Table 3.1). In 2005/06, however, the number of enterprises established was relatively small. Over the previous year, it increased by only 3 percent.

Table 3.1: Annual growth rate of selected variables (%)

Year	No of firms	Employment	GVP[1]	Value Added
2002/03	6.3	3.4	1.8	1.7
2003/04	11.2	3.9	14.3	10.8
2004/05	12.4	3.5	8.1	1.9
2005/06	3.1	8.6	11.1	10.1
Average	8.2	4.8	8.8	6.1

Source: Central Statistical Agency, Report on Large and Medium Scale Manufacturing and Electricity Industries Survey, SB 403, 2007; EEA Data Base, Consumer Price Index; NBE, Annual Report 2005/06; Addis Ababa.

By 2005/06 there were about 1244 firms, dominated by small and medium size enterprises (Figure3.1). Most are consumer goods producing firms. Bakeries, grain mills, and furniture manufacturers alone account for nearly 40 percent of the total number of firms in the sector (CSA, SB 403).

---

[1] Gross value of production by broad industrial groups and the corresponding value added are deflated by the respective consumer price indices (2000/01=100) and converted into equivalent dollar value.

Figure 3.1: Trend in the number of establishments
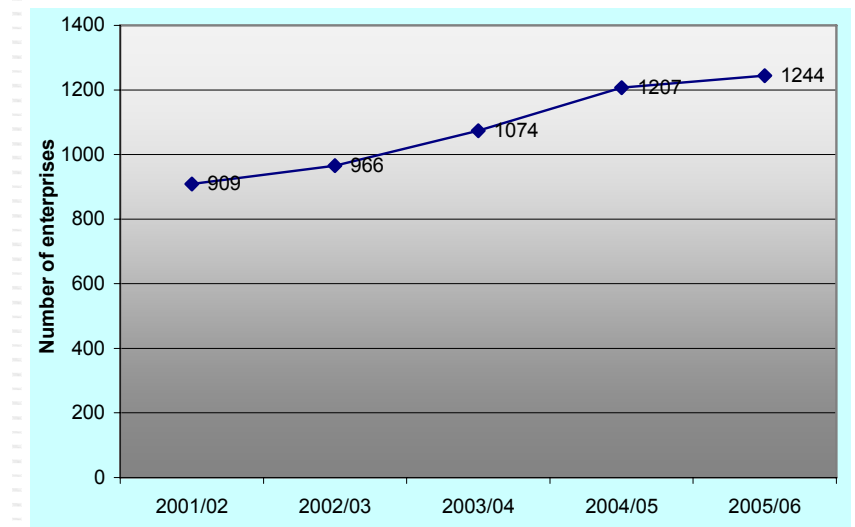
Source: Central Statistical Agency, Report on Large and Medium Scale Manufacturing
and Electricity Industries Survey, SB 403, 2007

3.2.2 Level and rate of employment

The employment is inevitably a reflection of the small number of establishments. In 2005/06 the number of employed workers in the entire large and medium scale manufacturing industry was only 118.5 thousand (Figure 3.2). And this is so, despite the fact that most firms are labor intensive. On average, this is equivalent to 95 workers per firm. But note that there are enterprises employing as low as 10 workers only; and over 50 percent of the enterprises have a capacity of less than 25 workers per firm (EEA, 2003/04). In a country with over 40 million people of working age population, the employment contribution of the modern manufacturing sub-sector is quite negligible – only about 0.3 percent. Perhaps in an economy dominated by subsistence agriculture, and a policy orientation not favoring manufacturing for over three decades, low contribution of the modern manufacturing sector is expectable, though not so insignificant.

105

The industry is haunted by capacity underutilization, further reducing the overall capacity of the sector.

Figure 3.2: Employment level (thousands)
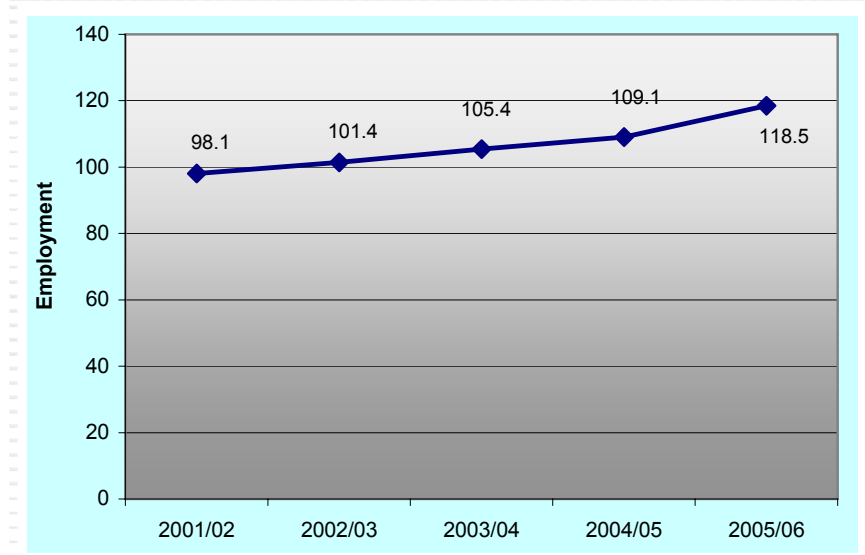
Source: Central Statistical Agency, Report on Large and Medium Scale Manufacturing and Electricity Industries Survey, SB 403, 2007

Unlike growth in the number of firms, employment level in 2005/06, however, increased at a much higher rate – 8.6 percent. This is the highest employment rate for over five years (Table 3.1). The relatively higher rate of employment than the number of establishments in 2005/06 may sound inconsistent. This however may be due to the lag-effect required to bring enterprises into operation. Growth in the number of establishment in 2004/05 was quite high, but its employment effect might have been largely reflected in 2005/06.[2]

---

[2] But to identify the impact of the lag effect, it also requires knowing the effect of other factors, such as the size of the enterprises, the economic climate, etc.

The increase in the employment level took place largely in few industrial groups namely food and beverages, fabricated metals, rubber and plastic, textiles, and non-metallic minerals. These five industrial groups together accounted for three-fourth of the additional employment in 2005/06 (Table 3.2). Food and beverages alone, where nearly one-third of the total workers in manufacturing is amassed, accounted for about a similar proportion, 31 percent of the additional employment in 2005/06. This is an increase of 12 percent over the previous year. The next largest employment is made in Fabricated Metals. Employment in this industrial group accounted for 15.5 percent of the additional worker force. Because of its low share, the employment growth rate was a considerable 51.4 percent over 2004/05. The remaining three industrial groups, namely Textiles, Non-Metallic Minerals, and Rubber and Plastic materials, employed 11, 8.3 and 9.7 percent of the newly employed workers in manufacturing. Other industrial groups, not included in the same table, were either stagnant or increased/decreased marginally.[3]

Table 3.2: Employment share and growth of selected industrial group (Percent)

Industrial group	Average employment share	Share in additional employment	Employment Growth rate
	(2001/02-2005/06)	(2005/06)	(2005/06)
Food and beverages	29.7	31.3	12.5
Textiles	20.7	11.0	6.8
Non-metallic minerals	8.3	8.3	11.6
Fabricated metals	3.6	15.5	51.4
Rubber and plastic materials	4.8	9.7	21.6
Total	67.1	75.8	9.0

Source: Calculated based on Central Statistical Agency, Report on Large and Medium Scale Manufacturing and Electricity Industries Survey, SB 403, 2007

---

[3] In Furniture manufacturing there was a massive increase in employment in 2004/05 (3,000) but an equal unemployment is also recorded in 2005/06. It is very likely that this could be an error.

3.2.3 Production performance

Gross Value of Production (GVP): Production performance of large and medium scale manufacturing industries is a reflection of the low industrial base, capacity underutilization and low productivity level. In 2005/06, gross value of production in real terms was only US $1401.6 million (Figure 3.3).[4] This implies that the entire modern manufacturing produced goods worth only $18.5 (23 at current prices) per person per year. As a result, a substantial proportion of manufactured consumption as well as investment goods had to be imported. It also indicates that even if it operates at full capacity and at much higher productivity level, the total production would still remain much short of demand that the country has to continue depending largely on imports for basic consumption, let alone investment, goods.

Figure 3.3: Real gross value of production and value added trends
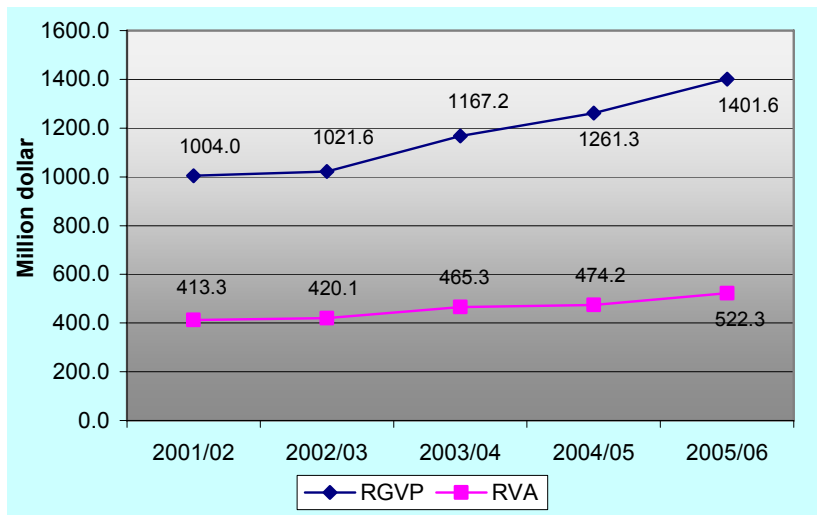
Source: see Table 3.1.

_____

[4] At 2000/01 prices.

108

In the same year, corresponding to the rate of employment, real GVP increased by an appreciable 11.1 percent over 2004/05, much higher than the four years average - 8.8 percent (Table 3.1).

However, significant growth was recorded only in few industrial categories. As shown in Table 3.3, the bulk of the additional gross value of production materialized in four industrial groups.[5] Over a quarter of the additional GVP in 2005/06 was rolled-out by industries producing Non-Metallic Minerals. Largely, because of the on-going relatively considerable construction work in the country, the five years average of its GVP share increased by over two fold (from 10.4 to 26.1 percent). Its' GVP in the same year increased by 32.8 percent over the previous year.

Table 3.3: Industrial groups having major shares in additional GVP-2005/06 (percent)

Industrial group	Avr. share in GVP (2001/02-2005/06)	Share in additional GVP (2005/06	Annual growth (2005/06)
Non-Metallic Minerals	10.4	26.1	32.8
Food and Beverages	34.6	17.5	6.9
Rubber and Plastic	5.8	14.9	31.7
Basic Iron and Steel	7.1	12.4	16.7
Motor Vehicles	2.5	10.0	60.7
Total	60.4	80.9	

Source: Calculated based on Central Statistical Agency, Report on Large and Medium Scale Manufacturing and Electricity Industries Survey, SB 403, 2007

Similarly, Food and Beverages held about 17.5 percent of the additional GVP in the same year. However, its share in GVP declined from a substantial five years average of 34.6 percent (over one-third of total GVP) to 17.5 percent in 2005/06. Its annual growth for the same year was limited to only 7 percent.

---

[5] Total additional GVP refers to the total sum of GVP increment in 2005/06 over the previous year, excluding negative values, i.e., excluding industrial groups which recorded negative GVP growth in the same year.

Also, the substantial growth of the other three industrial groups might have been spurred largely by the on-going construction activity. Rubber and Plastic increased its average share by nearly three fold (from 5.8 to 15); Basic iron and Steel by just under two fold; and Motor Vehicles by four fold. As growth in industrial groups, such as the latter two, is fundamentally central for industrialization, the current trend in these sub-sectors needs to be encouraged further.

It should, however, be noted that GVP in some industrial groups, including textile, paper and printing, and furniture declined in 2005/06, while in the rest it was either stagnant or increased marginally.

Value Added (VA): The other important indicator worth considering is the value added. As shown in Figure 3.3, over the whole period, value added, in absolute terms, had been less than half of the GVP. It has also shown little conspicuous change over the years, although there was no decline. In 2005/06, real value added was only $522.3 million.

Corresponding to real GVP, real value added in 2005/06 has shown a marked rise – about 10 percent over the previous year. A persistent problem in value added is its uneven growth (Table 3.1; Figure 3.4). The 4 years period, except 2002/03, weather condition was quite favorable for production. Despite this, however, its growth performance has been inconsistent, characterized by a cycle of decline and recovery.

Considering growth performance, four industrial groups alone, whose average value added share in the five years period had been only 22.7 percent of total, accounted for over 85 percent of the newly generated value added in 2005/06 (Table 3.4). The three industrial groups, namely Non-Metallic Minerals, Rubber and Plastic and Motor Vehicles, that accounted for half of the additional GVP, also generated over three-fourth (77.4 percent) of

the additional value added.[6] As shown in the same Table, growth rates of all industrial groups were very high.

Figure 3.4: Short term growth trend of value added.
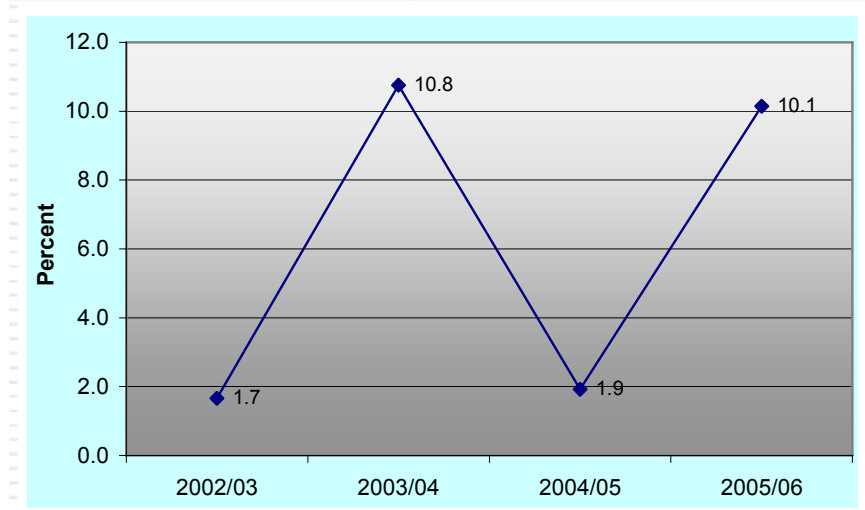
Source: Table 3.1.

Table 3.4: **Industrial groups having major shares in additional VA - 2005/06 (percent)**

Industrial group	Average. share in VA (2001/02-2005/06)	Share in additional VA (2005/06	Annual growth (2005/06)
Non-Metallic Minerals	11.3	45.8	74.1
Rubber and Plastic	6.1	23.4	67.8
Leather	4.9	8.9	28.9
Motor Vehicles	1.3	8.2	114.6
Total	2.7	86.1	

Source: Calculated based on Central Statistical Agency, Report on Large and Medium Scale Manufacturing and Electricity Industries Survey, SB 403, 2007

[6] See footnote 5 for conceptual definition.

111

Note that the other two industrial groups, food and Beverages, and Basic iron and still, that recorded significant rise in the GVP, had no corresponding performance in terms of value added, while the Leather sub-sector whole value added increased markedly, had little change in GVP. Data error aside, what this implies is that in the case of the three industrial groups, Non-Metallic Mineral, Rubber and Plastic, and Motor Vehicles, where noticeable additional GVP and VA were achieved, higher performance must have been due to, among other factors, efficiency improvement, where as in the case of food and beverages, as well Basic Iron and Steel, there must have been little efficiency growth, but mainly only higher capacity utilization and/or expansion.

In a number of industrial groups, including Textiles, Paper and Printing, Basic Iron and Steel, and Furniture, value added in 2005/06 declined considerably from the 2004/05 levels.

3.3   Production Efficiency

A number of indicators including costs (and its disaggregated components), value added to GVP ratios, import intensity, capacity utilization, productivities, scale economy, etc. could be used as direct or indirect measures of efficiency. Few of these are addressed below.

3.3.1 Capacity utilization

The level of capacity utilization can be employed as a general indictor of efficiency. Though there are some specific industries operating at a reasonably high capacity, most industries are running at about half their maximum capacity. Figure 3.5 portrays the average capacity utilization of all manufacturing industries over the last five years: 2001/02-2005/06.[7]

---

[7] It is the ratio of actual value of production to maximum potential production for each industrial group weighted by the respective production value share of the total.

Industries are nevertheless operating just above their half production capacity. Since 2001/02 average capacity utilization had been increasing continuously by about ten percentage points over the period, recording a maximum level of 62 percent in 2004/05, though remained stagnant in 2005/06.

Figure 3.5: Capacity utilization
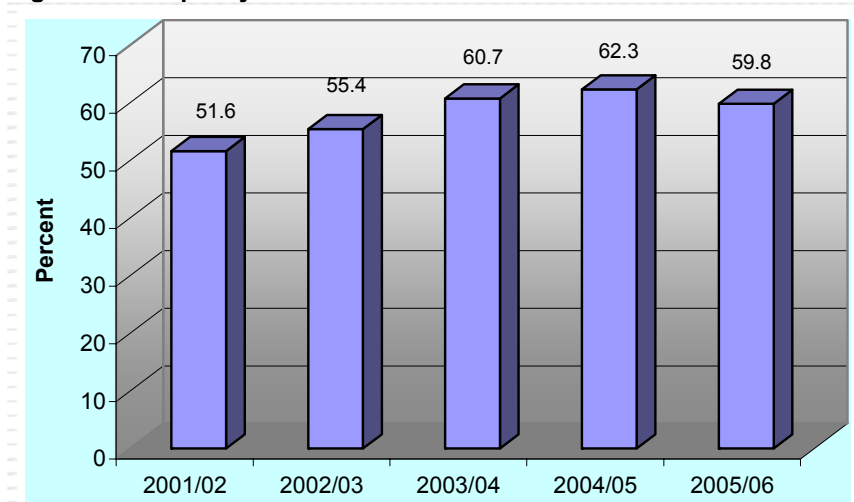
Source: Calculated based on Central Statistical Agency, Report on Large and Medium
　　　　 Scale Manufacturing and Electricity Industries Survey, SB 403, 2007.

A disaggregated picture by industrial groups, however, shows that most industries operate at much below the average level, while run at higher capacity. For instance, in 2005/06, the Tobacco industry run at its maximum capacity (99 percent); Leather, Wood & Cork, and Machinery & Equipment at near three-fourth level (71 percent); Paper & Printing and Furniture at about 68 percent. On the other end of the scale, Textile used less than one-fourth (22 percent) of its full capacity; Wearing Apparel and Motor Vehicles operated at abut 41 percent. All the rest operated nevertheless at about half their maximum capacity.

3.3.2 The capacity of generating additional value

The production techniques used in combining labor and capital in generating additional value from raw materials and intermediate inputs used also measures production efficiency. This can generally be shown using the ratio of value added to gross value of production. Over the last five years the ratio has never exceeded 41 percent (Figure 3.6). This implies that what goes to factors of production including labor, capital, profit, interest rate and rent was less than half of the total value of production, which is quite low by any standard of measurement (EEA, 2003/04).

Figure 3.6: Share of value added in GVP (percent)
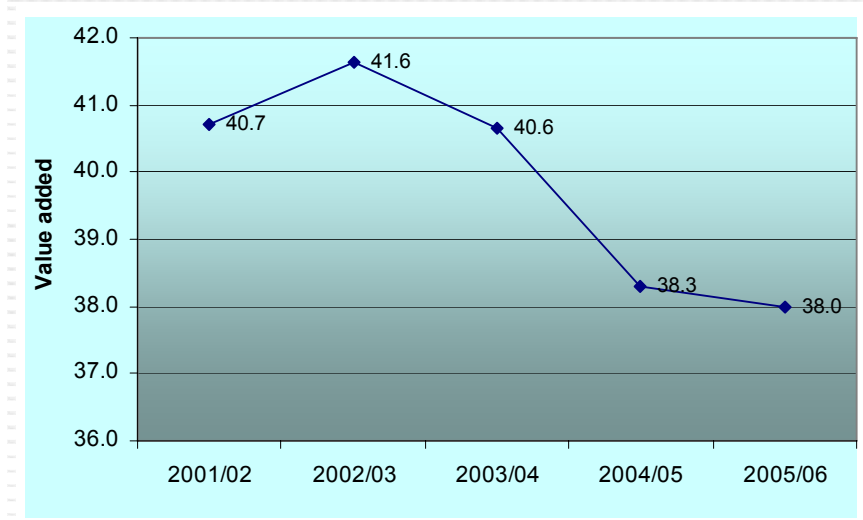
Source: Calculated based on Central Statistical Agency, Report on Large and Medium Scale Manufacturing and Electricity Industries Survey, SB 403, 2007

3.3.3 Labor productivity

Another measure of efficiency is labor productivity.[8] In 2005/06, for all industrial groups, value added per person engaged was only $5515 per year. As noted above this value makes up for wages, profit, interest rate, and rent. This was the maximum annual productivity level achieved over the five years period (2001/02-2005/06).

Figure 3.7: Changes in labor productivity
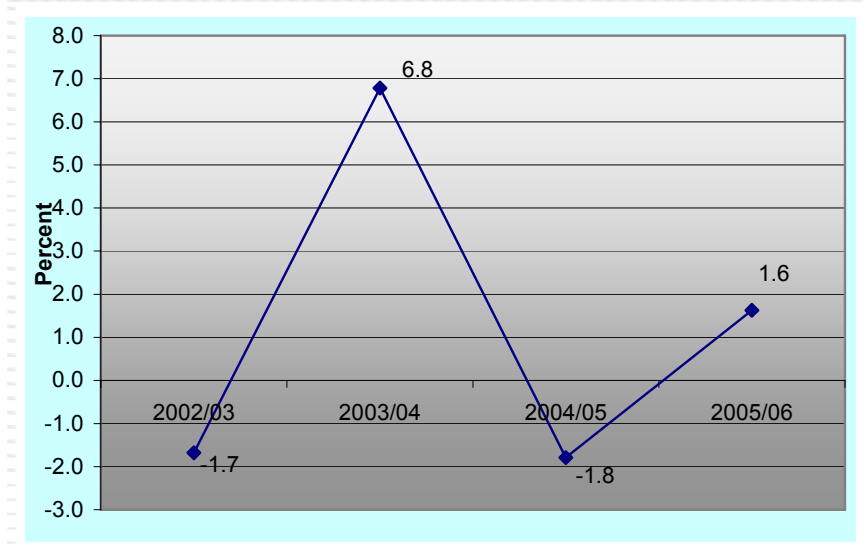
Source: Calculated based on Central Statistical Agency, Report on Large and Medium
Scale Manufacturing and Electricity Industries Survey, SB 403, 2007

What is perhaps interesting is its development over the same period. Figure 3.7 shows labor productivity trend in real terms, i.e., real value added per

---

[8] Value added per unit of workers or per unit of wage paid can serve the purpose. Moreover productivity of capital can as well be used as an indicator. However, capital as recorded in the CSA survey reflects wide inconsistency and can hardly provide any meaningful result.

worker.[9] What it demonstrates is not only that the absolute value noted above is quite very small but its trend over time had been uneven and declining. In 2002/03 productivity declined from its previous value, perhaps partly because of the drought, followed by recovery, increasing by 8 percentage points. But then it declined by the same percentage points in 2004/05 and remained low even in 2005/06. This is so, despite favorable whether condition and high reported GDP growth since 2003/04.

3.4 Ownership Structure of Manufacturing Industries

Little change in ownership structure is expected over a short period of time unless there is an ongoing privatization program. A change in the composition of industrial goods, particularly capital and consumption goods, is a long term phenomenon requiring a process of industrialization. Other changes such as spatial distribution of enterprise and public-private share in production and export, however, can take place in the medium term.[10] This section discusses some changes in the public-private production and export share over the last few years.[11]

Table 3.5: Public-private share in production and export

	Number of firms		GVP		Value Added		Export capacity	
	Public	**Private**	**Public**	**Private**	**Public**	**Private**	**Public**	**Private**
2001/02	15.7	84.3	61.1	38.9	70.4	29.6	53.0	47.0
2002/03	15.2	84.8	61.7	38.3	71.5	28.5	55.9	44.1
2003/04	14.1	85.9	57.1	42.9	66.8	33.2	51.3	48.7
2004/05	12.8	87.2	51.3	48.7	59.4	40.6	54.6	45.4
2005/06	12.4	87.6	45.2	54.8	54.2	45.8	34.6	65.4

Source: Central Statistical Authority, Report on Large and Medium Scale Manufacturing and Electricity Industries Survey, Various issues, Addis Ababa

---

[9] Value added at constant prices: 2000/01=100
[10] Private implies non-public sector
[11] See EEA, 2003/04 and 2004/05 for detailed discussion on the structure of manufacturing.

Table 3.5 shows the short term trend of production and export of the public and private sector. With respect to the number of enterprises, there is no much change in the respective shares. Private sector dominance still continues. This absence of notable change in the number of enterprises indicates a stalled privatization process over the last five years.

Irrespective of the dominance of the private sector in the number of enterprise and gradual increase in the value of production (GVP), its share in the later remained lower than public for most of the period. In 2005/06, however, private's share (54.8 percent) exceeds that of public for the first time ever (Table 3.5). Hence, the large proportion of LMSM output is now delivered by the private sector. With further private sector development on the one hand, and privatization on the other, the role of private sector in manufacturing production could be expected to further exceed that of the public hereafter. Despite holding a majority share in production, however, the private enterprises are relatively less efficient than that of public. Though gradually increasing overtime, the value added share of the private sector remained lower than public. The former had a share of only 45.8 percent in 2005/06. In the same year, the public sector with a GVP share of less than half (45.2 percent) had a majority share in the value added (54.8 percent), implying that the private sector is still way behind the public in efficiency measures. Though it requires further investigation, the slow progress of the private sector in efficiency measures could be due to the low capacity of operation and lack of experience of new private entrants.

Unlike the consistent trend in the number of enterprises and level of production, where public's share had continued to decline (while private's share had correspondingly increased), there was no clear cut trend in export capacity. Between 2001/02 and 2004/05 public's share far exceeded that of private's. The former remained more than 50 percent, and there had been no consistent declining trend. In 2005/06, however, a noticeable shift in the respective export shares took place. The public sector's share sharply fell to 36.6 percent while that of the private's rose to 65.4 percent. In effect, the private sector which had been exporting less than 50 percent of the total

manufacturing export, suddenly boosted its capacity to two-third. Data discrepancy aside such a sudden capacity augmentation however is not a normal growth trend and need to be further investigated.

In general, the overall trend in the public-private share in manufacturing industries seems to be shifting in favor of the private sector, albeit very gradually. However, to have a clear understanding of its implication for industrialization and private sector development it requires mapping out ownership structure by industrial group and identifying the respective shares with regard to strategic and technologically leading industries.

3.5   Incentive-driven Investment in Manufacturing

Investment exceeding Birr 250, 000 is qualified for various incentives. The incentive in place is meant to encourage modern private investment. Despite a promising start in the early 1990s following the offer, actual investment, remained stagnant for the last six years or so. In fact, it has been declining in the last few years (EEA, 2007). This is so despite an increase over the years in the application for investment licenses, hence potential investment.

Between 2001/02 and 2006/07, actual investment in manufacturing dropped on average by 10 percent annually (11 percent for total investment) (Table 3.6). As a result its magnitude is shrinking down over the years. Actual investment over the same period was, on average, only Birr 619 million (or US $65 million) annually. In a sector such as modern manufacturing, expected to help transform the rest of the economy, particularly traditional agriculture, this investment amount is quite petty. But note that the underlying constraint is the extreme low total investment, and not just manufacturing alone. Average annual investment in all sectors over the six years period was only Birr 2.3 billion ((US $242 million). In fact, the share of manufacturing in total investment is quite appreciable, though widely varying. The average share for the same period was about 25 percent and has been increasing, though marginally – by 4.5 percent yearly average (Table 3.6).

118

Table 3.6: Investment

Year	All sectors			Manufacturing			
		Actual investment			Actual investment		
	Potential invest	Birr Mill	Growth (%)	Potential invest	Birr Mill	Growth (%)	Share in total (%)
2001/02	6362.6	1934.3	-22.3	920.2	385.3	-74.4	19.9
2002/03	9579.3	2171.5	12.3	2499.5	618.0	60.4	28.5
2003/04	14450.8	3543.1	63.2	6038.5	1008.6	63.2	28.4
2004/05	30033.7	3702.4	4.5	6916.6	1283.1	27.2	34.6
2005/06	77048.8	1996.7	-46.1	23114.5	298.5	-76.7	14.9
2006/07	90462.4	443.7	-77.8	34789.3	120.7	-59.6	27.2

Source: Ethiopian Investment Agency, January 2008.

But why actual investment, despite its low level in the first place, has been declining while investment licenses or potential investment capital has been increasing is a source of concern. The declining trend of actual investment is particularly more conspicuous when mapped against the fairly increasing licensed capital. As portrayed by Figure 3.8, over the last six years (2001/02 – 2006/07), actual investment as a proportion of potential investment capital for all sectors as well as for manufacturing sharply declined, on average, by about 45 percent yearly.

In manufacturing, the share of actual investment in total licensed capital, which was 41.9 percent in 2001/02 sharply dropped to 1.3 in 2005/06 and 0.3 in 2006/07.[12] The corresponding figures for total investment are 2.6 and 0.5 percent respectively. The concern in this regard is not only that it is

---

[12] Since actual investment is uneven over the years it is very likely that the recent investment level might change, though marginally, as full information is accessed.

decreasing, but also it is so consecutively over the years at alarming double digit rates. Particularly in the last two years, 2005/06 and 2006/07, shares declined respectively by 46 and 78 percent for total and 77 and 60 percent for manufacturing investment. Although, it requires detailed account of the factors adversely affecting investment, it is obvious that the general investment climate is not conducive at attract more investment. Perhaps, among the possible factors lack of financial credit, the land policy, the recently surging inflationary pressure, regional conflicts and the political-economy following the 2005 election aftermath might have deteriorated investors' confidence.

Figure 3.8: Share of actual in potential investment (percent)
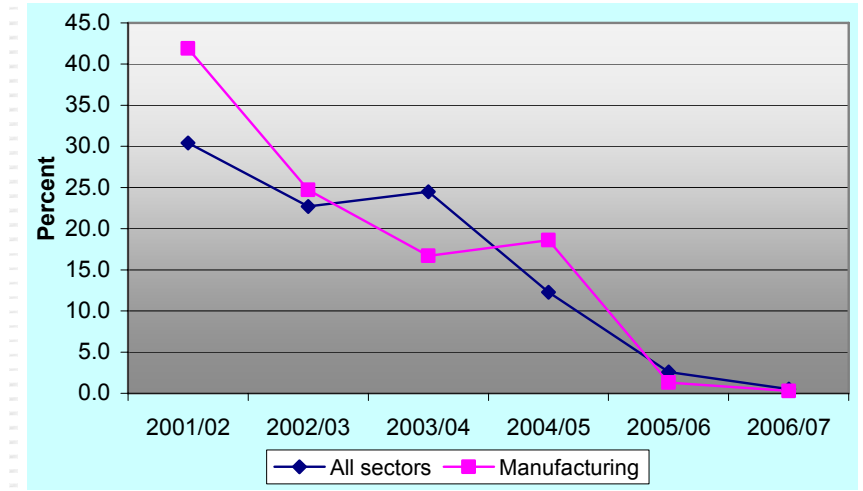
Source: Table 3.6.

3.6   Concluding Remark

A manufacturing sector, with a total of just over one thousand, largely small size enterprises, operating with crude technology, engaged in processing primary commodities and employing a few hundred thousand unskilled labour

force in a country with a population of nearly 80 million is literally insignificant to be regarded as a modern sector. For this sector to make an impact on the economy, particularly to help transform agriculture, a consciously designed industrialization policy with manufacturing at the centre and as a leading sector need to be in place and implemented. Today the discussion in Ethiopia should not have been about just growth let alone declines and weakness. Rather it should have been whether growth is conspicuous or not; i.e., how fast the economy is moving. Before such a strategy is in place the rise and fall of this or that enterprise makes little impact on the economy or the livelihood of the people.

Chapter 4

The Importance of Domestic Trade in the Ethiopian Economy

The Importance of Domestic Trade in the Economy[1]

4.1   Introductory remark

Domestic trade, particularly retail trade, provides employment for a large number of people in poor countries. The possibility of entry with little capital, low skill requirement, little a priori knowledge and the possibility of operating informally, avoiding tax obligations at least for a start, has made trade a common activity and an additional income generating source for low income groups in developing countries. In many poor countries, including Ethiopia, trade has the second largest share in the national income –only next to agriculture.

In fact, the importance of trade goes beyond employment creation. Infrastructure, transport and other relevant policies permit, trade in general facilitates spatial price stabilization, production integration and specialization. Also it is a major instrument for technology diffusion across regions within a country (similar to technology transfer between countries). As such it facilitates speedy transition from traditional economic activities (such as

---

[1] The 2003 Distributive and Service Trade Survey is the only comprehensive survey on trade in Ethiopia. However, it excludes major activities in service trade such as education, health, energy, post & telecommunication, and finance. As a result, this paper addresses only trade in goods.

agriculture) to modern activities. It creates linkages across different activities thereby exposing agents to modern way of doing business locally. Thus, it serves as a supporting instrument for industrialization.

Despite, its essential role in development, however, less is known about and little attention is accorded to domestic trade. In Ethiopia, while external trade is said to be central in the country's development strategy, little is said about domestic trade, and is largely regarded as secondary and important activity. For instance, while information on external trade is annually documented, little effort is made to compile basic information about domestic trade. To date, only two trade surveys, in 1998 and 2003, are conducted in the country.

Given the limited information base, this paper provides only basic account on the status of domestic trade based on the 2003 survey, including employment, service capacity, structure and efficiency,. It also incites to major barriers hampering the development of trade as a basis for further action to improve trade activities in the country.

4.2   Employment and Output Contribution of Trade[2]

The higher the degree of industrialization, the larger the volume of production, and the greater the division of labor/specialization; and hence the greater the proportion of production for markets rather than own consumption. The extent of trade in an economy, therefore, depends on the degree of industrialization. In a subsistence economy, such as in Ethiopia, where the vast majority of the population earns its livelihood from peasant agriculture, little is saved and the larger proportion of the produce (over two-third) is consumed in house. The rural economy is partially monetized. This significantly limits the volume of trade.

---

[2] It should be noted that it is quite a challenge for labor surveys and trade surveys in Ethiopia to capture all traders in the county, ,particularly the aspect of trade where traders go around door to door and conduct transactions. Hence it is likely that both employment and value added are underestimated.

Despite this, however, the capacity of trade in creating employment, though at subsistence level, is quite substantial. Of the total employment capacity of the economy, merchandise trade accounts for 5.2 percent in 2005 (Figure 4.1).[3] In absolute terms, this is about 1.6 million people, which is also equivalent to 2.3 percent of total population.[4] As such, merchandise trade, is the second largest employment generating sector in the economy – only next to farming.[5]

Figure 4.1: Employment and income share of merchandise trade (2005)
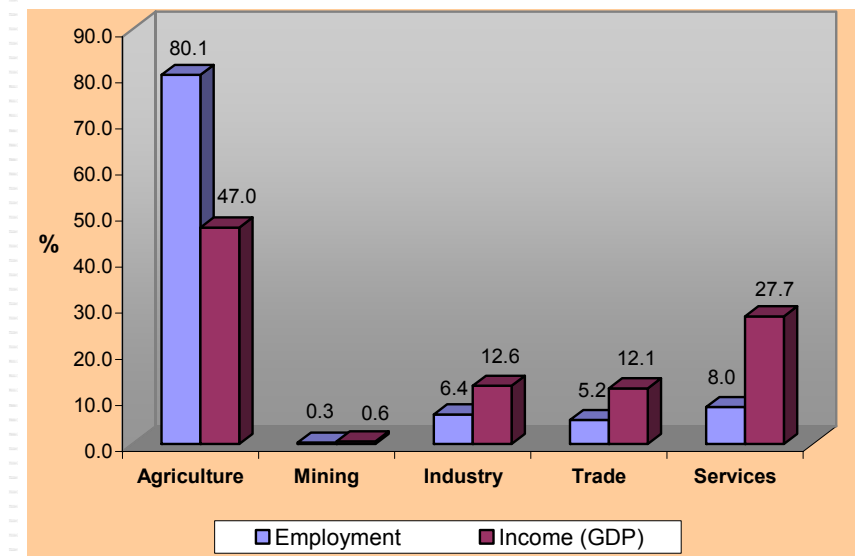
Source: CSA, Report on the 2005 National Labor Force Survey, SB No 365, May 2006, A.A. MoFED, National Accounts Department, Softcopy release, 2007.

---

[3] Employment in trade is taken from the 2005 labor survey. There were only two nation wide labor surveys: in 1999 and 2005.
[4] Considering those 10 years old and above.
[5] All other sectors are composed of more than one sector. Agriculture is composed of farming, livestock, fishing, hunting, and forestry; Mining also includes mining proper and quarrying; Industry includes manufacturing, construction, and electric energy; finally services include transport, telecom, finance, education, health, defense & security, etc.

Income (value added) generated by this sector is even more significant than the corresponding employment capacity. From the same figure, and for the same year, merchandise trade contributes about 12 percent of GDP. However, there is little development overtime. Over the decade ending in 2006, both wholesale and retail trade had shown little change (Figure 4.2). Total merchandise trade which was about 11 percent of GDP in 1995/96, increased only one percentage point over the decade – 12.1 percent in 2005. The stagnancy of trade over the years is an indicator of the persistence of subsistence agriculture, in other words the lack of industrialization of the economy. From the same graph, nearly two-third of total merchandise trade, i.e., abut 7.6 percent of GDP, is generated by retailing, the balance being the share of wholesaling.[6]

Figure 4.2: Trend of value added share of merchandise trade
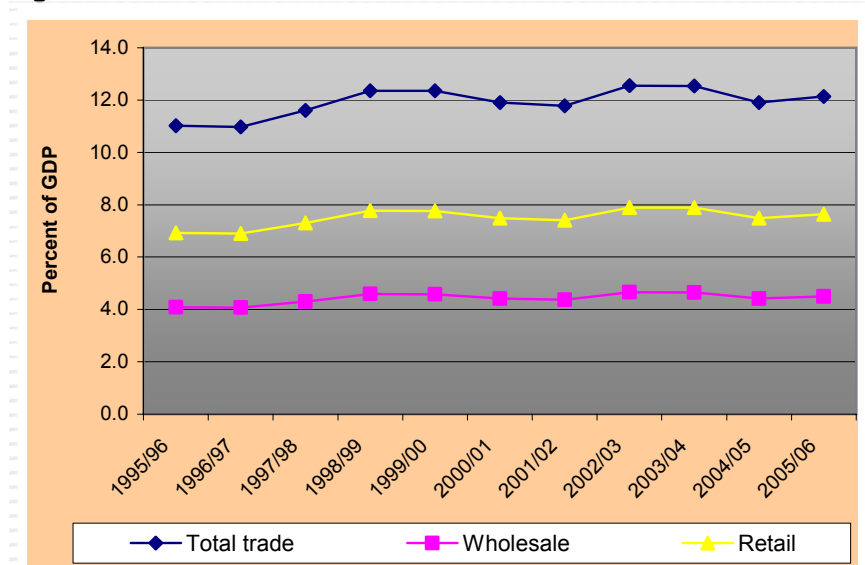
Source: MoFED, National Accounts Department, softcopy release, 2007

[6] Note that of the total merchandise goods circulating in the domestic economy about 30 percent is the import component: capital, intermediate and consumption goods.

4.3 Characteristic Feature of Domestic Trade and Trading Enterprises[7]

4.3.1 Capacity of trading enterprises

In 2002, the number of trading enterprises across the country was estimated around 807569, the bulk of which (97 percent) were engaged in retailing (Table 4.1). Over half of these enterprises, all of them retailing, are rural based. The remaining 43 percent are located in urban areas (Figure 4.3). As wholesale trading is an urban character, such enterprises are all together located in towns and cities.

In the same year, trading enterprises generated employment for about 1552125 people. About 88 percent, closely corresponding to the number of enterprises, were employed in retailing, while the remaining (12 percent) were engaged in urban based wholesale activities (Table 4.1). This implies an average employment capacity of 7.2 workers per wholesale and 1.8 per retail enterprise. These figures clearly imply the micro nature (household affair) of retailing, and the dominance of small scale enterprises in wholesaling.

As shown in Figure 4.3, irrespective of the relatively small proportion of urban dwellers (15 percent of total national population), the share of urban employment in total workers engaged in trade is dis-proportionally large – about 54 percent, reflecting urban concentration of not only wholesale, but also retailing firms. While trading enterprises cater urban dwellers nevertheless at door steps, it requires most rural villagers walking for hours to reach market centers. And in many cases rural markets operate only for a day per week.

---

[7] The 2002 trade survey is the bench mark for the estimates of variables in this section on the importance of domestic trade. However the survey covers only urban centers, excluding rural. Moreover its sample size is limited. To fill the gaps, employment in trade for 2002 is generated using interpolation from CSAs 1999 and 2005 Labor force surveys. Moreover, no of trading enterprises, both in retailing and wholesaling, are adjusted proportional to the number of people engaged in trade, derived from the labor surveys. Also, value added and GVP in trade, both wholesale and retail, given by National Accounts department of MoFED is directly employed instead of that given by the limited 202 trade survey.

Table 4.1: Capacity by type of trade

Description	Wholesale	Retail
Share in the No of enterprises (%)	3.1	96.9
Employment share in total engaged (%)	11.6	88.4
Share in total income (V.A) generated (%)	37.1	62.9
Employment per enterprise	7.2	1.8
Value added per enterprise (Br)	102149	5526
Labor productivity (V.A./labor engaged) (Br)	14187	3152

Source: Calculated based on: CSA, Report on distributive and service trade survey, February 2003, SB No. 285; CSA, Report on the 1999 & 2005 National Labor Force Survey, SB Nos. 225 & 365; MoFED, National Accounts Department, 2007.

Figure 4.3: Capacity by location
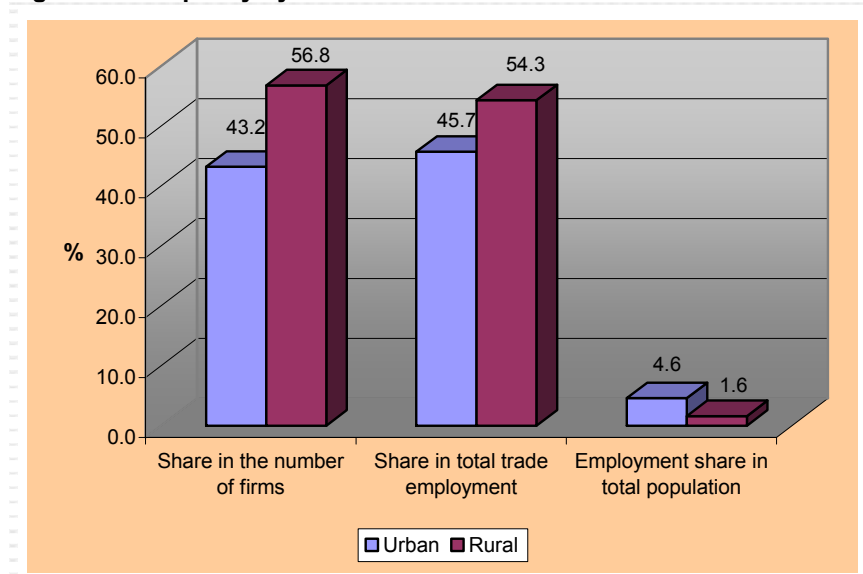
Source: CSA, Report on distributive and service trade survey, February 2003, SB No. 285; CSA, Report on the 1999 & 2005 National Labor Force Survey, SB Nos. 225 & 365;

128

The other feature of trading enterprises is their low efficiency. In 2002, total value added in trade was about Birr 6875.7 million. Just under two-third (63 percent) of this was generated by retail, while the balance goes for wholesale enterprises (Table 4.1). As noted above, retailing is largely a family affair and enterprises are overwhelmingly micro in size and operation. Such undertaking, therefore, can hardly be highly productive. In the same year, productivity, is only Birr 3152 per worker per year in retail and Birr 14187 in wholesale. Value added in trade largely constitutes return for capital (interest rate), rent and wage income (own remuneration). As shown in the same Table 4.1, value added per enterprise was, on average, only Birr 102149 in wholesaling and 5526 in retailing. Even generously assuming a labor share of two-third of the total value added, annual labor remuneration figures only about 2080 for retailers and 9363 for wholesalers.

Thus, retail trade in particular, is a subsistence mechanism rather than a profitable engagement. Enterprises don't require initial physical capital such as machinery, equipment, buildings, etc. They kick-off with small and simple rented premises. What they need is a small working capital. As a result, value added is quite low.

In 2002, these enterprises created jobs for about 1.6 million people, of which 1.3 million were amassed in retail trade. At country level, this indicates a rate of employment of 5.8 workers per wholesale, and 2.4 per retail enterprise. Wholesaling is exclusively urban, rarely located in rural villages. This also implies that 4.6 percent of the urban and 1.6 percent of the rural population are engaged in merchandise trade. While the former indicates quite a concentration, mainly because of easy access (as informal entry to kick-off), low capital and skill requirement, dispersed nature of the trade, etc, the latter is mainly a reflection of the low-monetization of the traditional rural economy. In general, it is also a reflection of a traditional economy where, unlike advanced economies, small and micro enterprises dominate markets.[8]

---

[8] Money supply (2005/06) is only about 57 percent of GDP.

129

4.3.2 Trade by mode of transport

Also, the mode of transportation employed reflects another feature of trade. While manufactured and mineral goods are conveyed largely by modern means of transportation (Roads, rails, and air cargos), agricultural commodities however, are partly transported on pack animals. Nevertheless, all marketed agricultural produces from farm gates to a nearby market and manufactured goods from nearby markets to rural villages are transported on pack animals. Based on national accounts estimates for 2005/06 (MoFED, 2007), about 95 percent of total value added in freight transport is attributed to road transport, 3 percent to pack-animals and the remaining 2 percent to rail transport (Table 4.2). As goods are transported largely for trade, these proportions reflect the shares of different modalities of transport in trading. Though the national air line is relatively well developed, its domestic cargo service is negligible, perhaps due to relatively high cost. What is conspicuous from Table 4.2 is that the cheapest mode of transport, rail transport, is the least developed in the country.

Table 4.2: Value added share (%) of freight by mode of transport.

Transport modality	Share (%)
Road (lorries)	95.4
Rail	1.9
Pack-animals	2.7

Source: Calculated based on national account estimates, MoFED, 2007.

4.3.3 Trade and accounting standards

Domestic trade in a developing economy is a reflection of both traditional and modern activities. In an economy where traditional activities dominate, for instance, such as in Ethiopia where subsistence agriculture accounts for about half of the national income, the nature of trade is largely traditional and

less organized. Table 4.3, shows this feature. Of the total wholesale enterprises, only 7.4 percent have complete accounting records. These are largely import-export enterprises that hardly do business without such records. Very few of the rest maintain complete accounting records of their enterprises. About 27 percent are said to have some sort of records – incomplete and largely inconsistent, often dealing with employment, wages and gross value of income. But the large majority, nearly two-third, of wholesale enterprises keeps no record at all.

Table 4.3: Status of accounting records of urban trading enterprises

Record status	Wholesale enterprises (%)	Retail enterprises (%)
Complete accounting record	7.4	0.6
Partial accounting record	27.2	8.1
No accounting record	65.3	91.3
Total	100	100

Source: Central Statistical Authority (CSA), "Report on Distributive and Service Trade Survey, Feb. 2003; statistical bulletin No 285, Addis Ababa

As for retailing, literally no enterprise keeps a proper accounting record. Over 90 percent have no record at all of their enterprises. Only 8 percent of them have a sort of partially documented record.

But one cannot help to be suspicious of this fact. It is true that they may not like to have any record to submit to the tax authorities, as it is not obligatory. However, it is difficult to imagine how an enterprise, at least in wholesaling, would be able to deal with business (income-expenditure accounts) without any form of record, no matter how preliminary it might be. Hence, the weakness lies in the lack of regulatory measure to enforce the maintenance of appropriate records.

131

4.4   The Structure of Trade

4.4.1 Dominance of petty trade

As discussed above, trade in Ethiopia is dominated by small and micro retailing firms. These retail enterprises are largely so small that their employment capacity is, on average, only one-fourth of wholesale enterprises; and so inefficient that their productivity level is only 5.5 percent of the latter. Despite all, these enterprises account for 97 percent of total trading enterprises.

4.4.2 Ownership structure

Dominance of petty trade directly implies the prevailing ownership structure. Both wholesale and retail enterprises are overwhelmingly owned by individuals (Table 4.4). In the retail trade, nevertheless, there is no other modality of ownership except individual proprietorship, which holds for 97 of total enterprises. The remaining 3 percent is in the form of partnership which in practice has little qualitative difference from the former. Share companies, and even private limited companies, are not known in retail trade. In fact, in this respect, even wholesale trading does not differ much from retailing. About 87 percent of total enterprises are individually owned, while partnership accounts the remaining 11 percent.

Table 4.4: Enterprises by type of ownership (percent)

Type of ownership	Wholesale	Retail
Individual Proprietorship	87.2	96.6
Partnership	10.8	2.9
Private Limited Company	0.9	0.1
Share Company	0.3	0.0
Cooperatives	0.3	0.1
Others	0.4	0.3

Source: CSA, 'Report on Distributive and Service Trade Survey', Feb 2003, SB No 285, Addis Ababa

132

Private limited companies, let alone share companies, have insignificant proportion. The implication of such ownership structure is straight forward: these companies are in no position to benefit from economies of scale, and even the prospect of expanding to large size firms is quite limited as the entrepreneurship mentality of large scale business is not yet convincingly appreciated.

4.4.3 Wholesale enterprises by type of activity

As noted above, small scale enterprises can hardly be engaged in external trade activities, as it requires relatively larger size and capacity. Table 4.5 shows that domestic wholesale is the most predominant (88 percent) activity in trade. External trade accounts for only 4.3 percent of wholesalers, though their relative scale of operation is likely to be much higher than domestic ones.

Moreover, the bulk of enterprises in external trade (3.87 of 4.3 percent) is engaged in importing activity, while the remaining insignificant proportion (0.16 percent) is involved in exporting.

Table 4.5: Wholesale enterprises by type of activity

Type of activity	Share (%)
Domestic wholesale	87.70
External trade	4.30
Export	0.16
Import	3.87
Export-Import	0.27
Trade agents	0.80
Others	7.10

Source: CSA, 'Report on Distributive and Service Trade Survey', Feb 2003, Addis Ababa

While the relative large concentration of enterprises in importing (rather than exporting) is basically an indication of the lack of industrialization of the economy, there is also more to it. Importing is a relatively simpler and perhaps more profitable activity than exporting. While exporting requires searching for markets across the globe, competing in terms of product quality and prices, as well as understand the daunting tasks of customs procedures, importers are often traced out by exporters. Their major task is to understand the nitty-gritty of customs clearance. Moreover, in a predominantly supply constrained economy, such as Ethiopia, importing is quite a lucrative business.

4.4.4 Trading enterprises by broad commodity group

In a least developed economy, where a significant proportion of the national income is generated from traditional agricultural activities, and largely for own consumption and not for markets, merchandise trade largely involves manufactured goods. Table 4.6 reflects this fact for wholesale trade in Ethiopia. Trade in agriculture proper, i.e., agricultural raw materials and live animals, involves only one-fifth (21 percent) of total wholesale enterprises. All the rest are engaged in manufactured goods. Over half of the enterprises are amassed in motor vehicles activities: 30 percent in maintenance and repair, and another 25 percent in sales. The remaining one-fifth are involved in other manufactured goods trading, such as textiles, food and beverages, etc.

Table 4.6: Distribution of wholesale enterprises by broad commodity group

Commodity group	No of Enterprises (%)
Maintenance and repair of motor vehicles	29.8
Sales of M. vehicles, parts and accessories	25.4
Agricultural raw materials and live animals	21.0
Food, beverages and tobacco	7.8
Textiles, clothing and footwear	6.0
Wholesale of other household goods	2.4
Solid, liquid and gaseous fuels and related products	2.3
Others	5.3

Source: CSA, 'Report on Distributive and Service Trade Survey', Feb 2003, Addis Ababa

Categorizing retailing by commodity groups, however, involves some difficulty. Many retailing enterprises do not specialize by commodity group; neither the regulation requires such specialization. Kiosks (small shops located in every town villages) trade in all sorts of goods: manufactured and agricultural – food and non-food items alike. As shown in Table 4.7, retailing bundled goods attract nearly half (48 percent) of the enterprises.[9] Food, beverages and tobacco, is the only single commodity group where a significant proportion of the enterprises, about one-fourth, are involved. Another 8.7 percent of the enterprises are engaged in textile and related activities. Each of the remaining commodity groups accounts for less than 5 percent of the enterprises.

Table 4.7: Distribution of retail enterprises by broad commodity group

Commodity group	No of Enterprises (%)
Kiosk	48.3
Food, beverages and tobacco	25.4
Textiles, clothing, footwear and leather articles	8.4
Repair of personal and household goods	3.4
Pharmaceuticals, and medical goods	3.0
Household appliances, articles and equipments	2.2
Hardware, paints and glasses	1.2
Others	7.9

Source: CSA, 'Report on Distributive and Service Trade Survey', Feb 2003, Addis Ababa

4.4.5 Spatial distribution of enterprises

A number of factors influence the distribution of trading enterprises across the country. Obviously, population has a strong impact on the expansion of trade. However, it also depends on the type of economic activity that the population of a given region is largely engaged in. In regions where traditional activities, particularly farming, is not widely practiced, trade has a relatively significant share in the economy.

---

[9] Kiosks are prototypes of supermarkets in miniature.

The four major regions, with relatively higher population: Oromia, Southern Region, Amhara and Addis Ababa, account for nearly 90 percent of the total wholesale and retail enterprises (Table 4.8). For these regions the consumption effect is the major factor for the expansion of trade.

Table 4.8: Number of enterprises by region and participation rate

Regional State	No of enterprises (%)	Participation rate*(%)
Addis Ababa	11.4	24.8
Afar	0.6	8.0
Amhara	14.3	2.3
Benishangul	0.6	7.9
Dire Dawa	1.8	13.3
Gambella	0.1	11.0
Harari	0.9	14.3
Oromia	39.0	3.0
Southern Nations	24.5	2.7
Somalia	1.7	8.1
Tigray	4.8	3.3

Source: CSA, 'Report on Distributive and Service Trade Survey', Feb 2003, Addis Ababa.

* No of traders/population. For population 10 years old and above

However, when considering the participation rate, the number of people engaged in trade to the total population in a given region, a different picture than what is portrayed by regional concentration of enterprises, emerges. In regional states where little or no agricultural activity is practiced, the participation rate is relatively high. Accordingly the three city administrative regions: Addis Ababa, Harari and Dire Dawa, each has the highest participation rate – 24.8, 14.3 and 13.3 percent, respectively. Also, regional states where little agricultural activities are practiced, including Afar, Benishangul, Gambella, and Somalia, despite low population concentration, have relatively higher participation rate than regions with relatively larger population. This is no surprise, because, as noted above, agricultural production is largely for own consumption rather than for markets.

Therefore the structure of trade seems to indicate a positive correlation between trade and industrialization. In a way, the picture above is also a reflection of backwardness.

4.5   Scale Economy in Wholesale Trade

As emphasized earlier, except perhaps for a handful of supermarkets and automotive fuel sales stations, retail enterprises are overwhelmingly micro in size. This, however, is not a feature of retail enterprises only. Most wholesale enterprises have the same characteristic. Table 4.9 shows gross value of income per enterprise for a broadly categorized business grouping. Relatively, large business enterprises, whose annual gross value of income is, on average, one million dollar, are in the business of sales of machinery and equipment,.

Table 4.9: GVI per enterprise

Broad business category	Birr (Mill)
Machinery and Equipment	9.833
Solid, Liquid & Gaseous fuels and related products	4.720
Intermediate products	3.028
Textile, Clothing and Footwear	2.420
Construction materials, Hardware plumbing, Heating equipments	2.236
Other Household goods	1.459
Metal and Metal ores	1.454
Food, Beverages & Tobacco	1.255

Source: Calculated based on CSA's 'Report on Distributive and Service Trade Survey', Feb 2003, SB. No.285, and MoFED, 'National Accounts Estimates', 2007, Addis Ababa.

Although it is likely that few enterprises in this category could have GVI much more than the average, hence large in size, it is obvious that most of them are quite small, with a gross income much less than one million dollar per enterprise. The second largest category, sales of fuels, has, on average, a

GVI of only half a million dollar annually. Given this and all other indicators shown in earlier tables, such as employment capacity, initial capital per enterprise[10], etc, most wholesale enterprises don't have the capacity to exploit economies of scale, a typical reflection of a backward economy.

4.6   Barriers to Trade

Deregulating markets and the reinstating of the private sector into the modern economic activities, particularly industrial activities, early in the 1990s have been essential and important measures for the proper functioning of trade. This is so because the prime agent for the expansion of trade is the modern private sector. However, this is just only a foundation. Trade facilitation requires establishing and building market infrastructure: the legal, physical and information infrastructure.

4.6.1 Market infrastructure

Market information: A major constraint in domestic market facilitation is the lack of nation wide market information base. Neither consumers nor producers have a regular access to market information such as product prices, qualities and quantities marketed. Though the organization entrusted with collecting market information, the Central Statistical Authority (CSA), regularly conduct surveys in limited urban markets and collect consumer prices monthly, it has no mechanism/channel to feed back the information to consumers on a regular basis, except in Addis Ababa to a limited scale. It regularly publishes indices of consumer prices which is not useful for consumers/producers. Such indices can only be useful in a limited way, for researchers. Similarly, CSA has no mechanism to inform producers on agricultural producers' prices that it collects on a monthly basis. There is also no media access such as radio, TV, news papers, magazines or specialized

---

[10] The survey records initial capital of enterprises. However, it is significantly underestimated and can hardly be easily adjusted. Hence, it is not shown here.

publications, to regularly inform consumers and producers on the movement of prices and quantities marketed. Relatively, better information is available regularly on commodities for export.

Physical infrastructure: A critical barrier to trade is the lack of national network of transportation and communication services which largely depend on adequate network of physical infrastructure, including roads, railways, airports, and telephone lines across the country. In the case of Ethiopia, let alone all-weather roads, even dry-weather inter-urban roads linking districts between regions and within a region is quite inadequate. Cross regional roads are primarily meant to link regional administrative capitals to the capital city of the country for political administration purpose and in tune with the highly centralized system of governance. This however did not serve well to promote trade and development between regions and even neighboring districts.

In the last seven years, more effort has been made to rehabilitate, expand and renovate existing roads as well construct new roads. However, road access in Ethiopia is still one of the lowest even by Sub-Saharan standard. The total road density is about 38.6km per 1000 sq. km (Ethiopian Roads Authority, 2007). The density of all-weather roads, however, is only about 18.8 km.[11] This implies a walking distance of about 26 km to all weather roads. For rural area specific, however, the density is much lower than this, as rural road network is least developed in the country. The corresponding all-weather road density for rural area is only 8km, implying a walking distance of 40km from villages to roads in rural areas. This is one of the lowest even by Sub-Saharan standard. Hence much is left to be done. Even this does not provide the whole picture at all village levels as regional distribution of roads could be highly skewed. Such indicators need to be shown at district level.

---

[11] Assuming 50percent of rural roads are all-weather roads.

4.6.2 Regulatory barriers

Regional investment (entry) barrier: In an economy where external trade barriers are being significantly reduced, keeping intra domestic investment and trade barriers would sound inconsistent and damages the economy. It is only a recent memory that regional 'kellas' to control trade have been self-defeating to regions where such barriers were installed. Regional states are allowed to issue their own investment policies consistent with Federal ones. However, the investment policy of some regions still prohibits licensing investors from other regions in the country, unless jointly so with another investor from the same region. But ironically, this does not apply for a foreign investor. Such narrow regional-oriented discriminatory policy discourages competition, trade and in general development of the region itself.

4.6.3 Tax rates and lack of capacity to effective tax administration

Unequal tax-burden on equal business income: In the recent past, a new indirect tax, the Value Added Tax (VAT), on enterprises having an annual turnover greater than $57,000 has been introduced (FNG, Proclamation No 285/202). All other enterprises have to register for the Turnover Tax (TOT). However, because of the lack of capacity of the tax authorities to enforce, enterprises having equal annual turnover are registered for different types of taxes paying significantly different rates – the TOT being much lower. While it is easier to trace already VAT registered enterprises and enforce tax payments (as the system is computerized), it is always challenging to estimate the tax-base and enforce due payment on business registering for TOT (ECC, 2007).

The simultaneous application of these different types of indirect taxes with differing rates, and the lack of capacity, on the part of both the Federal and Regional tax authorities, to effectively administer have created a distorted trade regime which relatively overtaxes VAT registrants, thereby discouraging

registration for VAT. Such a regime creates deterrence to the expansion of trade.

Lack of systematic approach on tax base assessment: The method of using indirect means, such as electric power consumption for assessing the tax base of processing industries, such as flour mills and edible oil factories, significantly exaggerates business income leading to over taxation. This is so because the same electric power source is allowed to be used for various other activities, including repair and maintenance of the plant itself.

A related problem is the subjective nature of estimating the annual gross sales of small businesses. A single visit to an enterprise by tax authorities and estimating stocks of goods and daily or weekly sales is used as a tax base. Estimation also involves criteria as type of business, size and location. Documents are not mandatory. This potentially involves both under- and over-estimation of taxes and opens a wide gate for corruption, thereby creating unequal competition and trade distortion.

Unjustifiable municipality charges: Municipalities are legally allowed to charge fees for services provided, but not otherwise. A number of regional municipalities impose charges without providing corresponding services. For instance, a lorry entering or leaving a town with goods from or to neighboring towns is required to pay a significant amount of tax. Some municipalities charges for sanitary services, without, however, providing the service. Such arbitrary actions burden business and creates barrier to trade.

4.6.4 Competition law and policy

The need for a level field for fair competition: a number of concerns have been aired by private enterprises regarding unfair competition practices. For instance, the Diagnostic Trade Integrated Study reported that "*importers interviewed have stated that they are facing unfair competition from party owned enterprises*" (World Bank, 2003, p29).

141

A related problem with party owned enterprises arises in distribution. Most members of Ethiopian Chambers of Commerce expressed their concern that the exorbitant prices of construction materials, particularly cement is partly due to the monopolistic position of party affiliated enterprises over distribution (ECC, 2007).

The need for more independence of the Investigation Commission: An Investigation Commission has been established to follow up regularly the day-to-day implementation of the provisions of the trade practices proclamation (FNG, No. 329/2003). The Commission receives and investigates complaints related to anti-competitive practices and submits the results to the Ministry of Trade and Industry, along with recommendations on actions to be taken. The Commission is accountable to the Ministry of Trade and Industry. The Ministry can either fully accept, or alter, or totally drop the decision of the Commission. So, the Commission has no any final say on competition matters. Moreover, unlike the Proclamation, the Commission is composed of members who are or have been high level government officials. No private sector or civil society representatives are included in the commission. In the specific context of Ethiopia, the overriding authority of the Ministry of Trade and Industry creates a conflict of interest, which could deter business activities, including trade.

4.6.5 Other barriers to trade

Illegal trade: Another aspect of trade barrier is the widely entrenched illegal trade, particularly on the eastern front of the country. With over one-third of the countries boarder stretched along the eastern and southern front of Somalia where for long there has been little centralized control of illegal activities, including trade, controlling illicit trade is a tall task. It should, however, be acknowledged that in an economy where supply falls much short of demand, illegal trade is a gap-fill mechanism. In a way, it is across boarder trade facilitation, though not legal per se. Hence, a sustainable solution might be to systematically formalize cross boarder illicit trade.

Lack of modern trading techniques: Exchange of commodities largely materializes through direct negotiations on payment. Other modalities of sales are little known and practiced. For instance, sale on auction is a rare phenomenon, except when government uses it as a means of rationing commodities that are in short supply. Suppliers' credit in domestic trade has not at all developed. Because of the ineffectiveness of contract enforcement, the system is not employed widely. It takes place only on the basis of close relationship between business agents rather than on business principles. Even advertisements, frequent exhibitions, etc. are only of recent phenomena and are practiced in a small scale.

4.7   Concluding Remark

It is obvious that merchandize trade as an economic sector can hardly be promoted on its own separate from the development of an economy. Particularly, it is closely correlated to the state of economic industrialization. The current status of trade in Ethiopia is a reflection of the level of development of the overall economy. In an environment where the vast majority of the population earns its livelihood from subsistence agricultural practices, and where poor transport and communication network prevails, the role of trade is accordingly limited. As such, trade needs to be mainstreamed into a national development strategy. However, as noted above, more can be achieved by easing and removing institutional barriers and creating an effective mechanism of implementation. Particularly, creating a fair competitive environment in a national development setting could considerably improve the efficiency of domestic trade in the country.

Chapter 5

Could WTO Accession Remove Ethiopia's Supply Side Constraints to Export? The Policy Perspective for Addressing the Trade Gap

5.1   Introduction

The long debated issue on the causal relationship between trade and development has not come to rest. While in practice free-market-based trade certainly helped to promote further the wealth of industrialized economies, it failed to live up to its expectation when it comes to developing, particularly least developed economies. This is primarily because of the large trade deficit and debt servicing whose cumulative effect leads to unsustainable debt burden.

Trade deficit is not a unique feature of least developed and developing countries. Even well industrialized economies, such as the USA, for instance, incur trade deficits for over years. However, such deficits are not structural. It is a matter of policy convenience. Moreover, the functioning free-market tends to correct the imbalance. In least industrialized economies, however, the problem is sustainable and inevitable given the import-export commodity structure of these economies. Trade surplus or sustainable deficit is largely a function of industrialization.[1]

---

[1] Perhaps, with the exception of some oil exporting countries

145

In the early 80s, it was thought that the culprit for unsustainable trade deficit was the lack of free market policies, particularly import substitution which had been extensively used throughout the 60s and 70s in most developing economies. Hence, liberalization, particularly external trade liberalization, was considered as a panacea for removing the persistent and unsustainable trade deficit of poor economies. However, liberalization alone failed to address the structural constraint, particularly the supply side constraint, of poor economies. Even there is no sign of improvement on the demand side, i.e., demand increase for developing countries' exports.

With structural adjustment program failing to produce the desired result, accession to the World Trade Organization (WTO), in a way, an extension of the Structural Adjustment Program (SAP), is today considered as a reliable mechanism to remove the long persisting unsustainable trade deficit of poor economies, thereby leading to higher economic growth.

Ethiopia, having been grabbling with the old recommendation, orthodox SAP, for over a decade and a half, but with little positive outcome with regard to the structural problem of ever increasing trade deficit, is now turning to the fresh recommendation – WTO accession.

As emphasized above, WTO accession could remove the persistent trade imbalance on sustainable basis, if only it deals with the supply side problem once and for all, i.e., if it leads to industrial development. However, even theoretically WTO accession does not at least guarantee industrial development. Consistent to neo-classical trade theory it insists on developing countries to stick to their static comparative advantage – agricultural export.

This section on external trade attempts to reflect on the potential impact of WTO accession in narrowing the trade gap. In particular the paper tries to assess to what extent the WTO accession helps in reducing the supply side constraints since sustainable trade deficit management can only be addressed primarily by removing supply side constraints. The paper concludes by pointing out the measures that would be required to ease the

supply side problem in the context of the WTO accession. It argues that the structural problems related to supply side constraints, can only be addressed, primarily either with a fundamental improvement of WTO rules and regulations or with policies outside the WTO framework.

5.2 Ethiopia's External Trade Performance: The Widening Trade Gap[2]

High and widening external trade deficits have long plagued most LDCs, creating serious challenges in terms of increased debt and possible macro-economic imbalance. Between 1999 and 2001, the trade deficit was as high as 10 per cent of Gross Domestic Product (GDP) in 25 out of 44 Least Developed Countries (LDCs) for which data are available, and over 20 per cent of GDP in 8 of them. Moreover, between 1998 and 2002, average trade deficit, for Non-Oil exporting LDCs, increased by more than 30 percent (UNCTAD, 2004).

Ethiopia is not an exception to this fact. For the last three decades, trade deficit has been deteriorating, on average at 30 percent per year, from $68 million in 1975/76 to $3.95 billion in 2006/07, equivalent to one-fourth of GDP.

---

[2] Only for merchandise import-export

Figure 5.1: Level and trend of external trade deficit
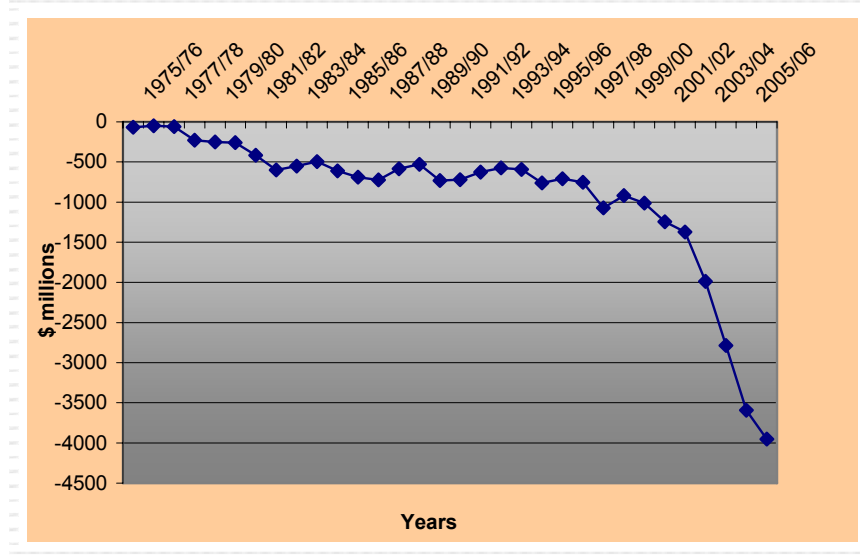
Source: National Bank of Ethiopia, various issues

As portrayed in Figure 5.1, a steep deterioration in the trade gap started in 1999, perhaps impacted by the Ethio-Eritrean war, followed by the 2003 severe drought and the sharp increase in imported goods (particularly oil) recently. For the last seven years, the trade gap significantly increased not only in absolute terms, but also as a proportion of GDP.

Table 5.1: Trade balance (percent of GDP)

Country	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Ethiopia	-6	-7	-7	-8	-13	-12	-12	-15	-15	-18	-22	-26
Kenya	-7	-3	-6	-6	-5	-8	-8	-4	-5	-6	-7	-9
Uganda	-9	-11	-7	-11	-12	-12	-12	-15	-14	-14	-14	-17
LDCs	-9	-9	-8	-10	-11	-7	-9	-9	-11	-10	-10	-10
SSA	-2	1	-1	-4	-2	2	0	-1	-1	-1	-1	-4

Source: World Bank, 'World Development Indicators 2007'.

As indicated in Table 5.1, between 1998 and 2006, Ethiopia's trade deficit steeply increased by 18 percentage points, which is far too high even by Sub-Saharan and LDCs standard. Over the same period the trade deficits for the latter two showed no sign of deterioration. The ten years average of Ethiopia's trade deficit is 30 percent higher than Sub-Saharan average which cannot be attributed to non-economic factors only. Also, compared to some neighboring countries, Ethiopia's trade deficit is by far much larger.

Figure 5.2: Debt servicing ratio
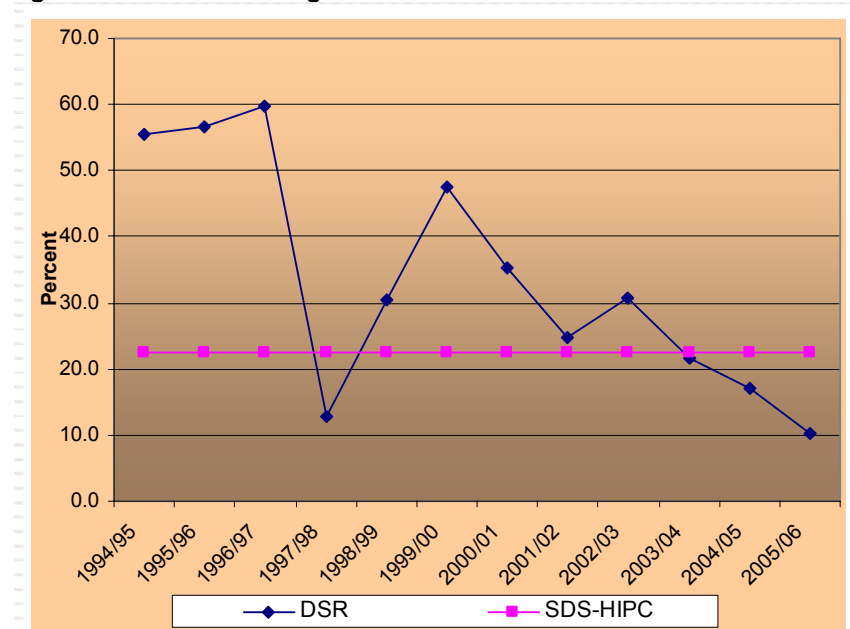
Even with a favorable external aid which Ethiopia enjoys today for various reasons, including non-economic factors, such a widening trade gap inevitably leads to over-indebtedness where debt servicing could not be sustained for long. As a result, because of the debt burden which had been

149

rolling since the mid 1970s, debt servicing remained unsustainable until very recently.

As shown in Figure 5.2, even after a significant debt cancellation has been made, for instance that owed to the former Soviet Union, debt servicing remained high. It was only after 1997 following a substantial debt reduction by the Paris club due to the HIPC initiative that Ethiopia's debt servicing fell sharply, and only since 2004 that debt servicing has been contained within the Highly Indebted Poor Countries (HIPC) sustainable level of 22.5 percent. However, in light of the fast increasing excessive trade deficit witnessed in the last few years (Figure 5.1 & Table 5.1) it wouldn't be long before the debt servicing ratio turns to unsustainable level.

5.3   Factors Underlying Ethiopia's Trade Deficit: Divergence between Import-Export Trends

5.3.1 Domestic import demand

One of the characteristic features of a least developed economy, such as Ethiopia, is the acute shortage of domestic production of not only capital and intermediate goods, but also of consumption goods, including basic (agricultural) commodities. Hence, foreign exchange permit, such supply-demand gap has to be satisfied through imports. Ethiopia's import structure reveals that most imports are goods that the country does not have the capacity to produce (capital and intermediate goods), commodities not produced in adequate quantity to satisfy the rising domestic demand (e.g. food products), and products of high quality/standard that domestic firms cannot meet (e.g. consumption goods)

In line with traditional import demand theory, consumers seek to maximise their satisfaction, subject to budget constraints. Accordingly, in an open economy, consumers' income at the national level together with relative import prices are the major determinants of imports (Cave and Jones 1994).

In a wider context, therefore, imports are a function of their competitiveness relative to domestic goods, and the ability of the country to purchase imports.

Imports are inherently competitive. Lower levels of technology and human capital stock in LDCs together with first mover advantages established by developed countries in the production of high quality, technologically intensive and innovative products, mean that LDCs simply cannot currently compete with the level of quality, technology, branding or promotion of developed countries' exports. The only way LDCs can check excess inflow of imports is through a balanced trade regime. But once liberalization removes the balance in favor of free market operation, there is no constraint against faster import growth, except the lack of foreign exchange availability. As documented for 22 developing countries, liberalization has a strong positive impact on import growth (Santos-Paulino, 2002).

In Ethiopia, as in all other LDCs, nearly all intermediate and capital goods as well as a significant proportion of manufactured consumption goods are imported. About one-fourth of manufactured imports constitute non-durable final consumption goods[3], which is equivalent to about 40 percent of total domestic manufactured output (cottage, small, medium & large scale).[4] The latter is only about 60 percent of the value of total imports (58% for 2004/05). Such imports are largely essentials and can hardly be limited under normal circumstances. This is particularly so in light of the relatively high population growth, a typical feature of LDCs.

As a result, the value of imports has been increasing since 1994, and steeply so since 2003 (Figure 5.3). Apart from the liberalization effect, there are also other additional non-economic factors, such as, for instance, national security, that may compel a sharp rise in imports for a given period of time.

---

[3] This excludes food and live animals, petroleum, chemicals, fertilizer, metals, machinery & aircraft, motor vehicles, electrical materials and telecom apparatus and others.
[4] For 2004/05

Figure 5.4 shows the share of the top five commodity groups which have been increasing faster relative to others.[5]

Figure 5.3: Trends in import and export values
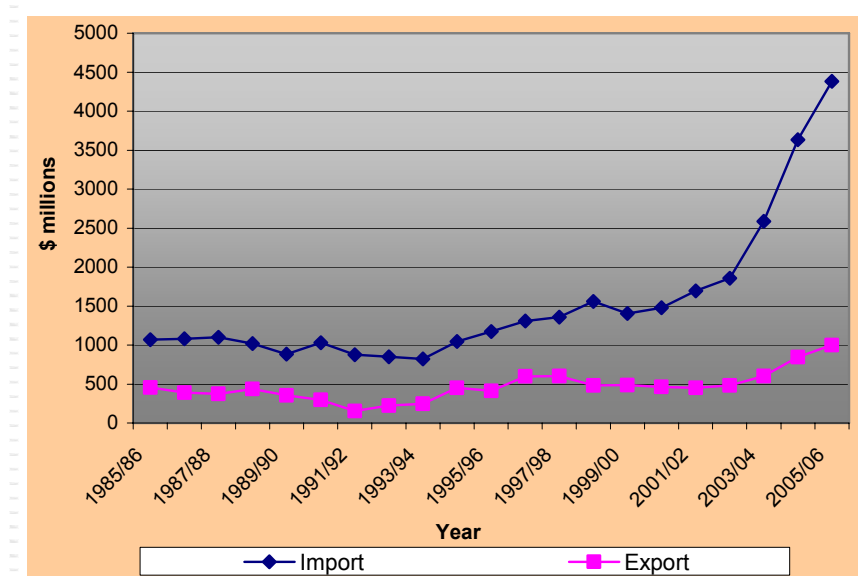
Source: National Bank of Ethiopia, Annual Reports, various issues

For over a decade (1993/94-2005/06), these five commodity groups together accounted for two-third (66.7 percent) of total import value. The two most important import groups: Miscellaneous and Petroleum, alone have a share of one-third of total import values. 'Miscellaneous' largely includes military wares and other security-related imports. Machinery and Aircraft largely reflects recent purchase of a number of civil transport airplanes by the Ethiopian Airlines and other investment-related machinery imports. Motor-vehicles and metals involve construction and other investment capital goods.

---

[5] Electrical and electronics materials also have a share of about 10.7 percent of total. However, no significant rise occurred during this period.

Figure 5.4: Import share of major commodity groups
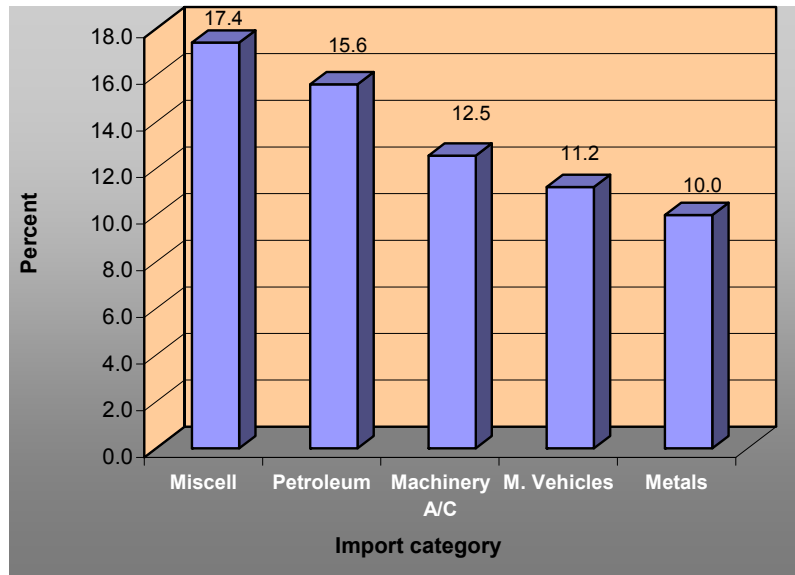
Source: National Bank of Ethiopia, Annual Reports, various issues

Over the last 13 years the value of imports increased, on average, by 21 percent annually (Figure 5.5).[6] The same Figure shows the value of imports of selected commodities with relatively substantial growth over the 13 years period. Commodity groups noted above, including Miscellaneous, Petroleum, Machinery & A/C, Motor-vehicles and Metals annually increased, on average, by 29, 22, 22, 21 and 34 percent, respectively.

Considering the first item, 'Miscellaneous', steep annual increases took place in 1997/98, 2001/02, and since 2004, probably due to the Ethio Eritrean war and drought. The trend in Petroleum import is also associated to these factors. The sharp increases in 1997/98 and 2004/05 are mainly due to the

---

[6] Comparing it with other countries, such a surge of imports was recorded by Myanmar as the highest among many countries for the period 1999-2002. (World Development Indicators, 2005)

rise in the volume of Petroleum imports. The latter increased substantially by 112.5, 54.6 and 76.4 percent in 1997/98, 2002/03 and 2003/04 respectively[7]. The rise in the volume is also augmented by substantial rises in the prices of petroleum for the last 3 to 4 years. The steep rise in the value of Machinery and Metals, particularly since 2003, also corresponds to the increase in the volume of imports. As hinted above, this may be associated with significant purchase of new fleets by Ethiopian airlines and import of construction materials associated with the on going notable public construction works, particularly roads and airports.

Figure 5.5: Trends of selected import commodity groups
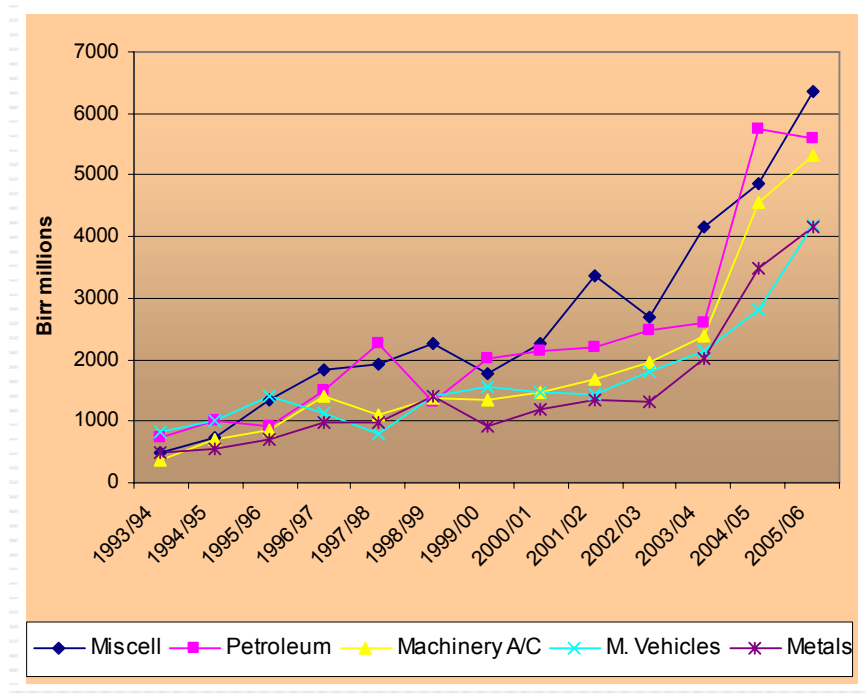
Source: National Bank of Ethiopia, Annual Reports, various issues

---

[7] No corresponding data (volume of imports) are published for miscellaneous items.

It should also be remarked that in value terms, nearly all imports increased substantially in the last 3 years because of sharp increases in domestic prices. Apart from this, though its share in the total import was not significant (5.3 percent), the volume of grain import increased by 85.5 and 64.4 percent, following the Ethio-Eritrean conflict; by 92 percent in 2002 due to draught; and by 35 percent in 2005/06.

Hence, both economic and non-economic factors including conflict, have forced imports to rise substantially, though the latter is not a permanent feature and as such cannot be regarded as the central factor. Even by comparison to other LDCs, the rise in imports over the last decade and a half is relatively high. Between 1990 and 2003, the value of imports as a proportion of GDP increased by 25 percentage points, which is 3 times higher than the Sub-Saharan or low income countries average[8].

It should, however, be noted that compared to other developing countries, import, as a proportion of GDP is not high. It is only the fast rate of growth that is quite high, and a cause of concern as it may not be sustained for long. The low foreign exchange earning capacity (export capacity) of the economy eventually puts a check on the capacity to borrow, and hence, the ability to import.

5.3.2 Export performance

Since the mid 1980s, export has shown a relatively much lower growth than imports (Figure 5.3). The average annual growth rate since 1985/86 has been only 7.8 percent. This was largely because of the intensity of the civil war throughout the second half of the 80s and early 90s. Export has also been deeply affected by the Ethio-Eritrean war during the second half of the 90s and the drought in 2002/03. In fact, except the recovery period (1992/03-1994/95) and recently, 2003/04-2006/07, due to both favorable weather and coffee price recovery (as a result of which average annual growth since

---

[8] For the same period, the average increase for SSA and Low income countries was only 7 percentage points. (World Bank, World Development Indicators 2005).

1992/93 has been about 12.8 percent). Thus, the permanent feature of export earning in Ethiopia, has been, and will continue to be, one of significant variation following weather conditions (which affects supply) and demand factors (which affect world prices). This is typical of the commodity factor.

Despite the exogenous adverse effects retarding exports, noticeable effort has been made to increase the volume of export since the first half of the 1990s. Ethiopia's performance compares with the top seven best performing African countries (Figure 5.6). The highest annual growth rate for the 13 years period was 16.1 percent for Sudan (mainly the oil factor). Ethiopia's export earning increased on average by 8.7 percent annually.

Figure 5.6: **High export performing African countries 1990-2002 (average annual growth)**
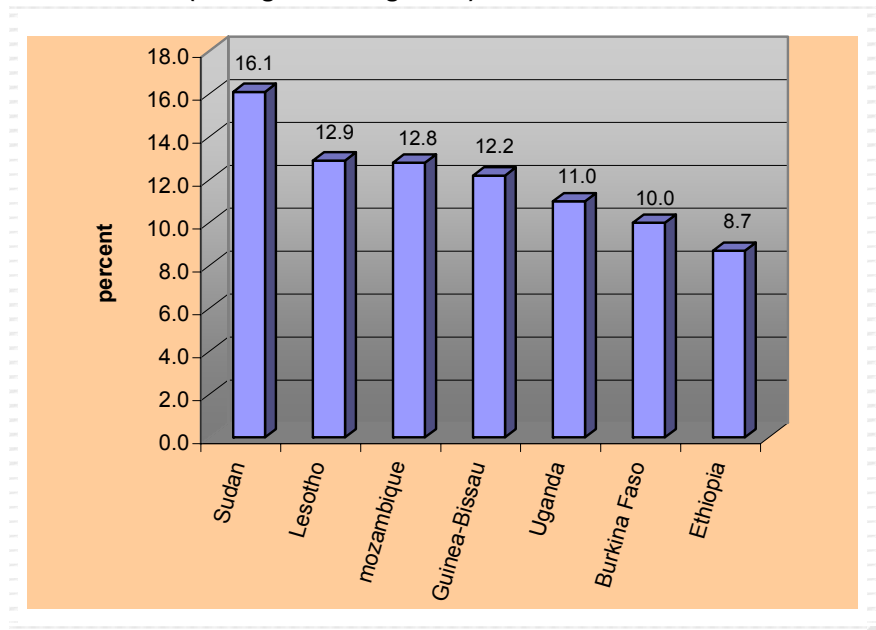
Source: World Bank, World Development Indicators 2005.

5.4   Export Capacity

5.4.1 Export share in production

Despite the effort to enhance exports substantially, actual performance has been quite low. This can be shown primarily by the relative share of merchandise exports to the gross value of goods produced. [9] Between 1994/95 and 2005/06, on average, only 7 percent of the total value of goods produced locally has been exported (Figure 5.7). The maximum level attained (in 2004/05) was only just above 10 percent. Over the same period, export share increased, on average, only by 3.9 percent yearly. Hence the long-term dynamics of export share in production is stagnant, suggesting the structural nature of the underlying constraint.

Figure 5.7:   **Share of merchandise export in gross value of goods produced**
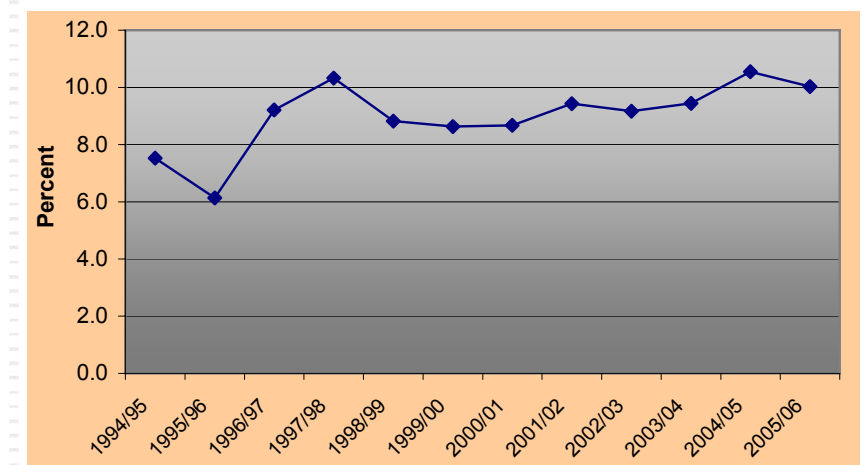
Source: MoFED, National Accounts Department; CSA, Report on Large and Medium Scale Manufacturing and Electricity Industries Survey.

[9] For analytical purpose, it is thought more appropriate to relate merchandise export to the value of goods produced (i.e., agriculture, mining and industry) rather than to total GDP, which includes services having a substantial share as high as 40 percent of GDP.

157

5.4.2 Export capacity in financing imports (import cover)

One of the key objectives of export, apart from more expanded market access, is foreign exchange earning to facilitate imports. This aspect of its role is central for faster development of poor economies, in particular. The debt burden that has been paralyzing growth of developing economies to date is precisely because of the inadequate capacity of export earning to cover imports, noted above as the trade gap[10]. As portrayed in Figure 5.8, during the last two decades, the maximum import cover attained was (in 1997) about 46 percent. The fact that export earnings, during periods of conducive economic climate, cannot cover even half of the import requirements indicates the existence of an underlying long-term structural problem (see section below on supply constraints).

Figure 5.8: Export earning as percent of import
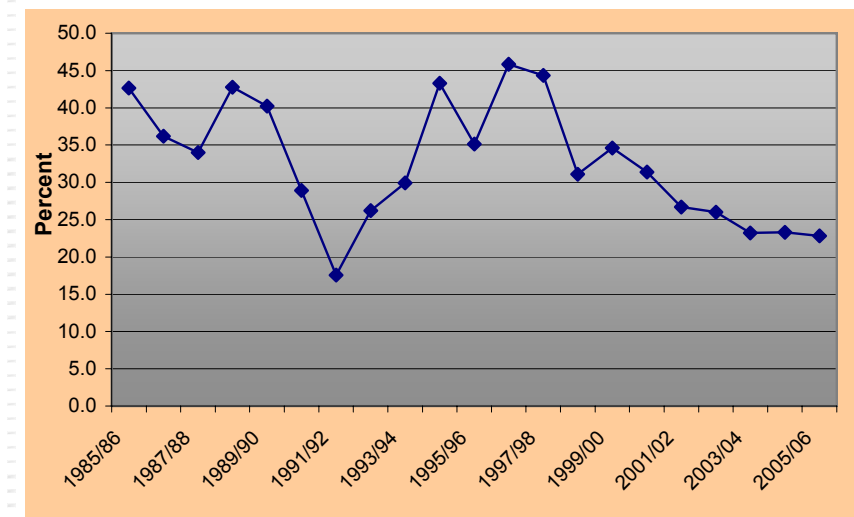
Source: National Bank of Ethiopia, Annual Reports, various issues

---

[10] In a way, import cover is a reflection of, or another way of explaining, the trade gap.

158

Moreover, since 1997 import cover has been steeply declining. This was so even during the years of high export growth, for instance between 2004 and 2006. On average, it declined yearly by 15 percent. Hence, this has to be explained largely by the steep rise of imports (Figure 5.1) relative to export earnings. Between 1997/98 and 2002/03 three factors impacted on both import and export. The Ethio-Eritrean war adversely affected exports while leaving imports increasing, though the rate subsided marginally. Between 1999 and 2001 the price of coffee plummeted to record low levels in decades. Also the 2002/2003 drought adversely affected exports while encouraging imports. As a result, during the same period, exports declined, on average, by 5.2 percent while imports continued to increase by 5.7 percent annually. And between 2003/04 and 2005/06, despite ideal weather conditions for 3 consecutive years and recovery of coffee price, imports increased annually by a higher margin (33.5 percent) than exports (27.9 percent)[11].

5.4.3 Export structure and the challenge of diversification

The export structure of any least developed economy is governed by its natural comparative advantage, specifically agriculture and/or mining. Ethiopia's export structure is typical of this. As shown in Table 5.2, for decades, over three-fourth of the volume of exports constituted agricultural products – food and raw materials. The share of manufactures has always been less than a quarter of total exports.

The fact that exports are largely low value added agricultural products may not be a surprise. What is perhaps of concern is the lack of diversification into more value added products. Over the last two decades, not only that the share of agricultural export remained dominant and increasing (though marginally), but also the share of manufactured export had been declining. In the last four years, for instance, the latter declined on average by 11

---

[11] Note that, except the Ethio-Eritrean war, all other factors, including drought can hardly be taken as non-economic exogenous factors.

percentage points from its level in mid 1980s. This is equivalent to half of its level two decades before. This is so, not only because of the increase in the relative share of agricultural exports, but also because of the development strategy of the country which accords little priority to manufacturing, thereby subjecting it to a process of deindustrialization in the face of deep liberalization of the external sector. The decline in the share of manufactured export has a strong adverse implication to the industrialization of the economy.

Table 5.2: Export structure: Export commodity share (percent)

Commodity group	1984/85– 1989/90	1990/91– 1995/96	1996/97– 2001/02	2002/03– 2005/06
Food (agricultural)	4.0	1.5	2.5	5.9
Agricultural R. Materials	69.3	73.7	74.5	70.6
Manufactures	22.0	20.5	13.7	11.5
Gold	0.0	8.1	7.1	9.1
Others	4.7	4.4	9.3	12.0
Total	100	100	100	100

Source: National Bank of Ethiopia, Annual Report 2005/06

The lack of diversification is conspicuous not only in the decline of the share of manufactured exports, but also in the lack of diversification towards relatively higher income elastic commodities within agriculture itself. Over the decades the share of food exports, such as meat and meat products, fruits and vegetables, known to have higher income elasticities, remained negligible and stagnant. For instance, during the last four years the share of food in total export has been, on average, a mere 6 percent (Table 5.2).

5.5 Structural Constraints Underlying Ethiopia's Export Trade

Ethiopia, as well as other LDCs, is facing considerable challenge to improve its export performance, compared with the relative ease with which imports are increasing in particular. The structural constraints to export can be investigated from both demand and supply angles.

5.5.1 Export demand constraints

Given a normal trading environment, political-economy issues aside, a number of factors constrain demand for developing countries' exports, of which lack of market access and unfavorable terms of trade are the major ones.[12]

Barriers to market access: Although international market access has improved since the mid 1990s, as a result of successive rounds of international trade liberalization worldwide, significant tariff and non-tariff barriers (NTBs) still remain against developing countries' products. Agricultural exports in particular still face disproportionately high tariffs, tariff peaks and escalation. Developed countries' average tariff rates against LDCs exports are over twice the rate imposed on developed countries' exports (De Cordoba 2007). LDCs also have to compete with high implicit and explicit export subsidies and trade distorting domestic supports, still remaining in mature economies.

Non-Tariff Barriers (NTBs) are other major bottle-necks hindering developing countries' market access, not only due to the barriers covered by trade liberalization negotiations, such as quantitative restrictions, but also due to discretionary measures allowable under WTO rules such as Sanitary and Phyto-Sanitary requirements (SPS), Technical Barriers to Trade (TBT) and Anti-Dumping Measures (ADM). Such measures have significantly increased over recent years and are increasingly seen as a modern form of protectionism. In this context, for instance, Brown, Deardorff and Stern (2001) showed how developing countries could have gained more than US $500 billion from duty free trade, had it not been due to such market access barriers.

---

[12] It is true that world income, specifically income variation of industrialized economies, has some impact. However, for small economies such as Ethiopia, the impact is often very limited. Besides such variation is partly reflected in changes in the terms of trade.

Significant tariff and NTBs also remain against Ethiopian exports to its major trading partners. As the Diagnostic Trade Integration Study (DTIS) for Ethiopia shows (World Bank 2003, Summary Volume, p.16), Ethiopia's exports, on average, face 25 percent higher tariffs. Moreover, SPS requirements in major advanced countries entail huge compliance costs and trade losses for Ethiopia due to lack of compliance capacity. The study also shows how, despite preferential access to European Union markets, Ethiopia is missing out substantial trade revenues due to SPS requirements, which if removed, could have increased its agricultural exports to the EU by as much as 100 percent (World Bank 2003, Summary Volume, p.19).

Adverse terms of trade: Current world trade dynamics means that market access alone is not enough without product competitiveness. A major reason why commodity-dependent countries find it difficult to achieve high export growth rates is that the growth rate of world commodity imports has been either declining or growing more slowly than the average for manufactured products. Primary commodities have, therefore, experienced a long-term relative decline in their prices. Between 1961 and 2001, for instance, the average prices of agricultural commodities marketed by LDCs fell by almost 70 percent relative to the price of manufactured goods imported from developed countries. Even during the 1990s, while the terms of trade for developed and other developing countries remained relatively stable, that of LDCs declined by 25 percent. World Bank estimates suggest that between 1970 and 1997 declining terms of trade cost non-oil-exporting countries in Africa the equivalent of 119 percent of their combined GDP in lost revenues (FAO 2004, pp12-13). These products are also subject to price declines when trade barriers come down due to the increased supply response. Price fluctuations, therefore, continue to be a characteristic feature of primary commodities in international markets. For instance, during 1989-92 and 1999-02 commodity price instability index increased, on average, from 1.8 to 2.8 percent (UNCTAD 2005, p.54).

Ethiopia's inability to diversify into higher value added or income elastic products is, therefore, likely to determine its declining terms of trade for years

to come. However, it is important to note that Ethiopia's ability to diversify into higher value added, processed or semi-processed products is also inhibited by the high tariff escalation in other countries.

Similar to other LDCs, Ethiopia's agricultural commodities export faces adverse terms of trade shocks and falling world commodity prices. For example, coffee, the country's major export commodity, has been repeatedly subjected to adverse price effects due to a slower growth of world demand than supply. For a variety of reasons including, the abandonment of the country quota system under the International Coffee Agreement (ICA), advancements in technology, and efficient new entrants into the market such as Vietnam, the shift to soft drinks in western markets[13], etc, world supply between 1980 and 2006 has increased by a significant margin than demand. The growth rate of more than 2 percent per annum in world supply of coffee easily outstripped the slow growth of demand ranging between 1-1.5 percent. As a result, by 2003, the price of coffee was just 17 per cent of its value in 1980 (and cotton 33 per cent), (UNCTAD 2004, p.126). In 2001/02, the price of coffee deteriorated sharply to a 30 year low level, although it has been recovering somewhat in recent years (Figure 5.9). This has led to declining terms of trade for major coffee exporters, such as Ethiopia. Between 1998 and 2001 alone, the price of Ethiopian exports declined by 22 percent, mainly due to the deterioration of the price of coffee (World Bank 2003, Market Access, pp1-2). Moreover, the country has also suffered from the sharp price shocks and instability characterizing the coffee sector, mainly as a result of severe weather events in different countries.

---

[13] Data from Oxfam, retrieved 10 January 2008:
http://www.oxfam.org.uk/resources/papers/mugged.html

Figure 5.9: Trend of coffee price paid to Ethiopian coffee farmers
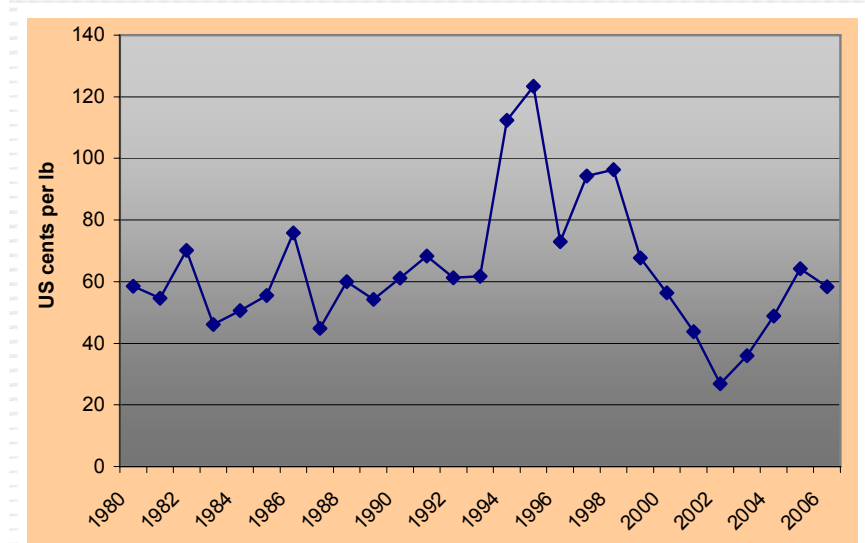
Source: International Coffee Organization, Yearly averages calculated using monthly data

5.5.2 Supply capacity limitations

In simpler term supply capacity refers to the stage of development of an economy. Broadly, it involves the entire process of investment, production and marketing, and even the political economy aspect of economic management, including the issue of governance. The glaring evidence to date with regard to export performances of poor economies is that, even with increased demand for their products under preferential bilateral or multilateral trade agreements, they have often been unable to exploit the opportunities to increase exports due to deep-rooted structural supply constraints.

In a theoretical context, a wide range of factors are provided as to what constrain developing economies exports in general. In a neoclassical framework, the capacity to increase productivity and production depends

164

mainly on increased access to capital, be that financial, land, or infrastructural capital (Solow 1956). As the lack of it in poor economies is obvious, Foreign Direct Investment (FDI) is indeed regarded as a panacea for increasing exports (UNCTAD 2002). Also, poor infrastructural investment is associated with high cost and slow growth of exports of developing countries (Edwards and Alves 2005). As Limao and Venables (2001) show, levels of trade flows observed for African countries were relatively low essentially due to poor transport infrastructure. A sound macro-economic policy is also needed to minimise distortions to the free flow of factors of production. For example, high interest rates increase production costs, negatively impacting export price competitiveness. Real Exchange Rate (RER) devaluation is often heralded as a key instrument to increase export competitiveness, though the empirical evidence is less conclusive (Baxter and Stockman 1988).

Further supply determinants of increased productivity and competitiveness are also identified by Endogenous Growth theory. The level of technology and human capital (technological capability) is seen as critical to move into higher value added activities and higher productivity. Indeed, lack of technical skill has been linked to the poor performance of manufacture exports in several African countries (Soderbom and Teal 2000) while investing in technology has been associated with improved export performance (Montobbio and Rampa 2005).

New Economic Geography (Krugman 1991) also explains the effect of external economies of scale in establishing first mover advantages for certain places in the production of specific goods, especially medium to high tech goods needing a high level of tacit knowledge or know-how in their production. In an empirically based study on the competitive advantage of nations, Porter (1990) was able to show the importance of competing on quality and not just price, and the advantage of spatial clustering in areas with access to a high quality working environment (high quality suppliers, sophisticated consumers, highly trained labor force and rivalry yet cooperation between firms).

The New Institutional Economics (North 1990) further explains the importance of institutions for increasing productivity and competitiveness. Institutions such as respect for property rights, business-oriented legislative environment, efficient and effective judiciary, etc., are regarded as instrumental for reducing transaction costs for exporters, though the empirical evidence on the robustness of the link between institutions and export growth remains inconclusive (Czinkota 2002).

As such, at least from theoretical point of view, supply capacity is a measure of the level of socio- economic development of a country. It is precisely because of the lack of industrialization that many developing countries, in particular least developed ones, are unable to significantly increase their export capacity despite notable improvement in market access to mature economies. Ethiopia is typical of this weakness. Despite improved market access as a result of major preferential trade agreements with the European Union (EU) (EU-ACP) and the United States Act of Growth Opportunities for Africa (AGOA), Ethiopia failed to fully exploit such opportunities because of its limited supply capacity[14].

Case study evidences for Ethiopian main exports such as coffee and leather (see paragraphs below) indicate that, although market access is partly a constraint, the fundamental problem for these sectors is the lack of capacity to increase production and processing of goods in the first place.

In the case of coffee, for instance, despite Ethiopia's limited success in increasing the volume of export, primarily through shifting domestic consumption and area expansion in the last two decades, the level of productivity, the underlying factor for competitiveness, is still too low. Coffee cultivation area represents only 3 percent of the area under crops, mainly grown by small farmers employing crude cultivation practices and low fertilization rate, thereby yielding only about 600 Kg per hectare, on average

---

[14] http://www.agoa.info/index.php?view=trade_stats&story=agoa_trade

(Bienen 2005, p.31). Compared to the 2000 Kg/ha level in Vietnam[15], coffee productivity in Ethiopia is alarmingly low. This is precisely due to lack of technical production capability. The joint government of Ethiopia / EU Coffee Improvement Project (CIP) has stimulated cultivation and marketing of coffee in a number of districts through extension services and has resulted in higher coffee yields of about 900 kg per hectare (Ibid). However, this is still much below the most efficient rates and the programme does not cover all coffee growing districts. Moreover, most coffee is sold as green beans (sun-dried or washed) rather than higher value added processed coffee (roasted, mixed, ground) due to lack of capacity[16]. Also, lack of research capacity limits the effort to control Coffee Berry disease (CBD) and develop new CBD resistant varieties since the 70s (Bienen 2005, pp.30-32).

The major problem behind increasing leather export (hides and skins) has also been, primarily, due to the inability to increase production. Only 57 percent of the annual total supply of hides is taken in by tanneries due to poor quality (World Bank 2003); and leather industries have to compete with each other for scarce finished leather inputs produced by tanners. The industry is haunted with problems starting from animal husbandry at the household level through marketing of leather at the entrepreneurial level. Some studies (Berhanu and Kibre 2002; World Bank 2003) have identified some of the critical problems in the sector to be:

- poor infrastructure (e.g. the only modern Abattoir is in Addis Ababa) and the lack of an appropriate institutional framework to regulate the system;
- traditional consumption and backward/traditional methods of slaughtering at household level causing damage;
- lack of easy market access as the normal marketing channels consist of various layers of middlemen depressing prices at the household level;
- lack of control of parasitic diseases (such as "Ekek") reducing the quality and value of sheep skins; and

---

[15] http://indiacoffee.org/newsletter/2005/september/planters-world.html
[16] In this context, the monopoly exercise of multinational coffee roaster companies is also a formidable barrier.

- backward technology, hence low labour productivity, and lack of policy initiative to encourage higher levels of processing.

As with other manufacturing industries in Ethiopia, the major reasons behind the failure to exploit market access opportunities in textiles lie on the supply side. For instance, between 2001 and 2006, Ethiopia managed to increase textile exports under AGOA only marginally, from nearly 0.2 to 4.8 million USD, while even small and non-cotton growing countries like Mauritius and Madagascar increased their export from 39 to 110 and from 92 to 229 million respectively during the same period of time[17]. In 2004/05, for instance, the 69 firms producing textile and apparel, employing over 20 percent of total manufacturing workers were mainly producing low quality goods for the domestic market, operating much below their maximum production capacity: 47 percent for textiles and 57 percent for apparel[18]. Among the key reasons is the low level of labor productivity in the sector. For example, loom assignment per worker was found to be 8 looms per worker in Ethiopia on average compared with the global standard of 20-40 looms per worker (World Bank 2003). Many factories are running with obsolete machinery and suffering from low investment. As a result, a number of state-owned textiles and garment manufacturers remain inefficient and loss making (ibid, p.52).

Currently, the Government is attempting to selectively upgrade public textile enterprises to improve their productivity level, while at the same time slowing down the pace of privatization. While upgrading the technological status of enterprises is commendable, the approach does not lead to an optimal national benefit. Such technical upgrading could have resulted in a much greater outcome if the opportunity of securing public funds on loan for upgrading and innovating was inclusive and on competitive basis, under a given set of criteria, rather than focusing on hand picked but failed government enterprises. Such a system could have created contest-based

---

[17] http://www.agoa.info/index.php?view=trade_stats&story=agoa_trade
[18] Central Statistical Agency (CSA) 2006, Report on Large and Medium Scale Manufacturing and Electricity Industries Survey, Addis Ababa.

competition among firms nationwide, private and public alike, thereby enhancing competitiveness in the textile industry in general.

Moreover, though the EBA agreement, effective from 2001, provides duty and quota free entry to the EU markets for all Ethiopian exports, the extent of exploiting this opportunity to date is highly limited due to supply constraints.

Lack of Diversification: An aspect of the lack of production capacity is the rigid commodity production and export structure. As noted in the previous sections, exports are dominated by low value added primary commodities whose quality would not significantly change as a result of technological progress. Unlike manufactured goods, primary commodities are nevertheless consumed directly with little additional processing. Hence their demand as inputs for the production of new products is either non-existent or largely limited. This is the prime factor for the declining terms of trade of commodity-based exports. Ethiopia's export is dominated (83 percent) by such primary commodities, while manufactured goods with some degree of processing, mainly wet-blue leather, account for only 15 percent of total export (World Bank 2003). Even within primary commodities, there is a very high concentration on few products exhibiting low income growth elasticities, such as coffee, oilseeds, pulses, and t'chat. Despite the effort to slightly increase the number of export products over the last decade or so, the country still remains completely dependent on these few primary commodities for export. Such concentration of export products leaves the country extremely vulnerable to price fluctuations and other supply or demand shocks. Moreover, even the capacity to diversify to more income elastic products within agriculture, such as meat, fruits and vegetables, spices, etc is quite limited.

5.5.3 Low level of industrialization

The overall implication of the specific examples for low production and export capacity noted above is the lack of industrialization and/or technological capability building. At an economy (aggregate) level, a number of indicators

can be used to explain this: share and structure of the modern sector of the economy, the level of aggregate investment, the status of education, science and technology, and level of infrastructure development are among the most important ones.

The Ethiopian economy is still dominated by traditional production and service activities carried out largely manually and deploying unskilled labor. Except in sectors such as electricity, post & telecommunication, and finance, all other sectors involve, in one way or another, traditional activities – agriculture being the most backward sector driven by traditional practices. As a result, modern economic activities[19] have lower share in the total economy than traditional ones. As shown in Figure 5.10, for the ten years period: 1996/97 to 2004/05, the contribution of modern economic activities to the national income (value added) was, on average, only 41 percent, the remaining larger proportion being delivered by the traditional sector. What is also of concern is the lack of any sign of structural change. Over the period, the share remained nevertheless stagnant, annually increasing only by 2.5 percent, on average. Perhaps, this might not be surprising given the country's development strategy, which accords less priority for modern economic activities, particularly manufacturing activities.

The low capacity of production is mainly a function of low investment rates. As shown in Figure 5.11, the investment rate in Ethiopia over the last 15 years had been, up until very recently, much lower than the minimum rate (25 percent of GDP) for sustainable growth in least developed economies (UNCTAD 2006). This was primarily because of the low and declining level of domestic saving – only about 7.6 percent of GDP, on average. Moreover, FDI inflow has been only one-third of the Sub-Saharan average (World Bank, WDI 2005). Hence investment is not only low but also aid-dependent. Moreover, for a faster growth and industrialization of an economy, the quality of investment also matters. As discussed above, a larger proportion of the

---

[19] Modern economic activities are non-traditional activities using machines and/or largely skilled labour

country's resource is still used in traditional activities. So is investment. A significant proportion of total investment (capital formation) is made in less productive traditional sectors.

Figure 5.10: Value added share of modern economic activities in the economy
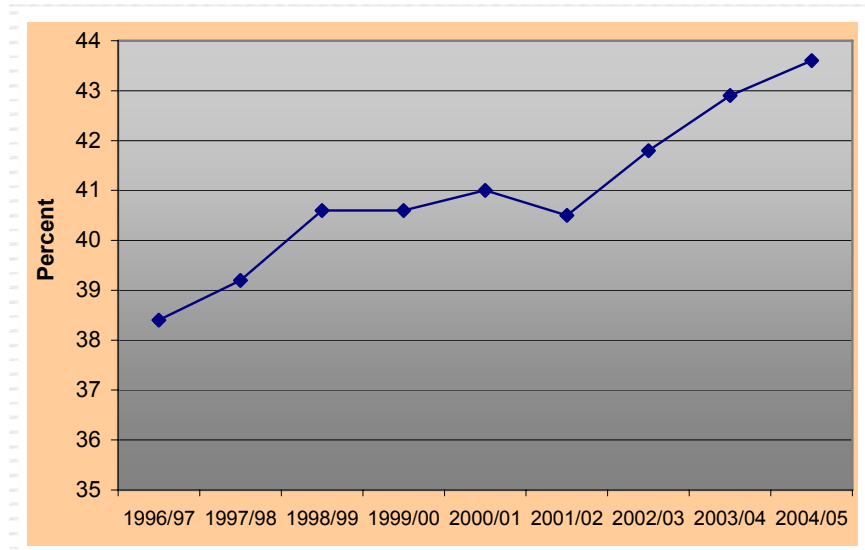
In terms of education, gross enrolment ratio, particularly at tertiary level, is one of the lowest even by LDCs standard. In 2002/03 only 2 percent of the relevant age group attends higher education (World Bank, WDI 2005). In manufacturing only 0.4 percent of the technical staff of the total work force have higher educational qualifications with degree and another 1.9 percent with diploma (EEA, 2004). One person per thousand uses internet services and 2.2 per thousand have personal computers; expenditure in R&D is literally negligible. In 2002, only 3 people filed patent applications (World

Bank, WDI 2005). Ethiopia ranked third from the bottom on the global Technology Index in 2005/06 (World Economic Forum, 2006-2007). Thus, not only that science and technology is at its infancy, but little attention is given to its future development.

Figure 5.11: Gross domestic saving and investment as percent of GDP
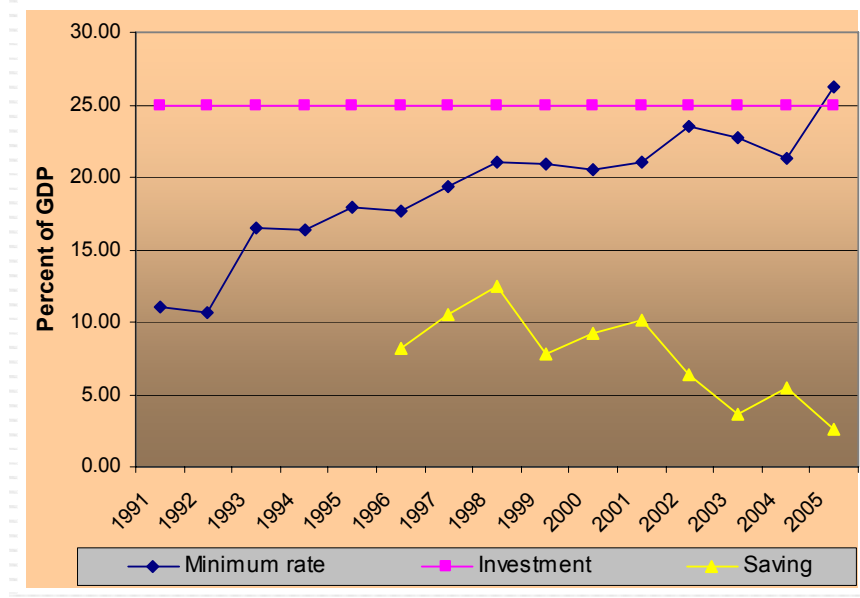
Source: World Bank, World Development Indicators April 2007; National Bank of Ethiopia, Annual Report 2005/06; and UNCTAD 2006.

In terms of physical infrastructure capital, in particular roads and railways, despite the recent effort to expand roads, Ethiopia still ranks 105th out of 117 countries on the global Infrastructure index in 2005/06 (World Economic Forum, 2006-2007). The lack of irrigation infrastructure,[20] primarily due to

[20] Annual freshwater withdrawals over 1987-2003 were only 2% of available internal resources according to World Bank World Development Indicators 2005

fragmentation and state ownership of land, is the major barrier to the transformation of agriculture.

Another barrier to export competitiveness is the high transport costs, primarily due to poor infrastructure and the political economy which led the country to be land locked. In 1999 (the year for which data is available), for example, transport cost was nearly double that in Kenya and over three times more than in Ghana (World Bank 2003).

What can be generally drawn from this section is that, even if demand for Ethiopian products was to become highly elastic, the country currently suffers from severe supply constraints impeding its ability to increase production and product diversification in the first place. As is the case in most LDCs, Ethiopia is not only dependent on primary commodities, subjected to the vagaries of nature and adverse terms of trade, but also lacks a viable mechanism for transformation and structural change. Hence, in a subsistence economy with severe supply constraints, significant improvement in export competitiveness can hardly be expected.

5.6 How Effective were Domestic Polices in Addressing the Widening Trade Gap?

5.6.1 Devaluation

A wide range of policy measures have been introduced since early 1990s towards a market oriented economic management, in particular, a structural adjustment program with the guidance of IMF and the World Bank. This discussion, however, focuses specifically on polices related to external trade liberalization and promotion. In this context, three major and interrelated policy issues are emphasized, namely devaluation, tariff reduction and removal of non-tariff barriers, and export promotion.

As a key and central instrument in an IMF-sponsored SAP, deep devaluation of the domestic currency was the prime policy measure taken in early 1990s. With a host of assumptions underlying a free market economy, theoretically this policy measure was primarily expected to encourage exports and discourage imports in the short-term via substitution effects (shifting consumption from domestic to export for exportables and from import to domestic goods for importables) induced by increasing domestic (currency) prices of both[21]. Though theoretically sound, the actual effect of devaluation in an economic structure such as Ethiopia is, however, highly attenuated. In a peasant economy, with little industrial base, imported goods can hardly be substituted by domestic supply. As for exportable commodities while the short-term substitution effect tends to increase exports, it also depends on the type of commodity in question. In the case of Ethiopia, for instance, the effect on coffee might have been highly limited if allowed to circulate freely in the domestic market.

In the longer term, the capacity to increase production and supply calls for additional supply side polices, rather than devaluation. A number of studies have shown that in the short-term, the exchange rate is not an important factor in augmenting export in general and for a specific commodity, such as coffee, in particular (EEA 2005b)[22]. Even if one allows the efficacy of devaluation in enhancing exports for the benefits of doubt, i.e., pushing aside all its adverse effects on export, such as for instance raising the domestic currency price of imported production inputs (raw material and intermediates) and capital goods, what is certain is its impotency in deterring imports, and thereby, narrowing the trade gap. In the case of Ethiopia, despite deep initial devaluation and gradual depreciation of the Birr, it is strongly associated with

---

[21] Assuming elastic supply response, devaluation is also expected to increase production of both exportable and importable goods across the board. Moreover, the parallel market is expected to phase out gradually as domestic prices adjust to international prices.
[22] The same exercise/author concluded that the unweighted real exchange rate has no significance on exports in the short and long-term at 1 and 5 percent significance level, though marginally significant at 10 percent level with low coefficient (EEA 2005, p.368). The long-term significance, at any level, however, is questionable even theoretically as domestic prices adjust to international prices and the exchange rate stabilizes.

a deteriorating trade deficit rather than with increasing export earnings (Minale, 2002) – indicating that devaluation alone is not enough to deal with other supply constraints for improving export performance.

5.6.2 Tariff reduction and removal of non-tariff barriers

The other central policy of the reform program is tariff reduction and removal of non-tariff barriers. In line with the SAP recommendations, import tariffs are gradually reduced to an average level of 17.5 percent and a maximum of 35 percent of CIF value. Currently a simple 6 tariff band structure applies while NTBs are largely eliminated (e.g. quantitative restrictions now apply only to less than 2 percent of imports). From theoretical point of view, its benefits include encouraging exports by reducing the cost of imported inputs and capital goods, and creating competition in the domestic market, thereby pressurizing domestic suppliers to be efficient and competitive. However, empirical evidence and Ethiopia's own experience on export enhancing efficacy of tariff reduction, be it in the short or longer term, is quite weak.

Foreign exchange constraint aside, tariff reduction succeeded in removing the biggest constraint to import growth. As expected, tariff reductions, undertaken since 1993, have, nevertheless, made import prices non-prohibitive and have therefore been associated with increased import levels (Teffera, 2000).

Due to the inherent competitiveness of imports, trade liberalization has also been associated with the closure and reduced capacity utilization of many local firms (EEA/EEPRI 2000/01). For example, increased domestic competition, resulting from the influx of cheap imported leather goods, caused a sharp decline in local production, closure of about 20 shoe factories, and reduced capacity utilization in others (Bienen 2005, p.27). Therefore, while there are ample evidence for the closing down of some and reducing the operating capacity of many domestic firms in Ethiopia and in

many developing countries, in the short to medium term, there is little evidence regarding its positive impact on exports.

5.6.3 Export promotion measures

Unlike the above two SAP-oriented policies, whose expected impact on export is indirect and conditional upon a host of (largely non-feasible) assumptions, export promotion is a hands-on approach on the supply side of trade to directly influence the volume of export. A number of measures are undertaken in this context.

Incentives to enhance the competitiveness of imports, specifically to further reduce transaction costs of imported inputs to domestic producers for export, include Duty Draw Back system, Voucher scheme, and Bonded Manufacturing Warehouses scheme. Though the mechanism of implementing these incentive schemes may not be efficient, for instance, the duty drawback scheme is reported as not working properly and duty not refunded timely (World Bank, 2003), the potential advantage is obvious. Similarly, Export Credit Guarantee scheme to provide a form of insurance cover for banks' risks and reducing the moral hazard of lending to exporters; a Foreign Exchange Retention scheme to let exporters have easy access to foreign exchange demand, though to a limited extent; and External Loan and Suppliers' Credit facilities to allow producers for export to have access to external loan are expected to have some direct positive effects on exports.

The lesson from countries' experiences with regard to the functions of Export Promotion Agencies is quite paramount. In this context, the establishment of the Ethiopian Export Promotion Agency is a step in the right direction. A young organization as it is, which has not yet acquired experiences, its performance to date is quite rudimentary and limited to make a tangible impact on external trade (Berhanu et al, 2002). Similarly, the establishment of specialized organizations, such as the Animal Products Marketing Agency,

the Leather and Leather Products Technology Institute, etc., might contribute towards the promotion of exports.

All export taxes are lifted in order to enhance the competitive capacity of exports. It should also be noted, however, that some supply side polices have direct adverse effects on exports. Elimination of export subsidy, which is part and parcel of the IMF-driven SAP, can hardly encourage exports. Subsidy has been an effective instrument to enhance production and export in many countries, particularly in South East Asian industrializing economies. Measured subsidy has served as an incentive to achieve certain required growth targets such as level of productivity, production and/or export volume, adopting of specific technologies, etc. An early and robotic elimination of direct subsidies to agriculture in Ethiopia, such as fertilizer subsidy, denied farmers the opportunity to maximize the benefit of such technical inputs, i.e., maximum level of productivity from higher fertilization rate, as farmers resort to lower levels, much below the recommended level, because of high cost of fertilizer.

To summarize, despite the effort, for over a decade and a half to augment exports and narrow the trade gap to a sustainable level, the success, as discussed in the previous section, is highly marginal. Though there are some factors, beyond the reach of domestic polices, influencing to some extent export earnings adversely, the relevance and efficacy of these policies in addressing the widening trade gap is remote and feeble. None of the policies is meant to address the root cause of competitiveness – higher productivity on the ground. Even the supply side polices to promote export are meant to reduce transaction costs and not to enhance productivity as such. As noted earlier, Ethiopia failed to exploit available foreign markets, as for instance the ICO quota for coffee. Various agreements (the EBA and AGOA) all gave Ethiopia preferential access to major export markets, largely duty and quota free. Nonetheless, even though there was increased demand for Ethiopian exports, supply constraints prevented Ethiopia from exploiting available foreign market opportunities. As a result, Ethiopia has failed to maximize on the export potential offered under any of these agreements, all because of low productivity and production capacity, rather than lack of market access.

177

Ethiopia has little to trade because of its low production base; and this is the underlying reality.

5.7 Could WTO Accession Ease Ethiopia's Supply Capacity Constraint?

Similar to many developing countries, Ethiopia's reform agenda, configured in line with the orthodox SAP, unsurprisingly failed short of producing the desired result, in its prime goal of narrowing the external trade gap. According to the Ethiopian policy makers, it is believed that joining the WTO is in the economic interest of the country, primarily in dealing with the problem related to the persistently widening trade gap.

Accordingly, Ethiopia submitted its application for accession to the WTO in January 2003. Following the acceptance of the application, it submitted a memorandum regarding the foreign trade regime, economic policies, domestic trade regulations, property rights, etc., in January 2007. Working Party members established to examine its application now investigate the details of disclosed policies and practices.

A number of economic policies including trade, monetary and fiscal polices would be evaluated in great details. Fiscal incentives and exemptions, as well as the type and level of subsidies, will also be assessed to ensure consistency with WTO requirements. Certain member countries will expect Ethiopia to have in place a fair and open competition policy, a policy of private sector development, and price liberalization.

Adequate legal and regulatory environment conducive to business development and operations, investment, and general commerce would be expected to be in place. These include sound competition policy and clearly defined legal guarantees for investors (e.g. profit repatriation rights, currency convertibility guarantees, access to dispute settlement in international legal body, and fair and adequate expropriation rules and procedures), consistent

commercial laws (e.g. company law, competition law, foreign investment law, bankruptcy law, etc) and service specific laws for most prominent service sectors (e.g. banking, transportation, insurance and telecommunication).

Having examined the documents disclosed, Ethiopia will be going through rigorous discussions with the Working Party and likely revisions of the memorandum, to be followed by further bilateral negotiations with individual interested WTO members, and agreeing to the protocol of accession[23]. Upon accession the country would be obliged to abide by its commitments in particular, and WTO rules and regulations in general.

5.7.1 General opportunities and challenges of the WTO regime

WTO accession is argued to provide broad opportunities in trade and development. Bacchetta and Drabek (2002, pp.9-11) identify a number of tangible benefits that joining the WTO could provide, major of which include the following.

- First, countries are able to obtain improved market access for their exports. The accession itself will not give acceding countries any more market access than the current Most Favored Nation (MFN) rates of trade partners. However, they would be able to benefit from any future commitments made by WTO members during multilateral trade agreements. WTO accession contributes to predictability, security and transparency of market access.

- Second, is the beneficial effect of the WTO on the credibility of government policies. By framing the countries' concessions into legal commitments, WTO Membership provides powerful guarantees of governments' policy directions.

- Third, there will emerge standard and predictable domestic policies and institutions involved in the conduct of international trade. Acceding

---

[23] For a detailed description of accession procedures see, for example, Lanoszka (2001) and for information on Ethiopia's latest status see
http://www.wto.org/English/thewto_e/acc_e/a1_ethiopia_e.htm

countries are required to put in place a set of norms and institutions, which support the liberalization of markets, increase transparency, promote the rule of law and the evolution of an independent judicial system.

- Finally, such a rule based and enforceable system of international trade is believed to be instrumental in promoting mutual economic benefits.

However, in practice not only there is no guarantee on the equitability of benefits, but there are strong challenges and costs to be borne by members disproportionately. Particularly for developing and least developed countries, costs may significantly outweigh benefits, depending on the level of development of a country. Even though the challenge of the obligations that a specific country has to meet at a given period of time may differ, all members have to observe the general requirements and abide by the common rules and regulations. The WTO framework of the general obligations, on the main, includes the following:

- A number of economic policies and socio-economic legal provisions have to be retuned in line with the GATT/WTO requirements;
- All countries have to eliminate non-tariff measures on imports, bind and reduce tariff rates overtime as set by the regime;
- Domestic support, tagged by the regime as trade distorting, has to be gradually reduced and eventually phased out.
- All export subsidies are prohibited, and have to be eliminated overtime.
- National treatment requires imported goods to have equal treatment with corresponding national products.

The overall obligation that a specific economy has to meet, however, differs, significantly depending on the level of development of the economy, terms of negotiations and commitments, etc. Therefore, what the actual impact could be on the Ethiopian economy is not a priori defined and known. However, based on the experiences of other least developed countries, Ethiopia's current policies and legal infrastructure/setting, the specific/sectoral WTO

requirements, etc., it is possible to discuss what the potential impact could be on the economy, particularly on the external trade gap.[24]

5.7.2 Potential impact of accession on exports

Improved market access:
- In compliance with the rules and disciplines under the WTO agreements on agriculture, all acceded countries (currently over 150) including mature economies, eliminate all non-tariff measures and offer relatively lower tariff rates. Ethiopia as a member will potentially have larger market access for its agricultural exports. As tariff peaks and tariff escalation – maintained in most industrialized economies with higher degree of processing certain products of Ethiopian interest, such as textiles and leather – could be lowered, the opportunity of increased market access for processed goods is likely to be opened.
- The removal of implicit and/or explicit domestic support and export subsidies, particularly, in major markets like the US and the EU for agricultural goods, could also increase the competitiveness of Ethiopian exports, thereby increasing its export potential.

In general, with accession, Ethiopia is likely to have a broader market access even in the shorter term, assuming that the current opportunities, particularly AGOA and EBA, would continue. However, there are still formidable NTBs imbued in the WTO regime that could limit market access.
- Non-tariff barriers (NTBs) do represent a serious problem for Ethiopian exports, especially in the QUAD markets. For instance, the SPS requirement in the latter markets for certain products, such as food, is costly to meet even when technically possible. The EU has complicated import regulations for fruits and vegetables which are not easy to comply with. Hence, the benefits from lower tariffs and improved market access

---

[24] The direct impact of WTO accession is much broader. Its effect would be felt, not only on the external trade balance (imports and exports), but also on consumption, domestic production and employment, and government revenue, which are not addressed in this report.

may be thwarted in practice through the use of non-tariff measures, including the use of anti-dumping, technical standards and regulations (TBT) as well as the SPS measures.

- Moreover, Ethiopia's constrained supply capacity limits the benefits from potential market access. Tariff reductions could be on commodities that the country has least capacity. For instance, EU lowered the import tariffs on roasted coffee and instant coffee, but Ethiopia has not benefited from it, as its export consists of only green beans.

Supply capacity: Acute supply constraints are characteristic features of all LDCs. Ethiopia's benefits from acceding to the WTO largely depend on its ability to overcome supply side constraints. The market access potential that would be availed with WTO accession is only beneficial if there is the capacity to exploit it.

The WTO regime, as it stands today, has no any direct and binding provision for improving the outstanding problem – supply side constraints of poor countries. The Doha development agenda calls for development support to developing, particularly least developed countries. However, there is no any enforceable rule and mechanism for implementing it. In fact, a number of WTO requirements are likely to exacerbate supply side constraints of poor economies, including Ethiopia. These include the following:

- Improved trade related policy climate and institutional setting that may arise with Ethiopia's accession to the WTO, is likely to enhance government credibility, thereby creating an enabling environment for FDI and aid. However, there is no guarantee for significant FDI flows different from what has been witnessed so far. In the last decade and a half, relatively far deeper and wider liberalization measures have been undertaken, on the ground that such measures would result in considerable flow of foreign investments into Ethiopia. However, FDI flow to Ethiopia has been one of the least in Sub-Sahara Africa. While introducing a market-oriented economic climate in such a backward economy may imply to investors (both domestic and foreign) a move in the right direction, it requires putting in place a number of fundamental

and necessary economic policies (such as land policy) and introducing tangible government intervention to realize enhanced actual investment on the ground.

- Moreover, FDI flow is not determined by domestic polices alone. A number of factors beyond the policy dimension, such as the extent of effective demand, labor skill, the political-economy of the country and the region at large, etc., also determine its flow. Therefore, there is no guarantee whatsoever for increased foreign investment as a result of WTO accession, despite the fact that investment is the one of the critical supply side factors to enhance productivity, production, and diversification.

- All domestic support to agriculture coming under the *Amber box* (such as market price support where government sets the official price, preferential interest rate in manufacturing, input subsidy, etc) has to be gradually reduced and phased out eventually. LDCs are not required to make reductions, however, it is forbidden to exceed the annual bound limit in any one year. However, as Ethiopia has long removed such domestic support to agriculture, government cannot resort to such a policy instrument to support farmers in case agricultural producers' prices fall significantly as in the past (2002). The support has to be limited to the *de minimis* level.

- WTO agreement on subsidies and countervailing measures (SCM) prohibits all subsidies on exports of agricultural products except as provided for in the agreement on agriculture. Ethiopia does not maintain any export subsidy in the agricultural sector at the moment. However, Ethiopia's Duty Draw Back (DDB) measures may be challenged

- Also, the special loan provided by the Development Bank of Ethiopia (DBE) to horticulture and other sectors may be questioned. If this preferential arrangement of financing amounts to subsidized investment credits, it has to be included in the relevant Aggregate Measure of Support (AMS) table. Though LDCs are exempted from reduction, certain WTO members may demand to forgo future subsidization of exports.

183

- The incentive for investors, i.e., income tax exemption upon export, is likely to be considered as export subsidy.

- Also the 100 percent exemption from payments of import customs to investors on conditions that the goods are not produced locally may possibly, be considered as infringing the Trade-Related Investment Measures (TRIMs) agreement

- The Export Credit Guarantee (ECG) scheme is also contestable. Currently member countries are employing two approaches to prevent governments circumventing export subsidies. One is rules-based. Export credit and insurance would have to be on commercial terms which would be defined in terms of a set of criteria such as duration of credit, benchmarks for interest rates, etc. Any thing else would be categorized as export subsidy and would have to be eliminated or reduced. The alternative is to have reduction commitments, i.e., calculating the subsidy component of credit, insurance, guarantees, etc. and treating them in the same way as regular export subsidies. Hence, Ethiopia's ECG scheme could be contested by some members.

- Export support implicit in schemes for duty free imports such as DDB, Voucher scheme or Bonded Manufacturing Warehouse (BMW) scheme, credit subsidies, tax privileges for licensed investments, and subsidized investments in state enterprises, have to be phased out in eight years, once export competitiveness is achieved.

- The current prohibition on export of raw hides and skins may be inconsistent with the General Agreement on Trade and Tariff (GATT) rules and TRIMs.

- In the state-owned sugar industry, the government not only fixes the price for the domestic market but also takes away a significant proportion of the profit as Sugar Development Fund (SDF), apart from sales taxes: value added (VAT) and excise taxes, thereby heavily influencing the management centrally. This, however, may be questioned by WTO members, as sugar producing and trading enterprises should have full management autonomy and responsibility for their own profits and losses. Member countries may ask Ethiopia to take broad and significant

commitments to improve the transparency of state trading enterprises operation.

- The export development fund set by the DBE to finance export-oriented sectors, including textiles and apparel, leather goods, food and agro processing, at an interest rate lower than the normal loan rate, and liberal conditions with respect to collateral, equity participation of the promoter, an option to import second hand machinery, etc., may come under strong scrutiny as it contravenes WTO's Subsidy and Countervailing Measures (SCM). According to the latter, members are prohibited to provide export subsidy to their domestic industries, including the case where government revenue that is otherwise due is forgone or not collected.
- WTO rules on intellectual property rights, governed by the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement[25], will inhibit Ethiopia's ability to engage in re-engineering activities, i.e., imitate and adapt imported technologies, to improve its long-run production and export capability.

What this section indicates is that though Ethiopia is likely to gain wider market access for its exports by joining the WTO, it is more unlikely to substantially increase exports as a result of a number of WTO restrictions on measures to enhance production and export. Joining the WTO by itself will not be sufficient for integration into the world trading system, as it is not capable of removing the acute supply-side constraints prevailing in LDCs, including Ethiopia. In fact, some of the WTO rules and regulations noted above rather restrict the policy space of poor economies to address problems of production and supply.

5.7.3 Effect of accession on imports

It is more difficult to predict the impact of WTO membership on imports as it is difficult to predict the level of commitments that Ethiopia will concede during

---

[25] See http://www.wto.org/english/tratop_e/trips_e/trips_e.htm for more information.

accession negotiations. However, there are clear cut implications of WTO accession on imports.

In the area of market access, as noted earlier, there are two commitments that all acceding countries, including Ethiopia, should make without exception: elimination of non-tariff measures (e.g. import bans, quotas, minimum import prices, variable import levies, discretionary import licensing, voluntary export restraints, and non-tariff measures maintained through state trading enterprises) and binding of all agricultural tariffs. Such restrictions have to be either totally removed or converted into tariffs. While other countries are required to reduce overtime their bounded tariff rates, LDCs, including Ethiopia, are required to bind but not to reduce tariffs. But Ethiopia has long removed all non-tariff measures in agriculture.

However, although Ethiopia's advantage would be to keep a higher tariff bound above its applied rate so as to create a safe policy space as a safeguard measure from cheaper imports, WTO members are likely to ask for lower tariff bound equal to or close to the applied rate. Moreover, the margin between the bound and applied tariff rates may not be too high as it reduces the predictability of market access conditions for exporters (of agricultural inputs, for instance)

WTO accession demands strict compliance to the MFN and national treatment for imported goods. Even though it is partly true that some exports of developed countries are qualitatively different from that of developing countries, hence domestic markets would not necessarily be overrun by imports from developed countries, it is very likely that relatively better-off developing countries would have a competitive edge in least developed economies, including Ethiopia, having similar natural comparative advantages. Hence, let alone exports, the domestic markets of the latter, could come under competitive pressure. A case in point is Kenya (though not the only one), where cheap imports of wheat flour from Egypt, which the latter imports heavily subsidized wheat from the US, threatened many mills to close down, and where the government was forced to take safeguard measures

under the COMESA provision to protect its industries and farmers. Hence Ethiopia would likely face strong competition from relatively far better off developing countries in agricultural commodities.

In addition, Ethiopia may be challenged on several other areas:
- The excise tax, as high as 100% on goods that are not being produced in Ethiopia, may be challenged by member countries as a disguised import tariff.
- The policy that obliges importers to use only Ethiopian Shipping Lines freight services for goods that are shipped from ports where its fleets call, may be challenged, as the price charged could be considered as a monopoly price, as no competitor can force it to lower its prices.
- Foreign currency permit, imports are likely to increase substantially in protected and less competitive industries due to the reduction of trade barriers and elimination of quotas, thereby putting further pressure on the trade gap.
- With further tariff reduction, it is inevitable that Ethiopian textile and leather exporters will face competition from lower-cost suppliers. The domestic industries seem to be already threatened by the stiff competition of products coming from China and other countries. More should be expected from leading textile/apparel producers like China, India, Thailand, etc. For example, Kenya has been under threat in that more than 8000 workers could lose their jobs due to market share loss to cheap Chinese products in the European and US markets (Bienen, 2005).

With the reduction of tariffs, the leather industry would face stiff competition by imported leather. It is a recent experience that the footwear industry in Ethiopia came under greater competition from imported cheap shoes in the domestic market which forced a number of enterprises to close down. This may send a strong signal to producers of leather goods other than footwear. It shows that with increased competition from more efficient foreign producers, Ethiopian producers may not compete even domestically.

Although imports or competition may create motivation, there should be no confusion between lack of motivation and lack of capacity.

Therefore, accession clearly implies further opening up of the economy for external goods. However, it does not necessarily imply significant tariff reductions for Ethiopia, as LDCs are only required to bind tariffs at existing levels for agriculture and might not be required to make sharp tariff reduction in industry, except in highly protected ones such as textiles and leather. Given the spirit of the Doha Development Agenda, Ethiopia might be able to largely maintain its existing structure particularly since it has already undertaken high tariff reductions and eliminated most NTBs under the structural adjustment program, making it one of the more liberalized LDCs (its tariff rates for industry averaging 15-18 percent one of the lowest tariffs in the region (Bienen 2005). This implies that the direct impact on government revenue is limited. However, its adverse impact on the external trade gap and the potential de-industrialization effect could be substantial.

5.8   Concluding   Remark: Accession   and   the Unlikely Prospect of Narrowing the Trade Gap

Maintaining the trade gap within a sustainable level may, technically, require acting on both imports and exports. Given the diversity and necessity of imports, however, the prospect of reducing it substantially, is less feasible. The previous sections clearly show how any further trade liberalization, i.e., tariff or NTB concessions that Ethiopia might be pressurized to make as part of its accession package, as well as the inherent competitiveness of a large segment of imports, is likely to result in increased import growth.

Imports of manufactured goods are likely to increase further when and if tariff concessions are implemented, particularly in sectors that are currently highly protected or less competitive. This would entail high adjustment costs in terms of business closure, unemployment and even possible deindustrialization. The manufacturing sector is likely to be the one to suffer

the most from any tariff dismantling associated with WTO accession (Bienen, 2005). The textiles and leather sectors are likely to be particularly vulnerable due to the relatively high level of protection ((35 percent)

Even if Ethiopia is allowed to retain its current tariff structure for some time, it may not avoid adverse impacts as domestic industries are already being threatened by stiff competition from more efficient manufacturers, such as China. Industrial imports have already been increasing significantly in recent years since tariff rates were reduced in the early 1990s. Looking at the employment and future export potential of certain industries, such as textiles and clothing, tariff increases rather than tariff reductions would be helpful now in safeguarding these industries (Bienen 2005).

Neither agricultural products, exportables or otherwise, are immune from facing stiff competition from imports. Countries' experiences, including Kenya, Ghana, Mozambique, Mexico, etc., demonstrate the challenge that farmers are facing with WTO accession, and even with partial liberalization (Meenakshi, 2004).

On the other hand, at least for a couple of reasons, even the arguably important benefit that accession guarantees, i.e., increased market access, is of little use – at least in the short to medium-term – to least developed economies, such as Ethiopia. Primarily, discretionary measures of certain key WTO rules, including SPS, TBT, and anti-dumping are increasingly used as new instruments of NTBs. Similar to all other LDCs, for Ethiopia too, these measures are not only technically difficult to meet, but also costly, thereby limiting access to major markets.

But most of all, the prime export constraint of Ethiopia, currently and even in the foreseeable future, is hardly market access, but rather production/supply capacity. A case in point is failure to reasonably exploit the offer under the AGOA framework (including the EU-ACP agreements, COMESA, etc). As explained earlier, under the preferential treatment provisions of the AGOA regime, Ethiopia is allowed to export textiles and clothing to the US tariff and

189

quota free. However, despite the opportunity, its performance has not been encouraging. Compared to other African countries with similar privileges, Ethiopia's performance has been quite poor. This is basically because of the extreme low production capacity of local enterprises across all sectors, but mainly traditional subsistence agriculture and small and technologically backward industrial sector with largely unskilled labour force. Given this performance, i.e., failing to capitalize on a duty and quota free export market opportunities, it is unlikely that Ethiopia will increase its exports markedly to other WTO members, where there are tariffs (in some cases substantial) and stiff competition from textile producing members, particularly Asian countries specializing in textiles.

Moreover, and as discussed in the previous sections, the WTO regime requires the removal (upon accession or gradually) of a number of government support to production and export. Government incentives to agricultural or industrial producers will come under scrutiny by WTO members and measures considered 'trade distorting' will be subject to, at least, be bound at current levels[26]. Ethiopia has already almost eliminated these types of subsidies,[27] so its base period at which its commitments would be bound on accession will be near to zero. This will severely limit the ability to support the development of existing and newly emerging agricultural and industrial enterprises[28]. Ethiopia would still be permitted to some extent to tackle supply constraints in infrastructure, agricultural extension, access to land and general human capital and technology policies. However, selective government incentives targeting supply constraints in specific new industries or sectors similar to those used to stimulate export and industrialization in East Asian countries will not be permissible (Bora et al, 2000; Weiss, 2005)

---

[26] See http://www.wto.org/english/tratop_e/agric_e/agric_e.htm and http://www.wto.org/english/tratop_e/scm_e/scm_e.htm
[27] Apart from assistance to resource poor farmers allowed as development measures under WTO agreements and some subsidies to industrial producers
[28] Although, under the AoA, the country can provide Amber Box support to the agricultural sector as long as its monetary value falls within 10% of the value of total production of the product concerned (the de minimise limit). Also, development projects that subsidise investments for the processing of agricultural products are allowed.

Measures designed to support agricultural and rural development which are an integral part of the development programs of poor countries are allowed. Such measures, including investment subsidies generally available to agriculture in developing countries, agricultural input subsidies to low-income or resource-poor producers, and domestic support to producers to encourage diversification from growing illicit narcotic crops are all permissible under the WTO regime. But Ethiopia has long abandoned most of these, thereby imposing unforced policy constraints on itself, which would be challenging to reinstate after accession.

Apart from such constraints on production and export, even considering an optimistic scenario - the prospect of increasing exports, if and when non-tariff barriers are removed and domestic supports are withdrawn in developed markets, the total increase in export could not exceed 6 percent of current level of exports, all because of supply constraints (DTIS, 2003).

Therefore, WTO accession is unlikely to make a difference to Ethiopia's currently widening external trade gap for a long time to come. Hence, even though the benefits of joining the WTO in the long-run are likely to be useful, the evidence above has shown that in the short to medium term these benefits are likely to be insignificant while the costs may be substantial in terms of further widening trade gap, potential deindustrialization and even worsening level of poverty.

What makes the supply side issue increasingly important is not only the need to increase exports, but also the need to be competitive in the domestic markets, thereby avoiding further deindustrialization and domestic market loss, particularly the closing down of industries that are less competitive. This is precisely the current advantage of mature and industrializing economies. They compete for external markets securing their own. Thanks to aid cancellation and the political economy of some developed countries, Ethiopia might secure enough foreign exchange to import goods that otherwise would not have been imported. However, it will not continue to be sustainable; neither the political economy remains as favorable. Ethiopia has to turn,

sooner than later, to internal-development-oriented strategy and policy rather than an all-out outward looking aid-dependent short-term growth model/strategy. Ethiopia has to focus more on tackling supply side constraints: revise its policies in some critical sectors such as land, finance, trade, and democratic governance; retune its industrial policy (EEA, 2004) and mainstream trade in a revised national development agenda, rather than otherwise (EEA, 2005b).

Chapter 6

Food Price Inflation and the Urban Poor in Ethiopia

"Add this to the list of items that could seriously threaten world peace: food. Rocketing food prices – some of which have more than doubled in two years – have sparked riots in numerous countries recently. Millions are reeling from sticker stock and governments are scrambling to staunch a fast-moving crisis before it spins out of control. From Mexico to Pakistan, protests have turned violent....The forecast is grim.... [B]ringing down food prices could take at least a decade". [March 17, 2008, Time Magazine]

6.1   Background

During the last fifty years the overall economic performance of Ethiopia had been disappointing. Following the overthrow of the Imperial regime in 1974, the country was under a socialist government until 1991. The period was characterized by misguided and ineffective economic policies; extended civil war; high military expenditure; devastating drought; and widespread poverty. Real GDP was growing by an average of 2.2% during the whole period of socialist regime. However, the country has undergone a relative economic, political and social reform since the Ethiopian Peoples' Revolutionary Democratic Front (EPRDF) took over power in May 1991, which re-instituted and implemented a 'market-led' economic system. Between 1991/92 and 2007/08, real GDP was growing by 6.33% (Figure 6.1).

Despite some progress made in terms of reducing poverty in recent years (MoFED, 2006), Ethiopia still stands among the poorest countries in the world to day. According to the United Nation's (UNDP, 2005) human development index, Ethiopia is 169th out of 177 countries, with Human Development Index (HDI) of 0.406 (Figure 6.2). In 2006, with a population of about 80 million, 81% live below the poverty line of USD 2 a day and 44% below the national poverty line; life expectancy at birth remains at 42 years for male and 43 for female, which was below the Sub-Saharan average of 47 (WB 2007). Similarly, according to the latest household survey, CSA/WMS 2004, malnutrition was prevalent in the country with about 47% of children stunted, suffering from chronic malnutrition.

Figure 6.1: Real GDP (at constant prices) growth: 1960/61 – 2007/08
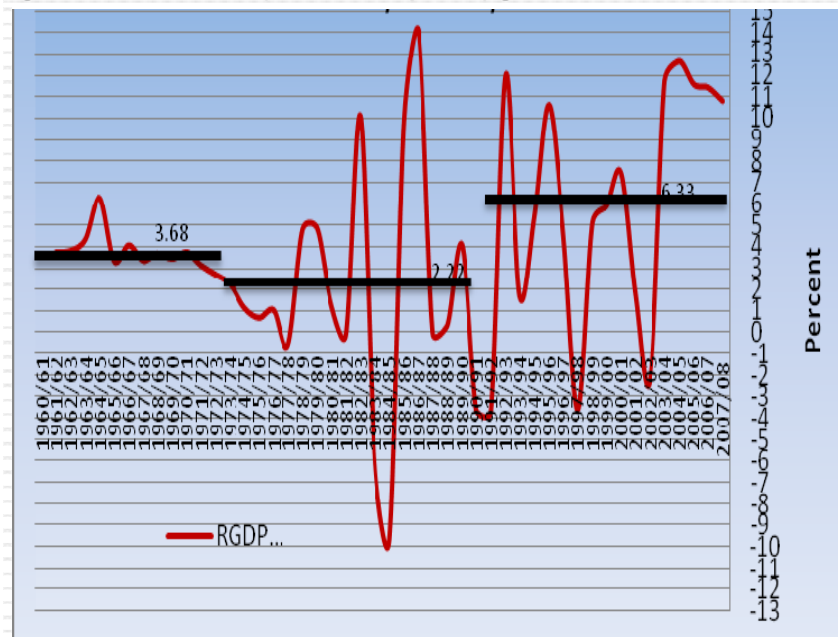
Source: MoFED, New Series

194

Figure 6.2: HDI trend

Source: Indicator Table 2 - HDR 2007/2008
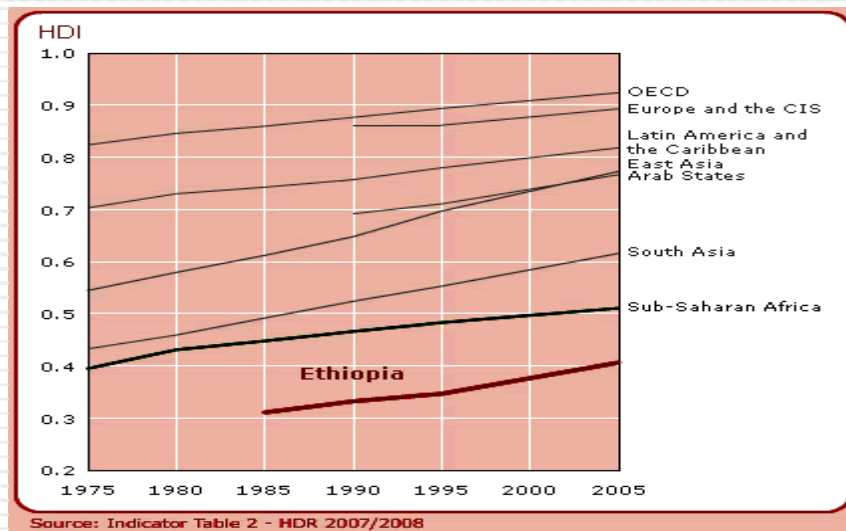
Empirical studies show that, in the past, persistent poverty was the main feature of the rural population in the country while the urban population remained relatively better off. However, emerging evidences indicate that poverty in most urban centers was rapidly increasing and building up fast to a crisis level (Mekonnen 2000). Head count poverty level in urban areas had increased from 33.2% in 1995/96 to 35.1% in 2004/05 (MoFED/PASDEP 2006).

Empirical findings (Mekonnen 2000) indicated that an important source of welfare deterioration in urban areas in Ethiopia has been food price inflation. Persistent rise in food prices is a grave concern particularly for poor households as food expenses take the lion's share of their total household expenditure. Currently, food prices are increasing more rapidly in the world in general and Ethiopia in particular. This crisis has become a serious global

195

problem, where as in some places prices of food have increased by more than 200% within two years leading to violence and conflict (FAO, 2008).

The discussion in this chapter sheds light on possible impacts of food price inflation particularly on the urban poor. The following section, Section 6.2, briefly discusses theoretical background and empirical findings of sources of inflation in Ethiopia. While Section 6.3 presents the trend in inflation in Ethiopia, discusses food price inflation from the global perspective, Section 6.4 discusses the face of the urban poor, welfare levels and inequalities, wages and unemployment. Section 6.5 shades light on difference between the reported and actual level of inflation. Finally, Section 6.6 concludes the chapter by forwarding some policy recommendations.

6.2   Sources of Inflation

6.2.1 Brief theoretical background

Economic theories explain different sources of inflation in developing countries. However, in this report, we discuss only some of frequently cited sources of inflation. First, demand pressure surpassing existing supply capacity could result in persistent rise in prices measured in terms of the relative pace of economic activities by the output gap, the difference between output and potential output. Second, another important source of inflation is fiscal and monetary policies. Fiscal imbalances in developing countries with scarce resources often lead to monetization of the fiscal deficit through inflation tax. To capture inflationary pressures stemming from "excess" money supply, one can consider the real money gap, the difference between real money stock and equilibrium real money stock (the level equal to real money demand). Third, supply shocks resulting from such factors as geographic and climatic conditions, changes in the terms of trade, drought or conflict can lead to persistent rise in the price level. Fourth, inflation may also result from inflation inertia, in which inflation may itself have a dynamic component arising from the sluggish adjustment of expectations or the

existence of staggered wage contracts. In fact, empirical literature indicates the existence of inflation inertia in African countries including Ethiopia (Loungani et al., 2001, Woodford 2007).

6.2.2 The global food inflation

Sharp increase in food prices has become one of the major global concerns in the past two years. Although, high food prices are a unique opportunity for farmers, it is of concern for policy makers as it affects urban consumers and rural net food buyers. Currently, close to 3 Billion people earn less than USD 2.00 a day, of which USD 1.00 is spent on food. In this respect, one of the most vulnerable segments of the population to sharply rising food prices is the urban poor that entirely depend on market for food (Earth Trends, 2008).

Figure 6.3: World food price index
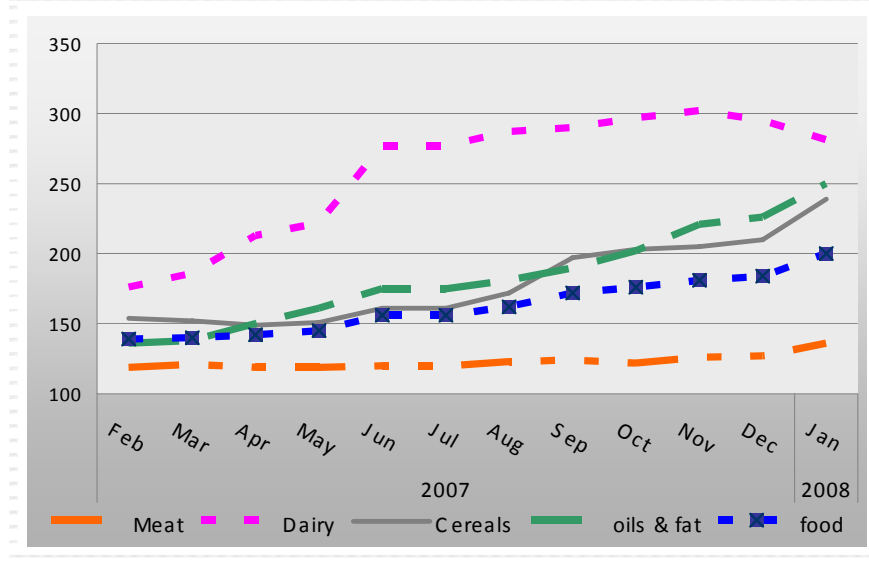
Source: FAO, February 2008 (http://www.fao.org. Accessed on 03/27/2008 03:55:11pm)

The global food price index was 184 in December 2007, which was the highest recorded monthly average since the start of the index in 1990. The annual average food price inflation compared to that of 2006 was about 23%. Except for sugar, international prices of other major food commodities increased significantly in 2007. Dairy, cereals and vegetable oil prices recorded the highest price spike in global agricultural market (FAO 2008).

Weakening supply of cereals in the midst of rising demand pushed prices of most cereals, wheat and maize in 2007. For instance, by the end of the same year, the average cereals price index was 210 with subsequent increase in the first three months in 2008 pushing up the price level by about 41% per annum.

Recent global food price inflation can be attributed to short-term production shortfalls. However, studies shows that many of the factors driving food price increase are more lasting and their effect is likely to be suffered for several years. The forecast is gloomy, where bringing down food prices could take at least a decade (ibid). The European Bank for Reconstruction and Development and FAO have identified the following root causes of food price inflation in 2007:

- Agricultural subsidies in developed countries that depress prices thereby making efficient production in developing countries unprofitable;
- Decreasing food stocks;
- Rising fuel prices;
- Increase in demand for some products, such as meat, particularly in rapidly emerging markets such as China and India;
- Growth in biofuel production; and
- Speculation in agricultural commodity markets.

Figure 6.4: World Ethanol production, 1975-2005
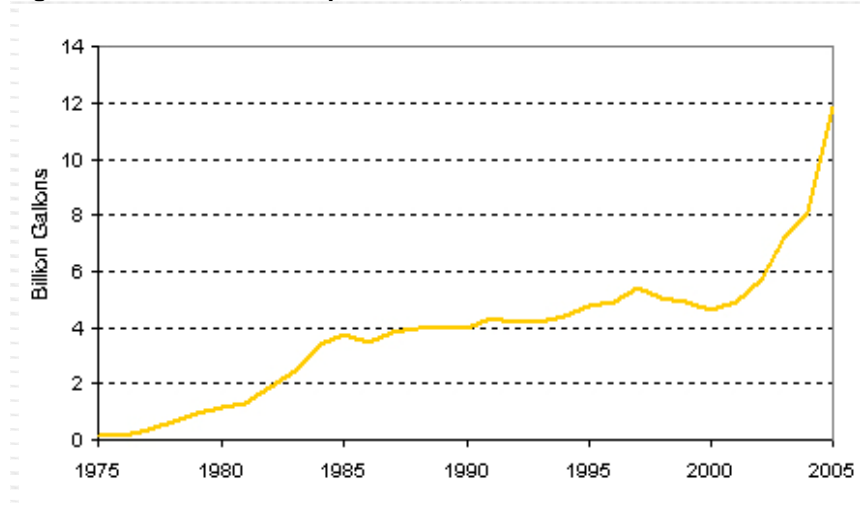
Source: Earth Trends, 2007 using data from Earth Policy Institute, 2006.

Rising demand for biofuels, used in both ethanol and biodiesel production, has pushed up prices of commodities such as corn and rapeseed. Around 30% of the United States' corn production will be used to produce biofuels by 2010.

Population increase and climatic changes also reinforce the rapid increase in world food price inflation. It is expected that global population will rise to 9 Billion by 2050 while adverse environmental changes are predicted to reduce agricultural productivity by as much as 50% in some parts of the world, especially in Sub-Saharan Africa (Earth Trends, 2008).

However, it would not be logical to imply that the current inflation observed in Ethiopia was a derivative of the global episode. It needs a profound analysis to verify whether Ethiopia's inflationary phenomenon is insulated from the global trend, purely a result of domestic factors, or both, which could be an important area of future research.

199

6.2.3 Sources of inflation in Ethiopia

In Ethiopia, a series of studies have been conducted by different stakeholders. Several hypotheses were presented and tested by different study teams as a background paper for the World Bank in 2007 (such as Abebe and Andinet on the impact of inflation on the poor, Hashim on the structural analysis of price drives, Xinshen on the analysis of multi-market model of the food price inflation, Paul on food markets and food prices, Josef on welfare effects of food price inflation, Mulat et al. on food price developments based on surveys in selected markets. These background studies are available on request from the WB). The goal of these studies was to examine and quantify the relative importance of the different factors that could explain the current trend in inflation.

In what follows this report presents the hypotheses tested and the main results obtained from these studies. Among others, the main working hypotheses of these studies were:
- Excess demand at the micro- and macro level that determines nominal prices;
- Trade effect through export diversification, specifically a significant increase in non-traditional agricultural exports causing a shift in cultivated land to these items, and hence relative decline in the production of cereals in the face of increasing demand;
- Monetization of food aid
- Inflation inertia

One important proposition was the existence of excess demand at the micro and macro levels. In 2007, it was found that aggregate consumption has been increasing alongside increase in the demand for food exceeding the increase in supply. On the other hand, officially reported money supply was found to increase more than real output by 40% while its velocity increased

by 9% fuelling the already existing excess demand (WB 2007). Another study also suggests that money growth, measured in terms of M2, has large effect on the level of inflation in the immediate short run (Josef, 2007).

Another proposition, which has been aired as point of discussion among economists and scrutinized in some of the background papers, was farmers and cooperatives marketing behaviour (Mulat et al. 2007). According to the empirical findings, the role of cooperatives has been significantly increasing both in the input and output market through improved access to storage facilities and market information. Along with strong emergence of these farmers cooperatives, access to credit channelled through Microfinance Institutions (MFIs) and the Ministry of Agriculture and Rural Development (MoARD) has also greatly contributed to the change in production and marketing behaviour of farmers. For instance, as shown in Table 6.1, credit had increased from that of ETB1.96 billion to ETB 3.18 billion in December 2007, recording 62% increase within a span of 18 months (June 2006 to December 2007). As described in various studies, the transmission mechanism could be through reducing distress selling and enabling farmers to maintain liquidity (WB 2007).

Moreover, since 2005 the Ethiopian Government managed to secure food aid in terms of cash transfer from donors through Productive Safety Net Program (PSNP). This had eliminated imported food aid pumping more cash for local. According to the WB 2007 study, of the total aid beneficiaries' cash recipients account for 45% to 64%, this has been an important source of food expenditure. In fact, in 2006 alone the PSNP transferred about ETB 800 million in cash and ETB 800 million equivalents in cereals. The impact on food inflation of the PSNP, which reduced (eliminated) dependence on imported food aid, should not be underestimated. In fact, for the decade preceding 2003, on average 27% of the local grain market had accounted for imported food aid. Nowadays, intuition dictates that local grain/food prices are unchained from such depressing factors (WB 2007).

201

**Table 6.1: Trend in microfinance activities: 2006 – 2007(in thousands birr)**

Item	June 2006	Mar 2007	June 2007	Sept. 2007	Dec 2007
Total Capital	794,601	912,299	979,265	1,009,740	1,163,022
Saving	715,953	900,731	985,376	1,107,497	1,207976
Credit	1,960,469	2,265,912	2,670,300	2,877,856	3,176,032
Total Asset	2,550,961	3,143,157	3,482,657	3,924,901	4,302,377

Source: NBE

From the supply side, a variety of factors may be related to the food grain market. In Ethiopia, smallholder farmers, whose productivity remained very low due to lack of improved production technologies and heavy reliance on rain-fed agriculture, are the main suppliers of food. As a consequence, an increase in agricultural production in the country was due to cultivated area expansion. In the highlands, this option was hardly possible due to the lack of available arable land for further expansion. As such, yields were stagnating (Figure 6.8).

On a similar line of argument, trade effect has also been an issue of speculation in the inflation arena. The fast increase in the horticulture and oilseeds export is also thought as another factor that has reduced available land for cereals and other food crops production. The central tenet of this argument is whether export diversification and increased production of non-cereals result in a corresponding decline in cereals production. However, data suggest that this expansion to non-cereals has not been large compared to the increase in area cultivated for cereals (Figure 6.6 and Figure 6.7).

Figure 6.5: Trends in production: 2002/03 – 2005/06
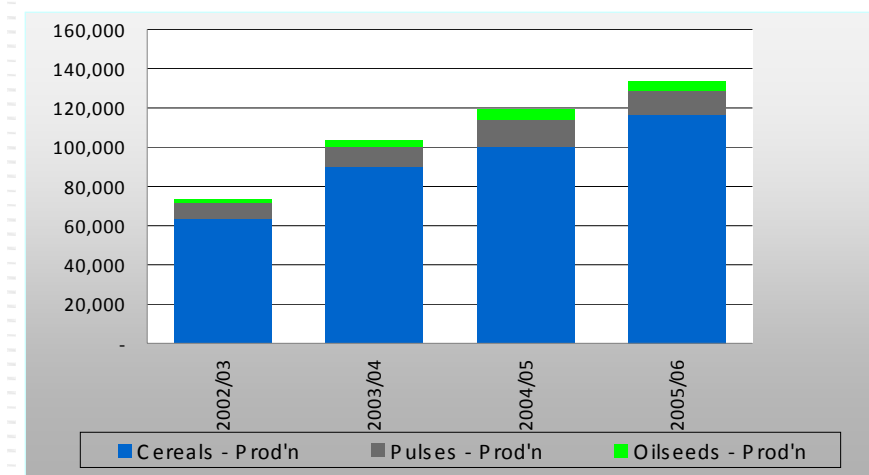
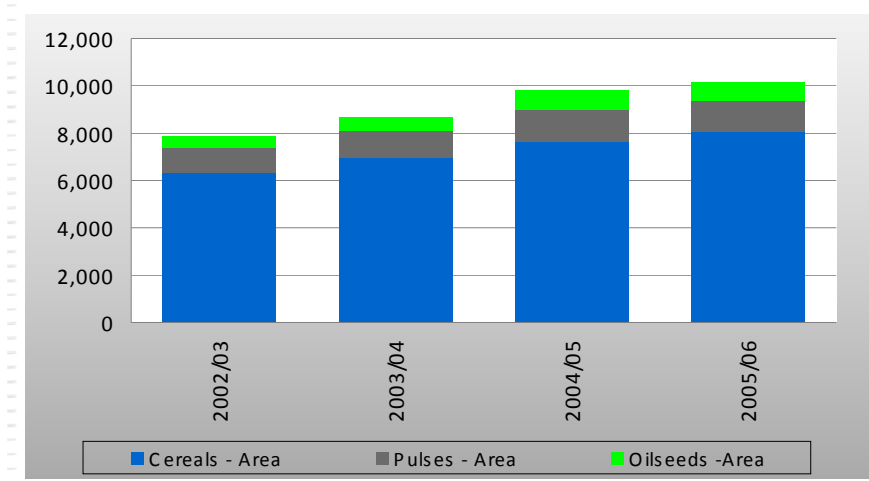**Figure 6.6: Trend in area cultivated 2002/03 – 2005/06**

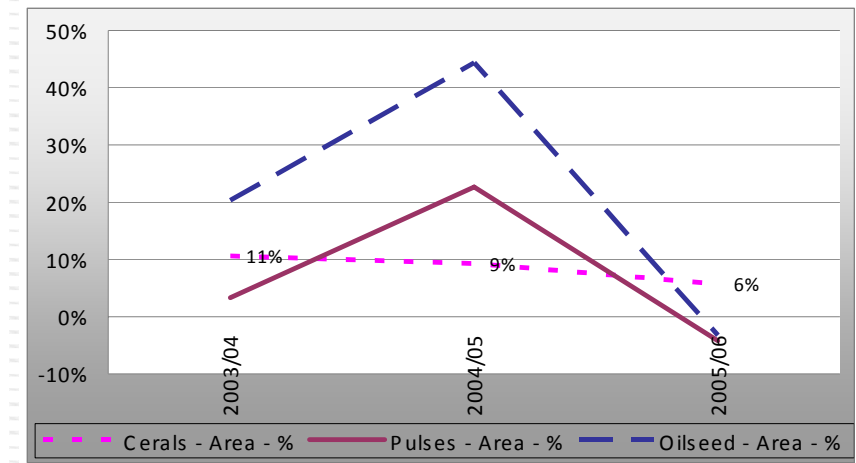**Figure 6.7: Growth in area cultivated 2002/03 - 2005/06**

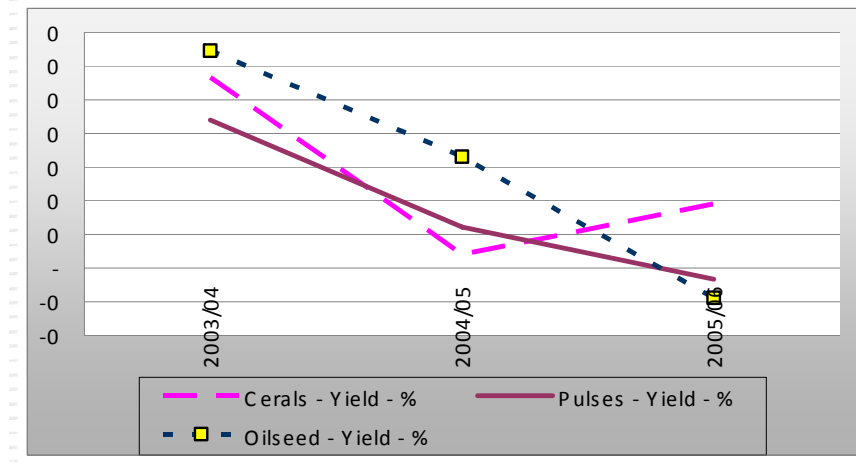**Figure 6.8: Growth in yield 2002/03 - 2005/06**

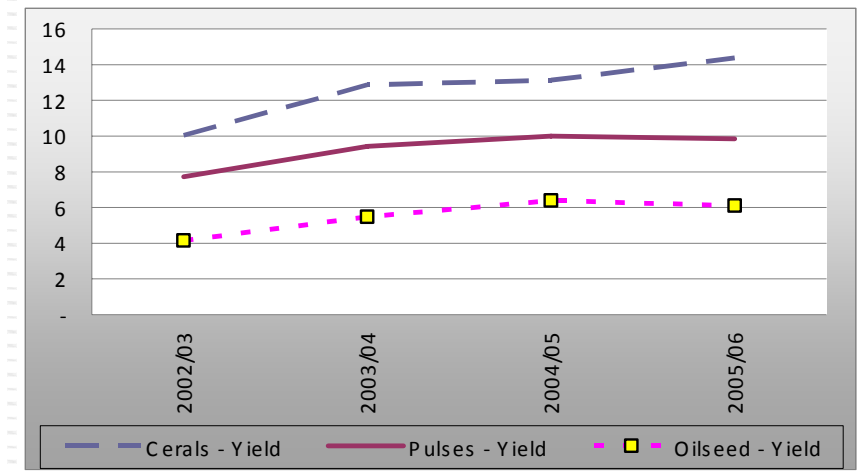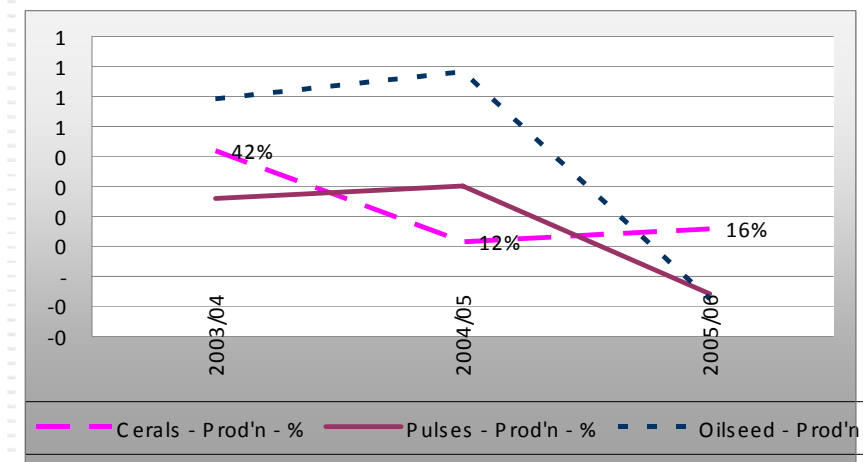**Figure 6.9: Trend in yield 2002/03 - 2005/06**

Figure 6.10: Growth in production 2002/03 - 2005/06

Source: CSA, Statistical Abstract 2006.
Note: Area in thousands of hectares and production in thousands of quintals.

Another study on short-run inflation dynamics and persistence in Ethiopia found that inflation itself explains the largest part of inflation, i.e., inflation inertia. Accordingly, inertia explains about 54% of inflation suggesting that inflation inertia in Ethiopia is very strong. By implication, inflation in the country may be affected by structural factors like price regulation, lack of competition, lack of information, underdeveloped agricultural markets, poor integration with the world markets, price risk management mechanisms, price discovery mechanisms, quality standards, contract enforcement mechanisms and wage market inefficiency resulting in inflexible price formation.

6.3   Trend in Inflation

One of the major macro-economic indicators frequently observed by the government and other institutions in the country is price development[78]. A look into recent inflation trend in Ethiopia (Figure 6.11) reveals that inflationary momentum has started in 2003. Despite favorable weather conditions for consecutive years and higher reported growth in agricultural GDP, prices continued to increase sharply in the past four years. Both inflation in general and food prices seem to be driven by the increase in the price of cereals, which is the major food item in a typical household's consumption basket.

---

[78] The change in prices is calculated based on consumer price index (CPI), which in Ethiopia is published every month by CSA based on retail prices information collected from 119 market outlets serving both urban and rural residents while weights for a basket of commodities are obtained from Household Income and Consumption Expenditure Surveys (HICES).

Figure 6.11: General, food and cereals price index: Country level
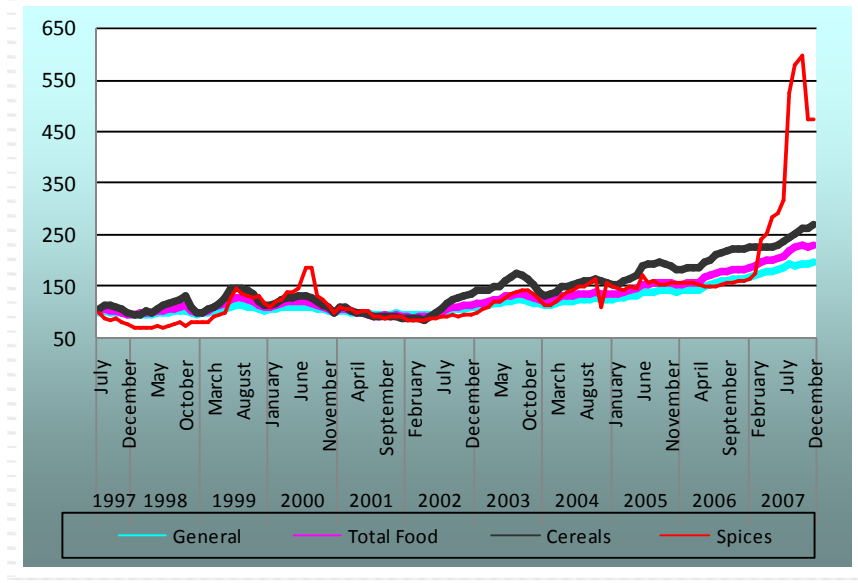
Source: CSA, various issues.

As Figures 6.11 and 6.12 indicate, between December 2003 and 2007 general, food and cereals prices have increased by 70%, 82.3% and 91.7%, respectively. Along with cereals, price of other food items, such as spices also increased significantly during this period. For instance, between December 2003 and 2007 price of spices had increased by 382.9%. This was primarily driven by a significant increase in the price of red pepper.

**Figure 6.12: General, food and cereals price index: Addis Ababa**
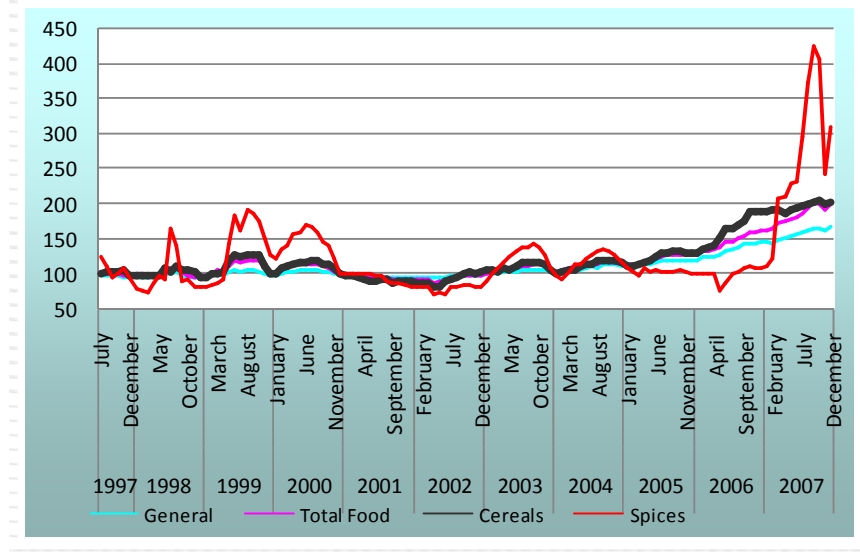
Source: CSA, various issues.

The trend in the level of inflation, in the past has, in one way or another, been related to significant shocks, like drought and war. For instance, Ethiopia experienced major inflation in 1999/2000 following the Ethio-Eritrea war, and also in 2002/2003, during another drought season. However, unlike these inflationary episodes in the past, which stayed for a short period of time, the current level of inflation has been pervasive and persisted for an extended period.

Figure 6.13: Trend in annual inflation in Addis Ababa: 1998 – 2007.
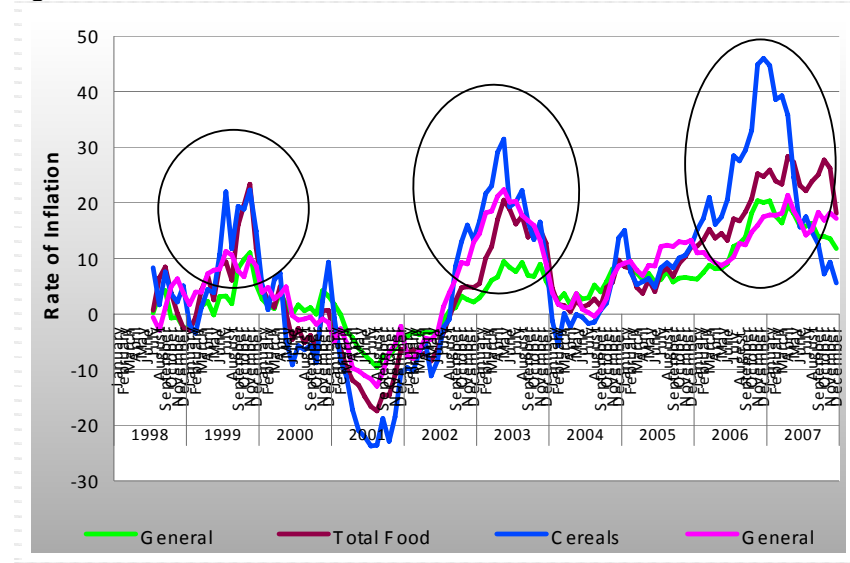
Source: CSA, various issues.

Based on monthly price data collected by the Ethiopian Grain Trade Enterprise (EGTE), Figure 6.14 presents trend in the price of major cereals in major towns. Visual inspection and empirical works show an important development in grain markets in major towns as they were becoming more cointegrated, especially for white wheat and tef. This could be due to a number of factors including infrastructure development, improved marketing and information system. This can be visually observed in Figures 6.14, 6.15 and 6.16 as price trends in these towns are moving more closely together over the years. However, relatively higher price of cereals consistently observed in cities like Dire Dawa and Mekele compared to other cities such as Addis Ababa. On the other hand, movement in price of white wheat, maize and tef between Addis Ababa, Nazareth, Shashemene and Jimma had and an asymptotic feature.

209

Figure 6.14: Monthly white wheat price: 1996-2007
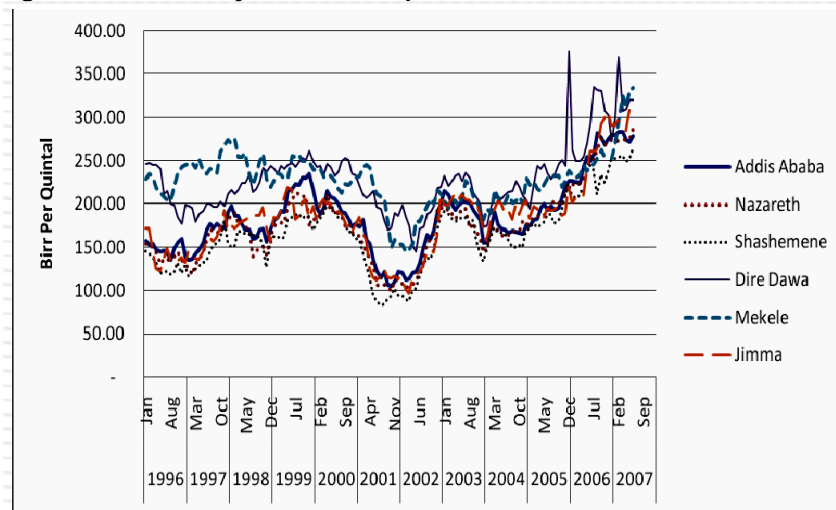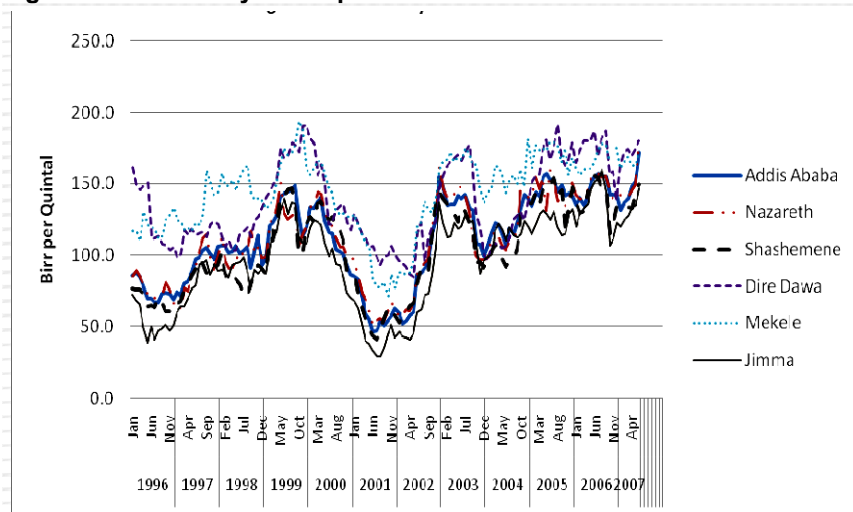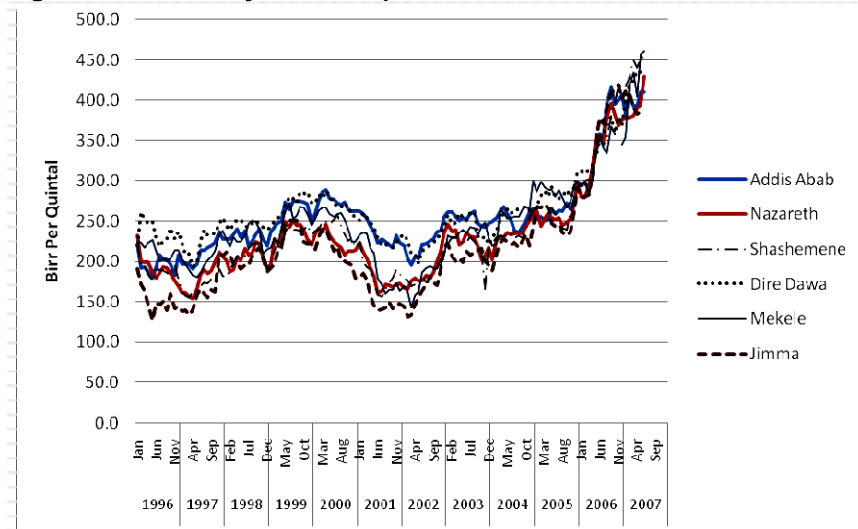

Figure 6.15: Monthly maize price: 1996 - 2007

Figure 6.16: Monthly tef mixed price: 1996 - 2007

Source: EGTE, 2007

Compared to other crops, the price of tef has been consistently increasing since 2003 in all the six major towns ranging from an average of Birr 222.6 per quintal in December 2003 to Birr 428.0 per quintal in June 2007, almost doubled (92.25%) in four years period (Figure 6.16). Similarly, the average price of maize and white wheat have increased by 58% (from Birr 105.00 per quintal to Birr 165.90 per quintal) and 87% (from Birr 158.80 per quintal to Birr 300.00 per quintal), respectively (Figures 6.14 and 6.15).

6.4   The Face of the Urban Poor

6.4.1 Poverty levels

Urban centers, compared to rural areas, might be considered to have better living standards. However, as stated earlier since the mid 90's poverty in

most urban centers has been rising significantly. Various studies have reported estimates of urban head count poverty ratio using both cross-section and panel survey data (Table 6.2). Estimates of poverty head count ratio in different studies in urban centers show significant variation between 30% and 50% throughout the past decade.

Table 6.2: Absolute head count poverty ratio of urban Ethiopia

Studies	1994	1995	1997	1999/2000	2004	Data Source
Mekonnen (2000)	46.7	51.16	46.3	n.a	n.a	AAU-Panel Data
Bigsten and Shimeles (2007)	41	39	33.6	45.2	40	AAU-Panel Data
PASDEP* (2006)	n.a	33.2	n.a	36.9	35.1	CSA-WMS/HICES

Note: *PASDEP=Plan for Accelerated and Sustained Development to End Poverty

These studies indicate that poverty has either been increasing or shows no sign of improvement in urban areas. This trend in the absolute level of poverty could be attributed to a number of factors, such as rural-biased government development policies, stagnant rural economy, drought in rural areas, influx of migrants to urban centers, and so on. The emergence of federal government structure and regional autonomy increased urbanization and newly emerging cities in Ethiopia. However, the nature of urbanization has not been in a fashion that creates sufficient employment opportunities, i.e. economically driven. This could be shown by low activity rate, 63%, in urban areas, compared to that of rural, 83% in 2005. Similarly, of the total urban population only 50.2% were employed (CSA, NLFS 2006).

Moreover, a continuous and increasing rural-urban influx of migrants has created pressure on the urban labour market. Besides, it increased competition and demand for food, shelter and other basic items and social service provisions. These factors plus the relative policy bias towards rural areas might have led urban centers to widespread poverty. For in stance, during the period between the two surveys (1994-1999), net rural urban

migration was about 6.8% (Table 6.3). The situation was more intense for major cities like Addis Ababa, Dire Dawa and Harari. About 22.5%, as shown in Table 6.4, of the migrants were job related who were looking for jobs. This increased competition and demand for food, shelter and other basic items and social service provisions. These factors plus the relative policy bias towards rural areas might have led urban centers to widespread poverty.

Table 6.3: Regional distribution of internal migration in Ethiopia between 1994-1999

	Rural Urban	Urban-Rural	Net Rural-Urban
Tigray	20.0%	23.9%	-3.9%
Afar	11.0%	7.3%	3.7%
Amhara	19.9%	17.6%	2.3%
Oromia	21.8%	14.2%	7.6%
Somali	22.7%	20.9%	1.8%
Benishangul	8.6%	9.7%	-1.1%
SNNP	19.8%	24.3%	-4.5%
Gambella	11.9%	11.9%	0.0%
Harari	26.4%	2.0%	24.4%
Addis Ababa	48.4%	0.1%	48.3%
Dire Dawa	30.0%	5.7%	24.3%
Country	**22.8%**	**16.0%**	6.8%

Table 6.4: Major reasons for migration, 1999

Major Reasons	Percent
Moving with family	24.5
Work-related	22.5
Marriage	16.2
Education	9.1
Seeking to live with relatives	8.2
Others	19.6

Source: NLFS data (CSA, 1999)

In nominal terms expenditure per capita per annum increased from Birr 1319.08 in 1995/96 to 1411.8 in 2000 (Table 6.5). During this period, growth in the level of household expenditure for rural areas was very small, 2.78%, compared to the urban areas that had increased by 25.11%. However, between 2000 and 2005, growth in household expenditure was larger for rural areas (25.16%) than urban areas (5.55%).

Table 6.5: Total nominal expenditure per capita (ETB) and price levels: 1995 - 2005

	199596	1999/2000	2004/2005
Expenditure Per Capita Per Annum			
All	1319.08	1411.80	1697.55
Rural	1210.30	1244.00	1557.45
Urban	1918.83	2400.71	2533.25
Change in Expenditure Per Capita			
Urban	..	25.11%	5.55%
Rural	..	2.78%	25.16%
All	..	7.03%	20.24%

Source: CSA various issues.

Along with growth in nominal household expenditure, general cumulative inflation from 1995 to 2000 was modest, about 4.71% (Table 6.6). However, between 2000 and 2005 it was 40.4%. We can see from Figure 6.13 that the momentum for price increase has started since 2003 where no tendency of price decline has been observed. In fact, in a span of only two years, December 2005 to 2007, inflation was about 40.1%, which was equivalent to the level recorded within a span of five years (2000 to 2005).

Households in urban areas, especially low income households, experience short-term fluctuations in standard of living primarily due to price movements (Mekonnen, 2000). Since, food, especially cereals and pulses, accounts for the bulk of consumption expenditure of the poor, changes in poverty levels would largely correspond to grain price movements. In fact, welfare level of

urban household has been deteriorating between 1994 and 2004 in terms of head count poverty (Andinet and Marit, 2008).

Table 6.6: Price index and changes: 1995 – 2007

|	1995	2000	2005	2007
Consumer Price Index (2000.12=100)				
General	95.5	100	140.4	197.0
Food	..	100	155.0	231.8
General (Addis Ababa)	..	100	120.5	167.6
Food (Addis Ababa)	..	100	127.8	199.0
Cumulative Inflation				
General	..	4.71%	40.4%	40.31%
Food	..	..	55.5%	49.55%
General (Addis Ababa)	..	..	20.5%	39.09%
Food (Addis Ababa)	..	..	27.8%	55.71%

Source: CSA various issues 2007.

6.4.2 Income inequality

Income inequality can occur for a number of reasons: physical attributes – distribution of natural abilities; personal preferences – relative valuation of leisure and work; social process and cultural values towards work; and asymmetric resource distribution effect of public policy – tax, labour, education, and other policies.

The growing level of inequality among urban dwellers in Ethiopia could be a result of a number of factors. Inflation could also be cited as an important source of inequality.   In fact, Abebe and Andinet 2007 have found that income distribution would worsen by about 2 percentage point between 2000 and 2006 due only to inflationary processes implying that inflation tends to erode the welfare base of the poor rather than of the non-poor in urban areas.

215

Although, income inequality has remained unchanged in rural areas, Gini coefficient[79] for urban areas had increased from a lower level of 0.34 in 1995/96 to about 0.43 in 2004/05 (Figure 6.17). If this trend continues, it can linearly be guessed that by 2009/10 (i.e., two years later from now) Gini coefficient for income inequality in urban centers will be about 0.48. This implies that income gap between the poor and the rich would widen more in the future.

Figure 6.17: Gini Coefficient (expenditure): 1995/96 – 2004/05
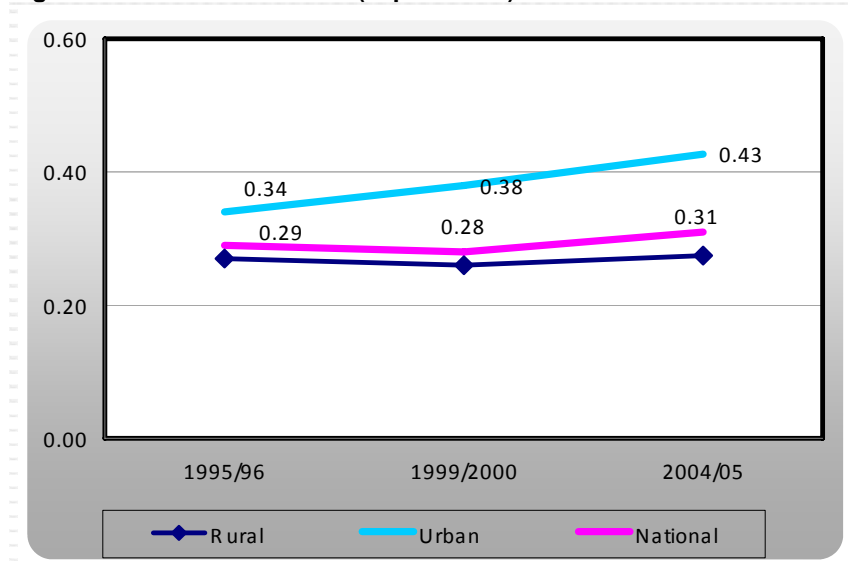
Source: Compiled form HICES 2004/05 and PASDEP 2006.

---

[79] Gini coefficient is defined as the ratio of the area between the Lorenz curve and the equality line (the 45 degree line) to the area below the equality line. The Gini coefficient can simply be expressed as follows:

$$G = 1 - 2 \int_0^1 L(\varphi)d\varphi.$$

Figure 6.18 further shows the degree of inequality in terms of the Lorenz curves. As the figure indicates inequality in urban areas was not only higher but also growing at a more rapid rate compared to rural areas.

Compared to rural areas, the Lorenz curve for urban areas was far away from the 45^0 line of perfect egalitarian income distribution. The major reason for intact income distribution in the past decades in rural areas may be due to the existence of egalitarian land distribution since 1974. However, the major source of livelihood for the urban population was not based on land and agricultural activities.

Figure 6.18: Lorenz Curves for 2004/05 for total expenditure: Urban and rural

Lorenz Curvers 2004/05: Urban and Rural
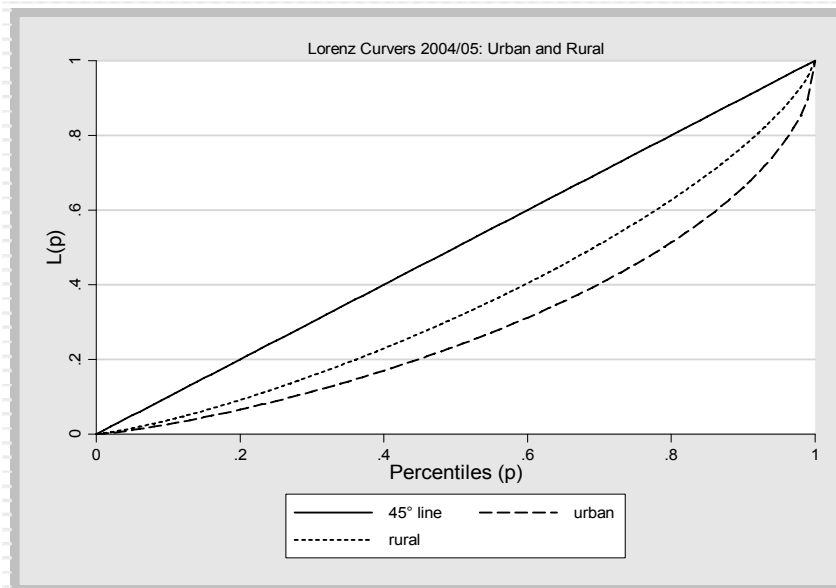
Disaggregation of inequalities by major expenditure components, food and non-food are presented in Figure 6.19. The highest level of inequality was observed in non-food expenditure compared to food. This is not unexpected as the proportion of non-food expenditure increases for high income group of the population. Gini coefficient for food expenditure in urban centers in 2004/05 remained at 0.28 while for non-food expenditure it was 0.56. Hence, by all measures income inequality in Ethiopia has been increasing significantly in urban centers, where the growth in income has actually been captured by the rich. That is, resources in urban areas were increasingly controlled by minorities.

Figure 6.19: Lorenz Curves by type of expenditure in urban areas: 2004/05

Lorenz Curves for Total Expenditure and Major Major Components in Urban Areas: 2004/05
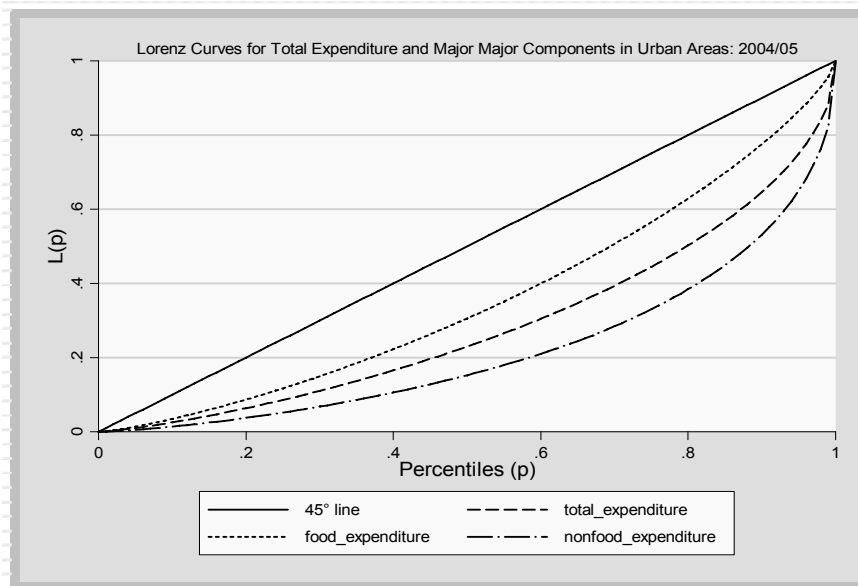
Source: HICES 2004/05 and Poverty Profile of Ethiopia 1999/2000

218

6.4.3 Wage indexation and income sources

To carefully scrutinize the impact of inflation on mainly urban household incomes, it is enlightening to distinguish sources of income. While agriculture is the major source of income in rural areas, earnings from non-agricultural activities represent the key source of income in urban areas. Wages, salaries, bonuses, overtime payments and allowances constitute about 41% of household income/expenditure in urban areas, as given by both the 1999/2000 and 2004/2005 surveys (Table 6.7). Beside household enterprises other than agriculture, other income sources like gifts and remittances have become important, accounting for 14.71% in 2004/05.

Table 6.7: Proportion by income sources in rural and urban areas 1999/2000 and 2004/05 (%)

	1999/2000			2004/2005		
	Rural	Urban	National	Rural	Urban	National
From own agricultural enterprise	72.53	4.6	63.33	61.67	4.02	54.7
From household enterprise other than agriculture	5.37	30.3	8.74	13.35	28.72	15.6
Wages, salaries, Bonus, overtime and allowance	2.86	41.15	8.04	6.49	41.12	10.5
Income from house rent and other rent	0.22	0.46	0.25	1.56	3.58	1.6
From saving, bank saving account	0.01	0.03	0.02	0.17	0.6	0.2
Dividends, profit share	3.89	8.67	4.53	0	0.05	0
Gift and remittance	3.53	8.05	4.14	9.87	14.71	9.05
Other receipts	11.59	6.74	10.94	6.87	7.2	7.8

Source: HICES (199/2000 and 2004/05)

On the other hand, in Ethiopia, unlike in developed and other developing countries, there is no practice of wage indexation for basic wages, pensions and other contracts even in the public sector. Theoretically, wage indexation is used as a means of offsetting the effects of inflation or deflation on payments and taxes by measuring real value of money from a fixed point of reference. In the absence of, wage indexation, wage earners and pension beneficiaries would suffer during times of high inflation that erodes the nominal wage income. In many countries, wage indexation is a central issue in labour contracts, often referred to as Cost-of-Living Adjustment (COLA). COLA is an adjustment of wages designed to offset changes in the cost of living as a result of inflation/deflation. Usually it is measured by consumer price index. It is a key bargaining issue in labour contracts and politically sensitive too in social security payments and pensions as it affects millions of people.

In Ethiopia, although, measures were taken in the past (i.e., in 1997, 2001, 2004 and 2007) by the government to increase wages and salaries in the public sector, it was not strictly in the sense of wage indexation. Furthermore, for the majority, salary scale increment did not fully offset the real income loss due to inflation. As depicted in Table 6.8, cumulative salary increment between July 2001 and 2007 was about 60%, while inflation was 93% and 125% for general and food items, respectively. Hence, salary adjustment was not actually sufficient to compensate for wage income erosion due to inflation. In effect, real salary has been declining.

Table 6.8: Civil services commission salary scales by profession

	Custodial and Manual Services		Trade and Craft Services		Clerical and Fiscal Services		Sub Professional Services		Administrative Services		Professional and Scientific Services	
	Initial Salary (Birr)	Changes %	Initial Salary (Birr)	Changes %	Initial Salary (Birr)	Changes %	Initial Salary (Birr)	Changes %	Initial Salary (Birr)	Changes %	Initial Salary (Birr)	Changes %
July 2001	200		222		222		248		530		760	
July 2004	235	17.50	262	18.00	262	18.00	292	17.70	630	18.90	895	17.80
July 2007	320	36.20	357	36.30	357	36.30	397	36.00	801	27.10	1068	19.30
Cumulative Change (2001-2007)	60%		61%		61%		60%		51%		41%	
Cumulative Inflation (2001-2007)	General 92.90%											
	Food 124.80%											

Source: Federal Civil Service Commission.

Moreover, while discussing about wage earnings of employed individuals, we cannot simply ignore the urban unemployed. In the past decade, urban unemployment has remained high (above 20%), compared to rural part (Figure 6.20). Many factors like population growth, macro-economic conditions, high rural-urban migration, less absorptive capacity of the economy, etc. contributed to the high observed levels of urban unemployment. Nevertheless, in recent years the boom in construction sector both by the private sector and the government in public infrastructure could be serving as a buffer zone for relatively large proportion of the urban poor and unemployed as a modest income by providing short-term employment opportunities. However, a large proportion of both unskilled and skilled workers in urban areas struggle to secure limited employment opportunities.

221

Figure 6.20: Trend in unemployment rate in urban and rural areas
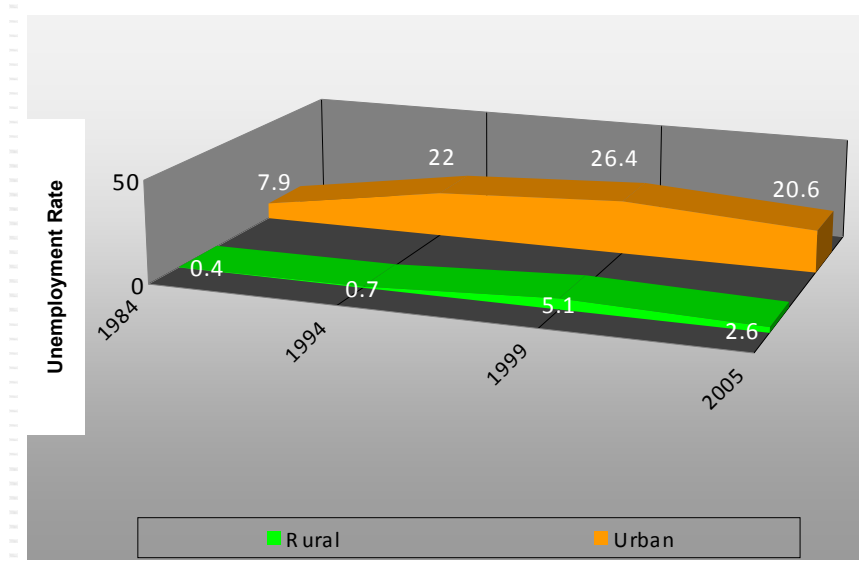
Source: CSA, NLFS data, 1999 and 2005

6.5 The Shade of Averages: Actual Inflation Experience

6.5.1 Expenditure weights and actual inflation experience

Reported general price and food price levels are just averages. Given growingly divergent income distribution, especially in urban areas, on one hand, and low level of income of the urban poor on the other, it is essential to examine the mechanism by which increased inflation affects consumers in general and the urban poor in particular. Policies that are meant to ease the burden of inflation on the urban poor should look beyond the average price

222

indices as expenditure profile greatly varies across different income strata. For instance, the average food share was about 50.8% and 38.4% for the country and urban areas, respectively (HICES, 2004/05). The construction of General CPI and Food CPI are based on expenditure weight matrix on selected basket of food and non-food expenditure baskets. All are average weights. However, one can see that food expenditure share of the poor (the lowest quintile group) was much higher than the non-poor (or the average). Highly increasing price trend was observed mainly among major food items, like cereals, which constitute the largest share of household budget. By implication, the actual pain of inflation experienced by the urban poor and that implied by the reported average level differs.

As Figure 6.21 and Annex 6.1 depicts, the share of food in total expenditure for those in the lowest income quintile is larger than the county average implying food price inflation affects the urban poor more than the average household.

**Figure 6.21: Share of expenditure by quintile: 2004/05**
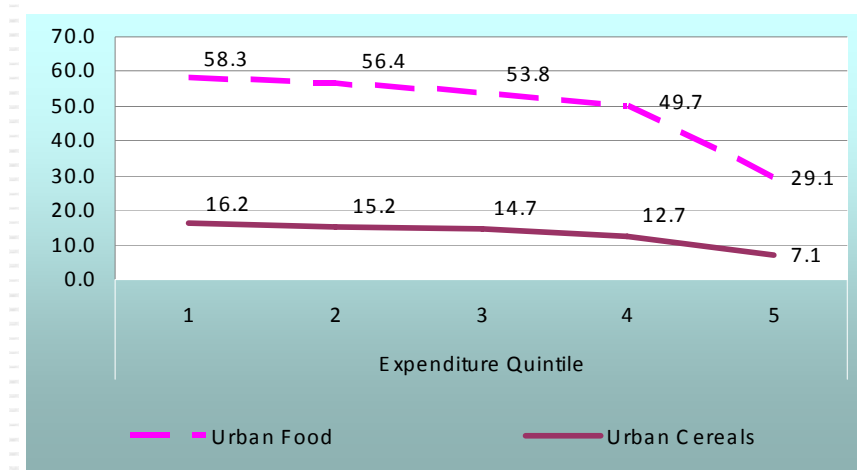
Source: CSA, HICES, 2004/05.

Readers should note that the total expenditure collected for the HICES include a wide range of items under total consumption expenditure including those having an element of saving, quasi-saving and investment. For instance, investment on household durables, jewelleries, loans given out, loans repaid, Iqqub, bank deposits, remittances, gifts, operating costs of household enterprises, investment on household enterprises, bribes, etc. This implies that if these items were excluded, the share of food would have been larger than the reported level by the CSA, which is currently used to calculate CPI.

Other survey data sets like the Ethiopian Urban Households Survey panel data shows households in urban areas spend much higher proportion of their total expenditure on food items. Accordingly, the share of food expenditure for urban households was about 70% in 2004 (Figure 6.22 and 6.23). Hence, food takes the lion's share of household expenditure of the urban poor.

**Figure 6.22: Share of expenditure by quintile: 2004**
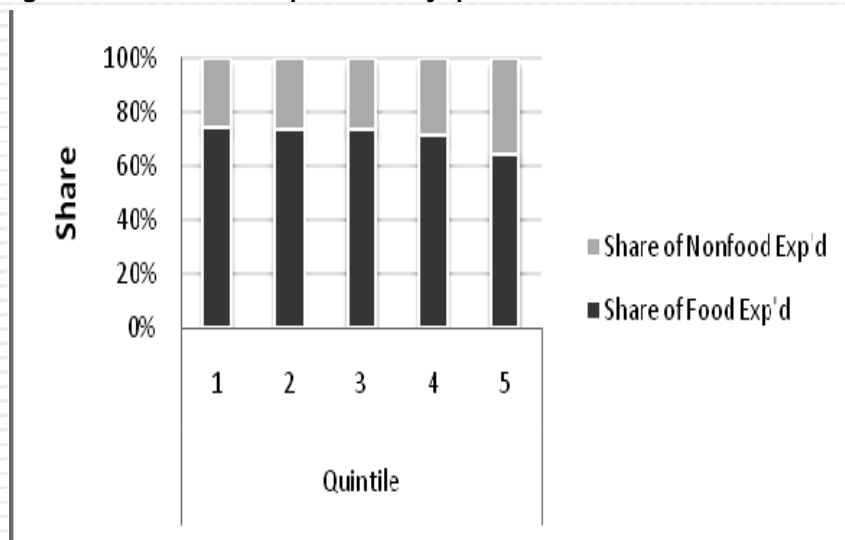

Source: EUHS data (2004)

Moreover, between 2000 and 2006 the True Cost of Living Index in urban Ethiopia was higher than the general price index by about 12%, which means that the degree of welfare loss due to inflation was much higher than implied by the general price index, officially reported by the government (Abebe and Andinet 2007).

Figure 6.23: Kernel density for share of fixed expenditure in urban areas: 2004

Source: EUHS data 2004
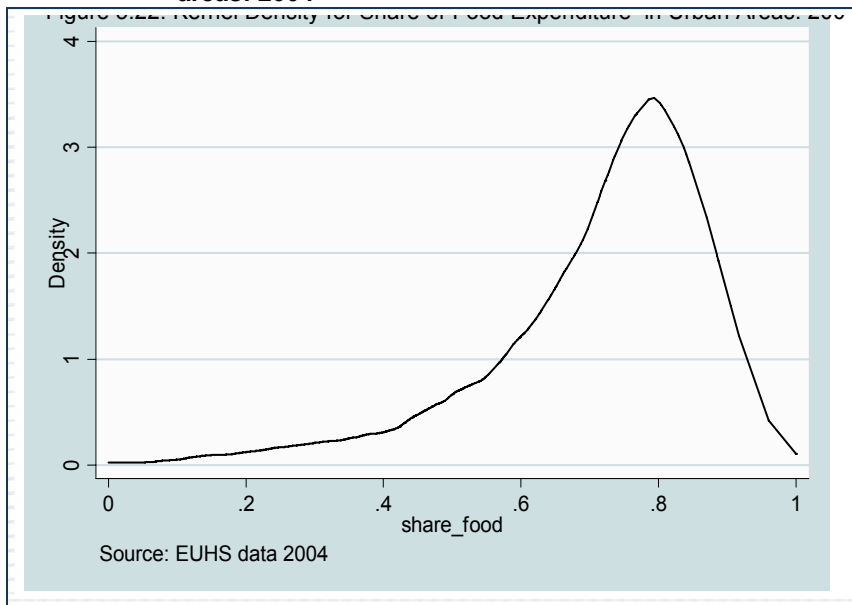
Of the components of food expenditure, cereals account for the largest share across all income groups (Figure 6.24), with pulses having the next largest share. Other food items like meat and oils and fat constitute a smaller proportion. Increase in the price of these food items would definitely disrupt household budget not only of the poor but also the typical urban household.

225

Figure 6.24: Share of expenditure by major food items and expenditure quintile
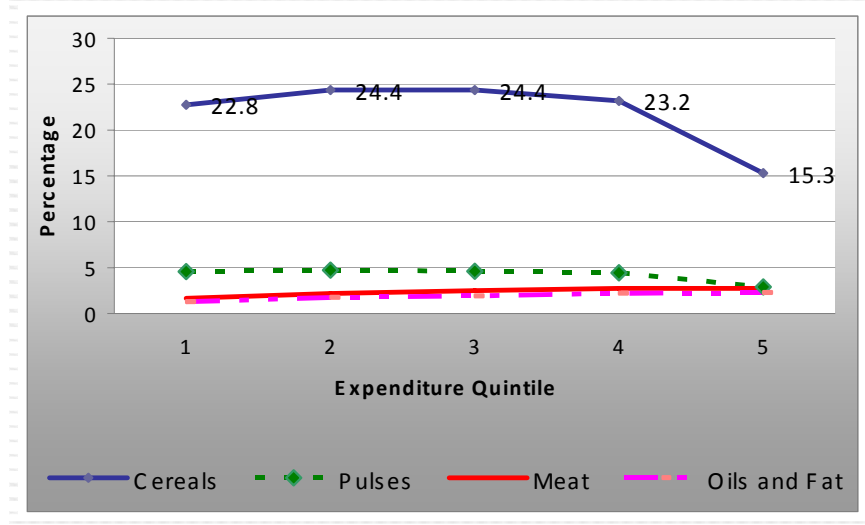
Source: CSA, HICES, 2004/05.

6.5.2 Elasticities: Price and income

As part of analyzing the welfare implication of relative price changes, one also has to see the response (elasticity) of household demand to price and income changes. Studies based on the EUHS panel data set using Almost Ideal Demand System (AIDS) model, it was found that the price elasticity of tef and wheat were well below unity for households residing in major urban centers. This implies that these consumption items are necessities and any increase in the price of these items may adversely affect household welfare. On the other hand, income elasticity for tef and wheat is unity entailing a 1% increase in income leads to a 1% increase in demand for these items On the other hand, maize was found to be income inelastic, inferior commodity, in urban areas (Table 6.9). Increase in price of tef and wheat doesn't mean a

226

decline in demand for these items, where elasticities shows that people tend to purchase despite higher relative prices. Instead, households may tend to spend more on the purchase of these items that would have been spent on something else. On the other hand, since maize is considered as an inferior food item, the decline in price of maize doesn't mean that consumption of it would increase. Interestingly, milk and meat demands are elastic to income changes meaning these items are considered luxury for the poor. In other words, poor households may not have the privilege to consume these animal protein rich food items. (Abebe and Andinet 2007).

Table 6.9: Price & income elasticities for selected items in urban areas using AIDS model: 1994-2004.

	Price of Tef	Price of Wheat	Price of Maize	Price of Milk	Price of Meat	Price of Sugar	Price of Coffee	Price of Cooking Oil	Price of Salt	Price of Pulses	Expenditure
Tef	-0.92	-0.04	0.08	-0.31	-0.04	0.10	-0.10	0.12	-0.14	0.21	1.03
wheat	-0.25	0.55	-0.17	0.23	0.17	-0.44	0.20	-1.14	0.34	-0.48	1.03
Maize	1.32	-0.37	-6.34	0.08	-0.80	0.63	3.32	1.40	1.28	-1.02	0.63
Milk	-1.92	0.16	0.00	0.17	-0.02	0.36	-0.23	-0.07	0.07	-0.24	1.70
Meat	-0.38	0.08	-0.25	-0.01	-1.03	0.26	-0.18	-0.06	0.05	-0.18	1.59
Sugar	0.57	-0.33	0.20	0.38	-0.07	-1.50	-0.15	-0.23	-0.11	-0.01	0.85
Coffee	-0.22	0.14	0.84	-0.08	0.10	-0.10	-0.83	-0.32	0.04	-0.05	0.61
Cooking oil	0.42	-0.59	0.30	0.01	0.12	-0.16	-0.32	-0.43	-0.02	-0.19	0.97
Salt	-2.19	1.10	1.71	0.37	0.41	-0.36	0.27	-0.01	-0.62	-0.68	-0.05
Pulses	1.25	-0.38	-0.37	-0.15	0.06	0.01	-0.06	-0.26	-0.20	-0.31	0.59

Source: Extracted form Abebe and Andinet, 2007.

227

6.5.3 Daily calorie intake and food shortage

The adverse effect of rise in the price of cereals on welfare levels can clearly be seen when considering its share in daily calorie intake (Figure 6.25). For instance, cereals constitute the largest contribution in daily calorie intake of an individual with about 63% in urban areas. About 15% and 7% of daily calorie is obtained from potatoes-tubers-stems and pulses, respectively.

Figure 6.25: Percentage contribution for daily calorie intake
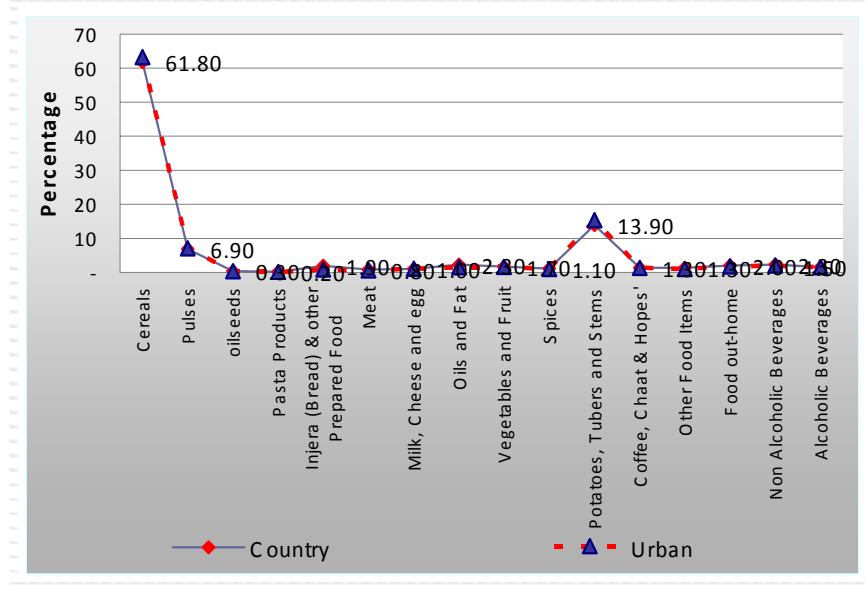
Source: CSA, HICES, 2004/05.

Thus, it is logical to expect that price hike of cereals and other food items may result in malnutrition. The issue is more concerning as households in urban Ethiopia are rigid to shift from expensive food items to the cheaper ones. Rather the majority of the households reduce the quantity of daily

served meals. For instance, according to the EUHS data (2004), at the time of food shortage, 30% and 55.2% of the households stated that they only had 1 and 2 meals per day, respectively. Moreover, due to cultural or religious factors, the consumption menu of the sampled households was very rigid where 60.9% of the households didn't eat any food not usually eaten in a normal year. Rather, the majority, 81.4% of households noted that they cutback quantities served per meal during such times. Hence, this situation may result in reduced daily calorie intake at the household level.

Although further profound analysis is required, children, elderlies, women and other vulnerable groups of the population would be susceptible to adverse consequences of food price increase in urban areas as they could be forced to cutback quantities of daily meal served. Since productivity is directly related to nutrition, a rise in prices may also result in lower productivity in activities, especially where physical work is largely required.

6.6   Conclusions and Recommendations

During the last fifty years economic performance of Ethiopia has been disappointing. During the imperial era average real GDP growth was about 3.68% annually, deteriorating to 2.22% during the socialist regime. However, following the reform in early 1990s, real GDP has been increasing by 6.33%. Despite some encouraging progress made in terms of reducing poverty, Ethiopia still stands among the poorest countries in the world. Although, persistent poverty has been the main feature of the rural population in the country, emerging evidences indicate that poverty in most urban centers has also been rapidly increasing.

Empirical findings reveal that an important source of welfare deterioration in urban areas has been food price inflation, particularly for poor households as food expenditure takes the lion's share of their household consumption budget.

229

Different hypotheses were scrutinized by different study teams as to what causes the current inflation in the country. The main working hypotheses were: excess demand, excess money supply, monetization of food aid, inflation inertia, and so on. All the studies indicate that the current inflation has been due to domestic factors.

A close look into the recent food price inflation in Ethiopia shows that despite consecutive good weather condition and high reported agricultural production, since 2003, food prices have been rising sharply. Between December 2003 and December 2007, general, food and cereal prices had increased by 70%, 82.3% and 91.7%, respectively. On the other hand, urban poverty has been increasing since the 1990's followed by increased income inequality. Although, nominal household income per capita had increased by 5.55% in urban areas in 2004/05 compared to that of 1999/2000, general inflation during this period was 40.3%, and thereby the real income had actually declined significantly.

In the absence of a regular cost-of-living adjustment mechanism, the primary victims of inflation, particularly, food price inflation, are the urban poor and the wage earners. In fact, the officially reported level of inflation may not properly reflect the actual pain of inflation experienced by the poor.

On the other hand, price elasticity of major cereals like tef and wheat are below unity implying the necessity nature of these items. Furthermore, about 63% of daily calorie requirement is contributed by cereals consumption. This implies that significant rise in price of cereals may lead to malnutrition and starvation. This could be the rigid nature of consumption menu of households, where 81.4% of households cutback quantity served per meal during food shortage rather than eating any food not usually eaten in normal year.

Although, profound analysis is required to measure the welfare impact of food price inflation on the urban poor, this limited study shows that the urban poor suffer the most from the food inflation. Based on a comprehensive study, immediate interventions and policies that effectively cushion the adverse consequences of food price inflation on the urban poor should be in place.

In general strategies and policies that create more employment opportunities and reduce inequality in urban areas should be in place. On the other hand, introducing a regular wage indexation and/or cost of living adjustment may reduce the adverse impact of food price inflation on the wage earners. To reduce the consequent malnutrition, immediate intervention in terms of in-school nutrition program, women's and other disadvantaged groups' support programs should be in place. Besides, efforts should be exerted to diversify and shift expensive food items to cheaper and nutritious ones.

PART II

THE CURRENT STATE OF THE CONSTRUCTION INDUSTRY

Introduction to Part Two

The Ethiopian Economic Association has been preparing annual report on the Performance of the Ethiopian Economy since 1999/2000. In March 2007, it published the fifth annual report on the Ethiopian Economy, "**Unemployment Challenges and Prospects**" being its thematic issue. For this report, The Current State of The Construction Industry has been chosen to be the thematic issue. The construction Industry has been identified as a thematic issue owing to a variety of considerations: first, the issue is timely; second the industry has been registering remarkable performance in recent years; and third, despite its importance in the overall economy, it has not been assessed comprehensively to a level that enables one to understand the industry and make policy recommendations.

The country's huge infrastructure expansion and urban centers' remarkable building construction activities provided an opportunity for taking up the issue for further analysis. However, lack of sufficient information on the industry may not allow an in-depth analysis of the issue to the required level. In addition, lack of time series historical data on the industry had also limited comparisons over the years. With these limitations, the report however, attempts, to the extent possible, to depict the trends and provide a comprehensive analysis of the industry.

The major sources of data include MoFED, MOWUD, EIA, CSA, ERA, National Bank of Ethiopia and private Commercial Banks, etc. Besides, attempts are made to gather qualitative information by conducting interviews with some experts conversant with the industry.

Part II of this report is organized into five chapters. The seventh chapter deals with the role of the construction industry in the national economy; the eighth deals with the performance of the construction industry; the ninth outlines the capacity of the domestic construction industry; the tenth presents the analysis of the financing of construction in the country and the last presents summary, conclusions and recommendations.

Chapter 7

The Role of the Construction Industry in the National Economy

In order to discuss the role of the construction industry in a given economy we need to have a clear definition of the industry itself. According to UN (1996)International Standards Industrial Classification (ISIC), Rev. 3, construction is defined generally as an economic activity directed to the creation, renovation, repair or extension of fixed assets in the form of buildings, land improvements of an engineering nature, and other such engineering constructions as roads, bridges, dams, etc.

The industry consists of a group of establishments engaged in one or more of the following activities: Site preparation; Building of complete constructions or parts thereof, civil engineering; Building installation, Building completion and Renting of construction or Demolition equipment with operators. The industry includes all activities of construction irrespective of whether they are carried out by private or public construction firms, whether done on a contractual basis or of own account.

In the case of Ethiopia, although the definition adopted by the National Accounts department of MoFED is the same as that of ISIC, the activities actually covered under the industry are the construction and maintenance activities of: (1) Residential buildings in urban and rural areas, (2) Non-residential buildings, i.e. factory buildings, ware houses, office buildings, garages, hotels, schools, hospitals, clinics, etc., (3) Other construction works, like roads, dams, dikes, athletic fields, electricity transmission lines, telephone & telegraph lines, etc. [MoFED, 2005]. In principle, activities undertaken by the construction industry which do not fall under the industry

such as the quarrying of stone, gravel crushing, and manufacturing of bricks, are not part of the industry's production and hence should, if possible, be allocated to separate group of economic activities. This, however, would not be possible in most cases and hence such output is also included in the construction sector [MoFED, 2005].

7.1 The Role of the Construction Industry in an Economy

Construction industry makes significant contributions to the socio-economic development process of a country. Its importance emanates largely from the direct and indirect impact it has on all economic activities. It contributes to the national output and stimulates the growth of other sectors through a complex system of linkages. It is noted that about one-tenth of the global economy is dedicated to constructing and operating homes and offices (UNEP, 1996). UNEP further observes that the industry consumes one-sixth to one half of the world's wood, minerals, water and energy. It contributes to employment and creates income for the population and has multiplier effects on the economy. The construction industry employs large unskilled labor. Throughout the developing world, the majority of employees in the industry are unskilled. Women are also found to be beneficiaries of the employment in the industry. However, the employment in the industry is mainly temporary in nature and once the job is over, the workers are obliged to find other jobs or return to their place of origin.

Similar to all other socio-economic activities, another key contribution of the construction industry is revenue generation to government. The construction industry contributes to economic activity through generation of revenue for government from corporate income taxes of companies, the rental income, sales tax, capital gain tax and employees income tax from those employed in the construction industry, which in turn goes to the financing of public services such as schools and health institutions among others.

In order to identify and estimate the total economic contribution of the construction industry to an economy, one has to look beyond the direct expenditures made by the industry itself, since there is a ripple effect of the expenditures made for goods and services supplied to the industry. Likewise, business revenues generated from supplying of goods and services to the construction industry are paid out in wages, and material costs, which in turn are spent on living costs. This multiplier effect enlarges the economic impact of the initial construction industry expenditures. In other words, the initial wave of spending generates a second and third wave of spending as wages paid and profits made on the direct construction spending spins through the economy in several cycles. Thus, the original direct expenditure yields a greater economic impact than just initially spent.

7.2 The Role of the Construction Industry in the Ethiopian Economy

7.2.1 Contribution to national income

The construction industry has important contributions to the Ethiopian economy, as demonstrated by its share in the GDP. For instance, the share of the sector in the total GDP averaged at about 5.2 percent in the period 2002/03- 2006/07 (see Table 8.3) The sector has registered relatively higher growth as compared to the growth of GDP during this period. Over this period, there has been increased investment on the development and expansion of various infrastructure projects like roads, airports and residential and non-residential housing units.

7.2.2 Contribution to employment

The role of the construction industry in terms of creating employment opportunities especially in urban areas is becoming visible. According to the 1999 Labour Force Survey (LFS), of the total employed persons in the country which was estimated at around 25 million, 0.9 percent was estimated to be in the construction industry. The contribution of the industry in terms of

creating employment has slightly improved over the years. For instance, according to the 2005 LFS, of the total employed population in the country (31.4 million), 1.4 percent was estimated to be in the construction industry.

7.2.3 Contribution to government revenue

The construction industry also contributes to the generation of revenue for the government. The rental income tax is one of the major revenue sources within the construction industry to the government. The rental income tax which was Birr 15.2 million in 1997/98 has increased to Birr 78.3 million in 2004/05 but lowered to Birr 32 million in 2005/06 generating nearly half a percentage point of the total government revenue in the period 1997/98-2005/06(see Table 8.7). Though there are many other direct and indirect revenues that are generated from the construction industry, the paucity of data has limited this report to indicate the total revenue that is generated.

7.2.4 Multiplier effect

Empirical researches support the strong linkages between the construction industry and other economic sectors. For instance, Park quoted in Raufdeen Rameezdeen et al (1989) has confirmed that the construction industry generates one of the highest multiplier effects through its extensive backward and forward linkages with other sectors of the economy. The World Bank as quoted in Raufdeen Rameezdeen et al (1984) also argues that the importance of the construction industry stems from its strong linkages with other sectors of the economy.

Since Ethiopia doesn't have an input- output table that would help depict the inter-sectoral relationship, it would be difficult to determine the industry's linkages with the rest of the sectors, namely; agriculture, industry and services. Nevertheless, a simple analysis shows that there is a close intersectional relationship between construction and other economic and social sectors (see Annexes 7.1 - 7.4 for details).

238

Chapter 8

The Performance of the Construction Sector

As pointed out earlier, the construction sector has significant contributions to the Ethiopian economy. The importance of the sector can be assessed by examining in detail the overall performance of the sector. The performance of the sub sector is assessed in terms of its gross value of production, gross capital formation and value addition, employment generation among other parameters. The performance of the industry under these and other parameters is discussed in this chapter.

8.1 The Overall Performance of the Construction Industry

8.1.1 Gross value of production of construction (GVPC)

The development of the construction industry can be measured using its Gross Value of Production (GVPC). The GVPC, at constant market price increased from Birr 7.6 billion in 1996/97 to Birr 18.9 billion in 2006/07 depicting an average annual growth of 9.6 percent over the period. The lowest growth was registered in 1999/00 due to low construction investment by government which in turn was due to the Ethio-Eritrean war. The Growth witnessed in the construction GVPC during the first half of the period (1997/98-2001/02) was on average 7.9 percent per annum, which was less than the 11.3 percent recorded recently (see Table 8.1).

Table 8.1: Average growth rates of GVPC (percent)

Year/Period	Growth rates
(1996/97- 2006/07)	9.6
(1996/97- 2001/02)	7.9
(2002/03- 2006/07)	11.3

Source: Computed based on data obtained from MoFED and EIA.

Between 1996/97 and 2006/07, the share of residential buildings, non-residential buildings and other construction in the construction Gross Value of Production (GVPC) has been, on average, 41.2 percent, 30.5 percent and 28.3 percent, respectively. This shows that the construction of residential buildings has been very important in the overall construction activity. In the recent period (2002/03- 2006/07) while the average share of residential and other construction has slightly declined from previous levels, the share of non-residential building increased marginally (Table 8.2).

Table 8.2: Share of residential, non-residential and other construction in GVPC (%)

Description	Residential Buildings	Non-residential buildings	Other construction
Average(1996/97- 2006/07)	41.2	30.5	28.3
Average(1996/97- 2001/02)	41.4	29.1	29.5
Average(2002/03- 2006/07)	41.0	32.2	26.8

Source: Disaggregated based on data obtained from MoFED

8.1.2 Share of construction GVP in gross domestic capital formation

Construction is an important component of the domestic gross capital formation. Over the period from 1996/97 to 2006/07, improvements have been witnessed in the construction industry's share in the Gross Capital Formation. The share of construction GVP in the gross domestic capital formation (GDCF), which was 59.6 percent in 1996/97 has increased to 74.2 percent in 2002/03, though it marginally declined in recent years to about 68.4 percent in the year 2006/07 averaging at 66.9 percent for the whole period (Figure 8.1).

Figure 8.1: Share of construction GVP in GDCF

Source: Computed based on data obtained from MoFED

241
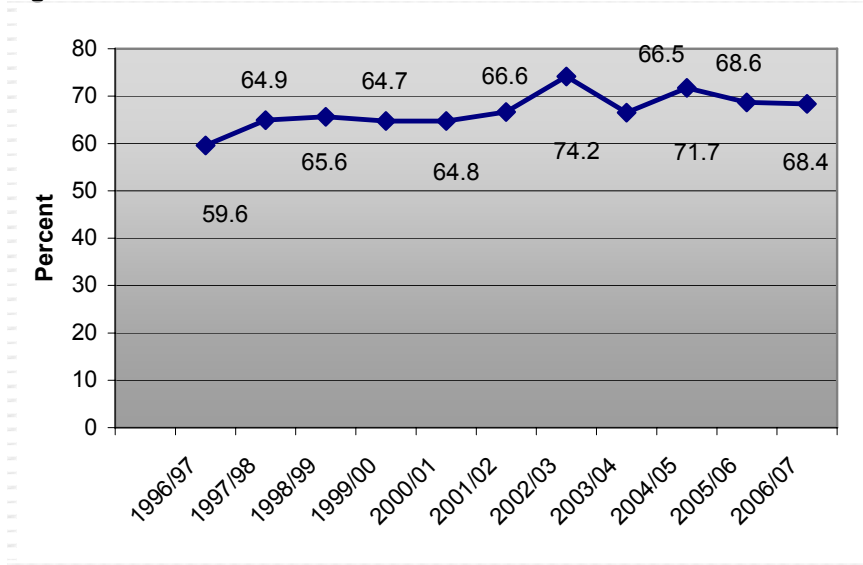
8.1.3 Share of foreign construction in total construction GVP

Many newly industrializing East Asian economies have relied on foreign investors for industrializing their economy. Since the introduction of free market policy in Ethiopia in 1992, some foreign investors have shown interest to invest in the country, though their relative share on aggregate remained very low. During 1996/97-2006/07, the share of operational FDI in total construction Gross Value of Production (GVPC) averaged about birr 224.4 million i.e., 1.7 percent per annum. The highest share was recorded in 1998/99 (Figure 8.2). In recent years the flow has increased to some extent. In the period 2002/03 – 2006/07 the annual FDI flow was Birr 289.8 million which is higher than the average flow(Birr 159.0 million) in the period 1996/97- 2001/02 (Annex 8.1).

Figure 8.2: Share of construction FDI/ construction GVP

	1996 /97	1997 /98	1998 /99	1999 /00	2000 /01	2001 /02	2002 /03	2003 /04	2004 /05	2005 /06	2006 /07
FDI / GVP	0.37	1.18	4.00	3.48	0	0.00	0.35	1.58	3.73	2.91	0.80
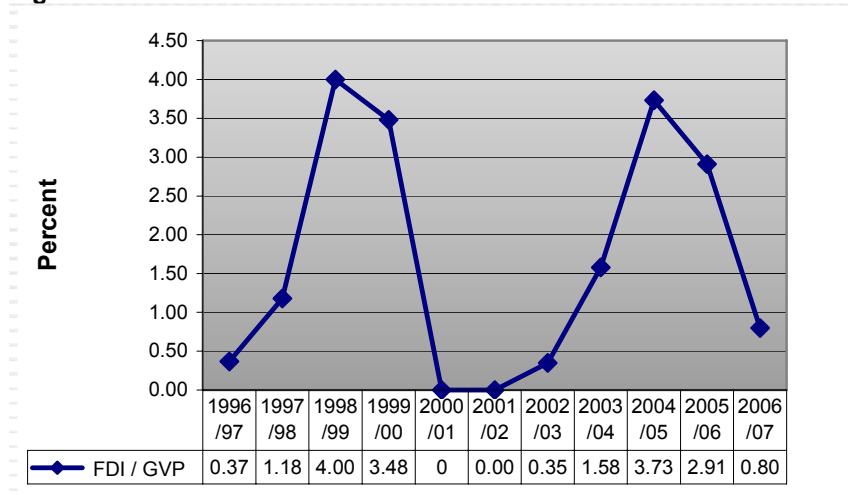
Source: Computed based on data from MoFED and EIA

Despite the high investment opportunity in the construction industry, the flow of actual foreign investment has been minimal. Thus, there is a need to assess the underpinning factor for the low level of FDI flow into the construction industry of the country.

8.2   Value Added in the Construction Sector

Another performance indicator of the construction industry in an economy is its relative contribution to the overall national income. The construction sector's contribution in the advanced countries is relatively significant in the national income while in the least developed countries the contribution is lower.

The share of construction value added to (total) GDP in the period 1996/97-2006/07 was, on average, 4.6 percent (Table 8.3), which is about 9.7 times less than the average contribution of the agricultural sector to the GDP for the same period. The share of construction has increased in recent years, though marginally. For instance, during the recent five years period (2002/03-2006/07) the share increased to 5.2 percent – a 1.1 percentage point mark up from the previous five year period. This reflects the recent on going extensive construction activities in the country. The average contribution of construction to the national economy in Ethiopia, though less than the 7 % registered in most OECD countries and 12 to 14% in Japan and Korea (Gann, 2000), is comparable to some countries, such as India, for instance, which was 5 percent in 2005 (Leonard Roberts, 2006).

Table 8.3: The contribution of construction and agriculture to the GDP (%)

Description	Average share (1996/97- 2006/07)	Average share (1996/97- 2001/02)	Average share 2002/03- 2006/07)
Construction Value Added at current/GDP at current market prices	4.6	4.1	5.2
Agriculture value added at current/GDP at current prices	44.7	46.8	42.2

Source: Computed based on data obtained from MoFED

The value added, at constant market prices, generated in the construction industry increased from Birr 2.0 billion in 1997/98 to Birr 5.9 billion in 2006/07, depicting an average annual growth rate of 10.8 percent over the period. The least growth was registered in 1999/00 due to low investment on construction by government (Figure 8.3).

Figure 8.3: Construction value added growth rates (at constant market price)
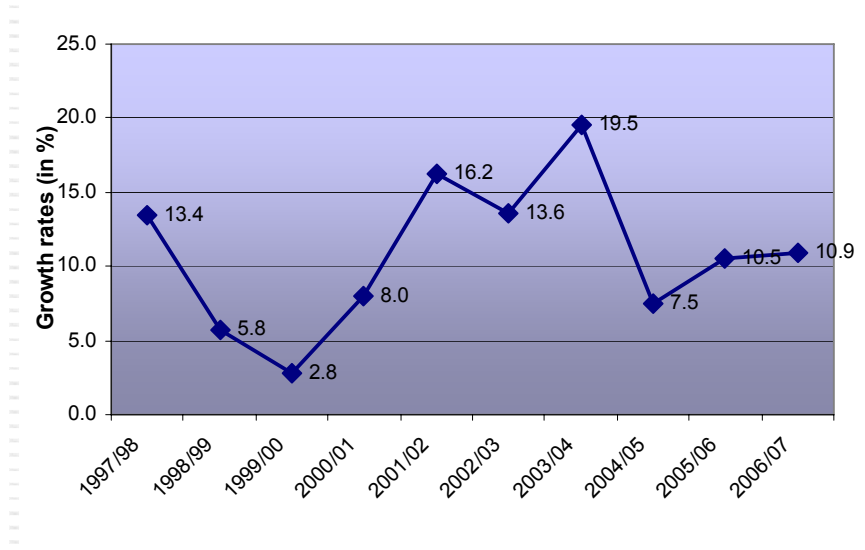
Source: Computed based on data obtained from MoFED

Since Ethiopia is a country in transition from public sector dominance to private sector, the share of public sector in the economy has been significant in the construction industry, though gradually declining. Between 1996/97 and 2006/07, of the total value added at constant market price generated by the construction industry, the public sector accounted for about 59.4 percent, while the balance was held by private. In the period 1997/98 -2001/02, the share of public which was 63.1 percent has declined to 53.5 percent in the recent period (2002/03- 2006/07) thereby depicting the declining share of public sector in the industry (see Table 8.4)

244

Table 8.4: Construction value added by private and public sectors (at constant market price)

	1996/97-2006/07	1997/98-2001/02	2002/03- 2006/07
Growth (in %)			
Public	7.4	5.6	8.6
Private	16	19.1	18.0
Share (in %)			
Public	59.4	63.1	53.5
Private	36.3	32.5	42.3

Source: Computed based on data obtained from MoFED

During 1996/97- 2006/07, the value added generated by the public sector increased on average at a lower rate, 7.4 percent, than that of the private (16 percent per year) as shown in Table 8.4. More recently (2002/03-2006/07), the value added generated by the public has been increasing, on average, by 8.6 percent per annum while that of the private sector has been increasing by 18 percent, thereby indicating the year to year declining of the public sector in the industry.

8.2.1 Construction value added to GVPC: Measuring efficiency

Construction Value Added to Construction Gross Value of Production (GVP) ratio helps to depict the linkages of the construction industry with other sectors. Activity efficiency can be measured using different ratios, such as value added to total value of production, labor productivity, cost of raw materials to total value of production, etc. The share of the construction value added to the total GVPC has increased from 28.3 percent in 1996/97 to 31.8 percent in 2006/07 averaging 30.5 percent over the period as depicted in Figure 8.4. This is the maximum level attained ever and is quite below the 60 percent mark often regarded as fairly efficient in general production, particularly in labor intensive ones. This implies that only less than half of the total value of production goes to production factors, including labor, profit, capital (interest rate) and rent. The low value added to the construction gross value of production in the construction industry implies that a good proportion

of the GVP originates either from import or other economic sectors within the domestic economy, mainly the manufacturing sector.

Figure 8.4: Share of value added in total value of construction
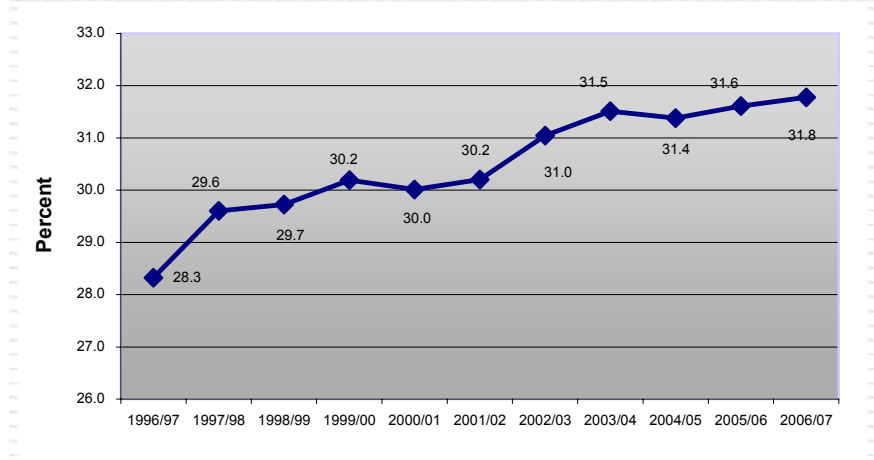
Source: Computed based on data obtained from MoFED

8.3   Employment Generation

According to the 1999 LFS, the total employed persons in the country were estimated at around 25 million, of which only 0.9 percent was estimated to be employed in the construction industry. Of the total employed population in the urban areas in 1999, the construction industry accounts for 4 percent. Of the total employed population in rural areas in 1999, the construction industry accounts for 0.5 percent. On the other hand, according to the 2005 LFS, a total of only 446 thousand workers were employed in construction activities (Table 8.5). This accounted for only 1.4 percent of total national employment. Though an improvement over the 1999 level of employment is witnessed, it is still quite marginal. Of this total employment, 41.8 percent was in urban, and the remaining in rural areas. Given the relatively less urban population (about 15 percent of national) urban construction employment is proportionally much higher. It figures about 5.4 percent of total urban employment (Table 8.5).

246

Table 8.5: Currently employed population aged ten years and over in construction industry by sex, urban and rural areas, 1999 and 2005 in ' 000

Industrial sector	Urban and Rural			Urban			Rural		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
1999									
Total employees	24896.6	14117.8	10778.8	2702.5	1458.9	1243.6	22194.1	12658.9	9535.2
Construction *	228.5	193.9	34.6	106.8	91.7	15.1	121.7	102.2	19.5
Share in total Employment (in %)									
Construction	0.9	1.4	0.3	4.0	6.3	1.2	0.5	0.8	0.2
2005									
Total employees	31435.1	16860.3	14574.8	3446.1	1838.3	1607.8	27989.0	15022.0	12967.1
Construction *	445.6	349.9	95.7	186.2	152.6	33.6	259.5	197.3	62.1
Share in total Employment (in %)									
Construction	1.4	2.1	0.7	5.4	8.3	2.1	0.9	1.3	0.5

* Excluding employees in the real estate

Source: CSA, National Labor Force Survey, 2000 and 2006

247

Construction work in developing countries overwhelmingly involves simple physical labor. This is the case in Ethiopia too. In 2005, only 7.19 percent of the employees are skilled (Annex 8.2). In terms of female -male, labour ratio, about 85 percent of the work force in the construction industry were males, while the balance were female employees in 1999.

8.4 Labor Productivity in the Construction Industry

Value added per person engaged in construction activity (a proxy for labor productivity) can also be used as another indicator of efficiency. As shown in Table 8.6, labor productivity according to the 1999 and 2005 Labour Force Surveys was only Birr 11600 and 12000 per person per year[80]. As noted above, this attributes to all factors, and what is left for wages and salaries is quite small, indicating the low productivity, hence inefficiency in construction. Moreover, compared to low income countries average, it is quite too small. For instance, as noted in a study made in 1998, construction output per employee in Ethiopia was only US $994.9, while the corresponding amount for low income countries average was as high as US $8507 (ILO, 2001), which is nearly 10 times greater. As noted earlier the fact that construction in Ethiopia is largely labor intensive, might contribute to this extreme low productivity.

Table 8.6: Labor productivity (value in '000 Birr)

Description	1999	2005
VA constant market price	2,641,471.8	5,352,933.3
Employment in the Construction industry	228,500	445,600
Value Added per Employee	11.6	12.0

Source: MoFED and CSA, 2000 and 2006 Labor Force Surveys

---

[80] It is calculated for these two years only since data on employment are available only for these two years

8.5   Revenue Generation

Similar to other economic activities, construction generates tax revenues, both for regional and federal governments. Revenues take different forms including corporate income taxes from real estate companies, rental income, capital gain tax and construction industry employees' income tax, and sales tax generated due to the direct and indirect employment effects of the industry. However, except rental income and building tax (and the latter is quite small) other tax categories are not collected by sector or sub-sector, hence difficult to identify for a specific sector like construction.

Revenue from rental income tax has increased from Birr 15.2 million in 1997/98 to Birr 78.3 million in 2004/05 but declined to Birr 32 million in 2005/06. Over the period, it has registered an average annual growth rate of 26.8 percent (Table 8.7). While the number of rented buildings has been increasing in the major towns of the country, the rental income tax collected has declined mainly due to the low tax collection capacity and low tax rate.

Table 8.7: Rental income tax, total tax and total domestic revenue, in million Birr

Description	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Rental income tax	15.2	16.2	51	48	46	52	53	78	32
Total tax revenue	5261.2	5591.6	6482.8	7440	7928	8243	10520	12398	14122
Total Domestic Revenue	8400.3	9453.2	10147.9	10577	10478	11150	13186	15592	19493
Share of Rental Income Tax (%)									
Total tax Revenue	0.29	0.29	0.79	0.65	0.58	0.63	0.50	0.63	0.23
Total Domestic Revenue	0.18	0.17	0.50	0.45	0.44	0.47	0.40	0.50	0.16

Source: Computed based on data obtained from MoFED.

The share of rental income tax in the total tax revenue and total domestic revenue averaged at about 0.51 percent and 0.36 percent per annum, respectively for the period 1997/98- 2005/06. This, by any measure, is very low when compared to the potential revenue that could be mobilized from the sector.

8.6   Exports of Construction Services

Evidently, much of the construction material inputs and engineering and architectural services for the construction industry of the country have been imported from the rest of the world. However, there have been export receipts from exports of construction services mainly from services rendered to foreign embassies and international organizations residing in the country.

According to Table 8.8 receipts from exports of the construction industry services have declined from USD 8.9 million in 1997/98 to a zero receipt level in 2002/3 and 2003/04 but it picked up since 2004/05. The export receipts from the service have been below 1 percent of the construction industry gross value of production (GVP).

Table 8.8: Construction services exports, (in million USD)

Year	Construction Services, Export Receipts	
	Receipts in million USD	**Growth rates**
1997/98	8.9	
1998/99	8.8	-1.4
1999/00	7.6	-13.8
2000/01	5.8	-22.8
2001/02	0.8	-86.9
2002/03	0.0	-100.0
2003/04	0.0	
2004/05	5.8	
2005/06	12.8	118.7
2006/07	12.8	-0.1

Source: Data Obtained from NBE(Various Reports)

250

8.7   Performance of the Major Construction Sub-Sectors

8.7.1 Road construction

Road construction is the major sub sector which takes the lion's share of construction expenditure on the construction industry. The share of road sector expenditure in the total government construction expenditure was 49.5 percent, 44.5 percent and 48.4 percent in 2003/04, 2004/05 and 2005/06, respectively, overall accounting for nearly half of the expenditure of government expenditure on construction. This was due to the high priority accorded to road construction in the country (Table 8.9).

Table 8.9:   Federal and regional government expenditure on construction in million birr

No	Description	2003/04	2004/05	2005/06
1	Government Construction Expenditure	4,726.20	7,004.40	8,451.40
2	Road Expenditure	2,339.50	3,114.10	4,088.00
Share of Road Construction (in %)				
3	**Construction Expenditure**	**49.5**	**44.5**	**48.4**

Source: Data obtained from MoFED. Data for total government expenditure on construction are obtained from national accounts department.

Between1997/98 and 2005/06, 3517 km of new asphalt roads were built with Birr 9.8 billion. This is equivalent to a yearly construction capacity of about 390.8 km of asphalt roads. In the same period, new gravel roads of 1,333.8 km (i.e., 148.2 km per year) was built at a cost of Birr 2.1 billion (Annex 8.3). Owing to the expanding road construction activities in the country, the road density has improved from its level of 0.46 km per 1000 population (or 24.14 km per 1000 square kilometers) in 1997/98 to 0.51 km per 1000 population (or 33.6 km per 1000 square kilometers) in 2005/06 (Table 8.10). Despite the recent effort road density in the country is still below that of the sub-Saharan

African average of 60 km/1000 square kilometers (PASDEP, 2007). This could be mainly due to the low initial road network in the country.

The share of expenditure on road construction and maintenance to the construction GVP has averaged at about 15.1 percent per annum during the period 1997/98-2005/06. This implies that a significant part of the construction GVP originates from the expenditure on road construction and maintenance (asphalt roads, gravel roads and rural roads) throughout the country (Table 8.10).

Table 8.10: Road expenditures ('000,000 Birr), construction GVP and road density

Year	Expenditure on Roads	Construction GVP at current market price	Expenditure on Road / GVP (in %)	Road Density/1000 population	Road Density /1000 sq. km
1997/98	1066.0	7,624.20	14.0	0.46	24.14
1998/99	1209.8	8,456.60	14.3	0.46	25.22
1999/00	1029.1	8,749.20	11.8	0.47	26.06
2000/01	1574.0	9,451.20	16.7	0.50	28.69
2001/02	1880.5	10,610.10	17.7	0.50	29.88
2002/03	2070.2	11,896.70	17.4	0.49	30.27
2003/04	2133.2	14,683.10	14.5	0.49	30.78
2004/05	2715.2	17,560.30	15.5	0.51	33.18
2005/06	3029.9	21,894.70	13.8	0.51	33.60

Source: Computed based on data obtained from ERA

8.7.2 Real estate development

It was during the imperial regime that the idea of the business of real estate development was started by the private sector (both for sale and for rental purposes). During the Derg regime, private real estate development either for sale or for rent was totally banned and privately owned real estate companies were nationalized and brought under state control. The transitional government of Ethiopia that came to power in 1991 re-opened the opportunity of developing real estate business by the private sector in 1992.

Although private investment in the real estate sector was allowed and encouraged since 1992, the surge in the number of businesses joining the real estate sub sector was seen in 2005/06. During the period 1992/93-2006/07, about 1,375 companies have been issued with investment licenses for the development of the real estates for residential and non residential purposes, of which 1274 (92.7 percent) were domestic investors and 101 (7.3 percent) were foreign companies. The total capital registered by all the real estate projects was about Birr 22.3 billion, of which 65.5 percent belonged to domestic investors while the balance 34.5 percent was from foreign investors (Table 8.11).

According to the information contained in Table 8.11, although the number of licensed investors is very large, those that became operational have been relatively low. Only 62 projects, i.e., 4.5 percent of the total licensed real estate developers were operational during the period 1992/93-2006/07, with a corresponding capital of Birr 1716.3 million.

In fact, the actual number of operational real estate projects may be more than the one indicated by EIA since licensed inventors may or may not report the status of their project to the Agency. Nonetheless this very low operational status could be due to either the high investment requirement of the business or low access to credit due to domestic banks' reluctance to lend money for real estate development, especially for residential buildings.

As noted above, of the total real estate projects approved by the Ethiopian Investment Agency (EIA), those that became operational were insignificant. This was mainly due to many factors: most developers try to get licenses first and then try to secure land and finance for development which often takes a long time; many investors acquire licenses not for actual real estate development, but for land speculation; and lack of coordination between investment licensing and land administration public bodies.

Table 8.11: Real estate development projects by ownership type (1992/93- 2006/07)

Ownership		Licensed Projects	Operational Projects
Domestic investors	Number of Projects	1,274	56
	Share in the total No of projects (%)	92.7	90.3
	Capital, in million Birr	14,627.90	1,407.4
	Share in the total capital (%)	65.53	82.0
Foreign inventors	Number of Projects	101	6
	Share in total No of projects (%)	7.35	9.7
	Capital, in million Birr	7,693.41	308.9
	Share in the total capital (%)	34.47	18.0
Total	Total Number of Projects	1,375	62
	Total Capital, in million Birr	22,321.33	1,716.3

Source: Computed based on data obtained from EIA

The fact that some investors are getting investment licenses without providing tangible financial resources is a serious concern. The 30 percent bank deposit requirement by licensing public bodies to evaluate the capability of the investor is unreliable since such deposits could be mobilized in one way or another. Hence there is a need to ensure that bank deposits be kept in block accounts till project implementation starts.

Most residential real estates companies target the upper income group and the Diaspora. This trend has excluded middle income and low income groups. Since the proportion of the high income group is small and in view of the growing number of expensive real estate developers the demand for expensive residential buildings might saturate in the near future and may lead to loan repayment problems. Thus, a construction policy that encourages the development of a real estate mix for all segments of the population need to be put in place.

The expansion of the residential real estate industry emanates from the demand side, especially the demand for housing by the Diaspora. Urban land for housing has become too expensive. In fact, the reason behind the ever-increasing land lease rate and prices of houses in Addis Ababa remained unexplained. There is no reason why the value of houses should be as high as in developed economies in a country suffering from poverty, very low labor and land productivity, underdeveloped industrial and service sector. According to the Global Insight/National City Corporation Joint Venture December 2005 third quarter Report, for instance, the home price in Washington was $376,435 (Birr equivalent[81]3.3 million) and that of Dallas TX was $129, 632(Birr equivalent 1.14 million). However, the price quoted for 'similar' houses in Addis Ababa, ranges from Birr 2 million to Birr 3.8 million(Field Survey). Assessing the reasons behind such a high house prices in Addis Ababa would be an agenda for future research.

8.7.3 Construction of condominium shared houses[82]

Housing is universally considered as the second, most important essential human need after food. A report published in 2004 indicated that there was a housing backlog of about 250,000 housing units in Addis Ababa alone (Addis Ababa Housing Development Project, 2004). The problem is exasperated by

---

[81] Exchange rate used here 1 US = 8.8 Birr in 2005.
[82] This section heavily draws on the Housing Development Project Office. 2004. The Addis Ababa Grand Housing Project, Addis Ababa, May 2004

the increasing rate of new household formations. In order to alleviate the housing problem in the city by constructing condominium houses, the Addis Ababa city government has designed a Grand Housing Project in which redevelopment of the dilapidated inner city is given emphasis. The Housing Development Project Office and the Housing Agency were established to replace one-third of the inner-city dilapidated houses per year and transfer to residents at a subsidized rate. The main target groups are tenants residing in Kebele houses, which make up almost 90% of the inner city housing units. However, households and families, to be resettled due to projects of strategic investment, land development and core area lease operations, will also have priority since the finance for the project is mainly generated from these operations. Moreover households and families, to be resettled due to access opening projects in Right Of Way (ROW) clearance areas, will have second priority, to avoid disruption of these already planned projects. The Grand Housing Project anticipates on site relocation for the inhabitants of Kebele houses, who mostly cannot afford to build their own homes. The project is designed so that step-by-step interventions allow for on site relocation except for the first phase resettlements, which will be relocated to sites as near as possible to former homes whereby the project is assured social acceptability. The Office intends to rebuild gradually the stock of the existing 150,000 Kebele-owned substandard houses in the period 2004/05-2006/07 at a rate of about 50,000 units per year, starting 2004/05.

For the city administration, the key problems of providing adequate housing are the difficulties in getting adequate investment fund. The main source of financing was expected to come from foreign long-term loans and grants and the establishment of a Housing fund where the return on the initial financing will lead to a sustainable revolving fund. The local contribution or matching fund comes from the City Government's budget, particularly the revenue from land lease. The other financial source is the direct sales or down payment of the houses to be built and transferred to a potential buyer where the money is to be put into a revolving fund scheme.

According to the Housing Development Project Office (2004), the potential clients of the housing units were identified to be those with monthly income of over Birr 750. This group constitutes about 11 percent of the total inhabitants of the city and can afford to pay 20 percent of the construction cost of condominium houses. About 14 percent of inhabitants were with monthly income ranging from Birr 450 to Birr 750 and can afford to pay 10 percent of their salary. The housing problems of the rest of the inhabitants are assumed to be addressed through the rental options.

The project has planned cross subsidy. Commercial units of the condominium houses are expected to be sold on cash payment on auction at a higher price while the residential units to be transferred either on cash sale, rent purchase (with or without down payment), or rent only depending on the income of residents in Kebele houses.

Although the plan of Addis Ababa's city administration was to build a total of 150, 000 houses which is 50, 000 condominium housing units per year starting from 2004/05, the performance in the same year was not encouraging as only 12, 000 housing units (8 percent of the plan) were built and transferred to urban dwellers (Table 8.12). Various factors have been attributed to it, including the confusion following the May 2005 election, escalating construction material prices, and ambitious plan disregarding the reality on the ground in terms of the availability of raw materials, production capacity of domestic industry and skilled manpower availability.

According to the survey, the condominium houses are of lower qualities due to the limited contractors' experience and the utilization of cheaper construction raw materials in building of the houses.

Building low cost houses for the urban poor have been the case in other African countries as well. According to Adebayo (undated) due to the urbanization and population growth and the resultant acute shortage of housing, many governments have prioritized housing among other national needs.

257

Table 8.12: Number of condominium houses constructed in 2004/05 - 2006/07

Construction Period	No. of Site	No. of Block	Number of housing unit by type						Remark
			Commercial house	Studio	one bed room	Two bed room	Three bed room	Total	
2004/05 – 2005/06	102	954	1734	5970	11239	11715	1730	32388	Only 12,000 housing units completed and the remaining need finishing work
2006/07	13	1100	3300	6600	13200	6600	3300	33000	Around 458 blocks are in good progress

Source: Addis Ababa housing Project Office 2007

Similar weaknesses observed in the condominium houses construction and delivery in Ethiopia has also been witnessed in other African countries. For instance, South African experience proved that both traditional private and public sector programmes have failed to provide shelter in adequate volumes at prices the poor can afford (Adebayo and Adebayo, 2000) quoted in Adebayo (undated).

In South Africa, construction in the housing sector has been criticized for poor quality of product, with a number of reasons to explain this shortfall, among them the relative newness of the housing delivery mode, use of emerging contractors with relatively limited experience in the construction sector, and

258

the general lack of rigor associated with implementation of low-cost housing projects. On the other hand, beneficiaries of such housing have been unable to achieve consolidation on account of low incomes, and lack of access to economic opportunities and credit. In the area of skills transfer, the scale at which women have benefited in this respect has been limited, given the magnitude of housing construction that has taken place. These factors, which collectively challenge the sustainability of the construction growth triggered by the housing sector, have proved to be a reality, not just in South Africa but also in Kenya, Tanzania, Mozambique and Zambia among others Adebayo (undated).

As clearly indicated the grand housing project's second most important objective was generation of employment opportunities for the city's youngsters and testing of TEVT on the ground. In this regard, the total employment generated by the program in 2004/05, 2005/06 and 2006/07 were 43.9 thousand, 57 thousand and 11.8 thousand respectively totaling 112.8 thousand. From the total number of employees in the project, female employees constitute more than half in 2004/05 and 2005/06(Table 8.13).

According to the Addis Ababa housing project office, in 2006/07 the A.A. City Administration has planned to build 33,000 new houses in addition to the completion of the 32,000 homes whose building began in the preceding fiscal years. For which, the Cabinet of the Caretaker Administration has allocated Birr 1.7 billion budget. Hence, this move seems to sustain the current trend in the construction of houses and generation of employment.

According to MOWUD, the experience of Addis Ababa City Administration condominium housing construction will be scaled up and rolled out to other major towns in the country in order to mitigate the housing problem and reduce the level of unemployment in the country. In this connection, MOWUD has set a four-year plan in 2006/07 in which 400,000 homes are going to be built in 70 towns across the country with a total budget of Birr 24 Billion.

Table 8.13: Employment generation of condominium shared houses, Addis Ababa

No	Construction Period	Permanent		Temporary		Total		Total Employee
		Male	Female	Male	Female	Male	Female	
1	2004/05	7,839	1,436	12,321	22,347	20,160	23,783	43,943
2	2005/06	9,650	1,770	13,673	31,905	23,323	33,675	56,998
3	2006/07							11,827
	Total							112,768

Source: Addis Ababa Housing Project Office, 2007

Construction activities have continued to flourish in the country in the last few years, mainly due to the huge infrastructure projects undergoing by government including major road, telecom, and power, condominium house building, increased real estate development, growing construction works due to increased investment in social, the manufacturing, and service sectors in the country.

According to survey results, the major factor underpinning the recent performances in the construction industry includes, increased access to credit facility, increased allocation of land for construction activities, the out look of the people on land and house that their price is ever increasing, the presence of huge backlog of residential housings in urban centers, increased number of Diasporas on housing construction and the continuously depreciation in purchasing power of the Birr led to holding of real asset.

The performance of the industry, however, is constrained by problems and challenges the industry has been facing, namely; the difficulties in accessing land, sub-standard quality of construction raw materials and hence construction output, limited access to finance, widespread corruption, huge cost and time overrun, lack of periodically amended rules and regulations of the industry, absence of Construction Industry Policy and lack of effective rules and regulatory mechanisms that help ensure compliance of various actors in the construction.

Chapter 9

Domestic Construction Capacity

9.1   Evolution of the Industry

The evolution of modern construction industry in Ethiopia is a recent phenomenon and can generally be summarized into four distinct periods (MEDaC, 1999). The first period covers the period prior to the year 1968 when most civil works (including roads) were carried out by foreign contractors through international competitive bids. Relevant skilled manpower was also largely employed from abroad. These contractors did not help in retaining local capacity; hence the establishment of indigenous construction contractors had generally been impeded.

The second era in the development of the construction industry in Ethiopia was that spanning the period 1968 -1982 when some small domestic contractors started to emerge. In order to build capacity and enhance their competitiveness, the government took initiatives to help contractors participate in the construction of feeder road projects. In this connection, three domestic contractors can be mentioned: BERTA Construction Company, national engineers and contractors (NEC) and the Ethiopian building road construction (ETBRC).

The third period in the evolution of the industry was the period of the Derg regime which had brought the then evolving domestic private construction companies under state control in 1982. In addition, state-owned construction companies were established. It was regarded as the lost opportunity for the creation of a competitive construction industry in the country. Over this period government increased the building capacity of the Ethiopian Road Authority

(ERA) and monopolized the road construction activities. Construction projects were carried out without competitive bidding by awarding contracts directly to government construction companies.

The fourth period begins from the time the EPRDF-led transitional government of Ethiopia took power in May 1991. Economic management has shifted from command to a free market system and various reform measures aimed at promoting the private sector including private construction companies have been introduced. As a result, the role of private contractors in the industry has started flourishing while that of public companies diminishing since 1991.

Basically, domestic construction capacity refers to the potential construction volume/value that could be undertaken by domestic construction companies in a given period of time. This, in turn, depends on number and quality of machinery and equipment that is available, and skilled manpower, ranging from design to supervision. This chapter attempts to provide a summary of the available capacity of construction firms including foreign contracting companies.

9.2   Machinery and Equipment

9.2.1 The stock of machinery and equipment

One indicator of the construction sector capacity is the number and quality of machinery and equipment that might be available for construction activities locally. There were about 6,073 construction machinery and equipment in the country up to 2007 including machinery and equipments of ERA and Oromia Rural Road Authorities (ORRAs). Information is not available on the number of Regional Road Authorities' (RRAs) machinery and equipment except Oromia where we have 217 operating earth moving machinery and equipment as of 2007. Of the total machinery and equipment available in the country as of 2007 18.1 percent, 27.3 percent and the balance percent

belong to the rental companies, contractors and governments (including ERA's 2856 and Oromia 217) respectively (Table 9.1).

The total number of machinery and equipment available for construction activities is very low given the capital intensive nature of the industry and the rising demand for the machinery. Besides, as shown in Table 9.1, a significant number of the stock of machinery (45.8 percent) is 11 or more years old and requires frequent maintenance. Hence, the capacity of the industry in terms of available operational machinery and equipment is limited.

Table 9.1: **Available construction machinery and equipment by manufacturing year**

N0	Year Interval	Quantity of Machineries By Ownership Type			Total
		Contractor	**Rental**	**Government***	
1	1952 - 1956	2	-	1	3
2	1957 - 1961	8	1	-	9
3	1962 - 1966	11	3	3	17
4	1967 - 1971	24	10	5	39
5	1972 - 1976	56	21	11	88
6	1977 - 1981	98	49	42	189
7	1982 - 1986	101	59	59	219
8	1987 - 1991	194	95	58	347
9	1992 - 1996	235	213	16	464
10	1997 - 2001	404	190	27	621
11	2002 - 2007	524	458	22	1004
	Total	**1657**	**1099**	**244**	**3000**

Source: MOWUD

*government machinery here excludes machinery and equipment of Ethiopian Road Authority and Regional Road Authorities.

Of the total machinery and equipment registered at MOWUD, only 54.2 percent are 10 years and less while the balance are aged 11 to 50 years (Table 9.1). This means these machineries have not been providing the

service expected of them and they have been experiencing frequent failures while rendering services. This, in turn, has been giving rise to delays in the completion time of construction projects and claimed additional budget. Besides, these old machineries embody backward technology, demand spare parts, consume more intermediate inputs (fuel and other inputs), and hence are less efficient.

The percentage of relatively new machineries (10 year and less) out of the total machineries owned by contractors, rental companies and government are 56 percent, 59 percent and 20.1 percent, respectively, witnessing government owning of the majority of obsolete machineries and equipment among the three groups (Table 9.1).

The major problem in this regard is the obsolescence of the Machinery and Equipment that operates in the country. The number of available machinery and equipment in the industry when compared with the potential construction demand has been very low. Some key machinery types are not available in sufficient quantity in the country and hence are substituted by the less effective machineries. Besides, most machineries and equipment, including those recently imported are obsolete, which often require the importation of spare-parts and heavy maintenance. The price of new machineries is beyond the reach of individuals since they do not have access to long-term credit for machinery purchase.

9.2.2 Machinery and equipment of public construction enterprises (PCE)

The evolution of public construction companies date back to the Derg period where most construction activities were undertaken by these companies. With the coming into power of EPRDF these companies have been dismantled and restructured into public enterprises so that they generate their own income. There are nine public enterprises which are engaged in construction activities in the country. Two of them Transport Construction

Design Enterprise (TCDE) and Building Design Enterprise (BDE) are those in construction-related consultancy services.

The machineries and equipment of the seven public construction enterprises are depicted by the following pie chart. As shown in the pie chart (Figure 9.1), the majority of the machineries they own, 43 percent are dump trucks, followed by dozers, loaders and rollers with 14 percent each. In general, the enterprises have a very small number of machineries and equipment that are needed for construction activities.

Figure 9.1: Machinery and equipment of PCE
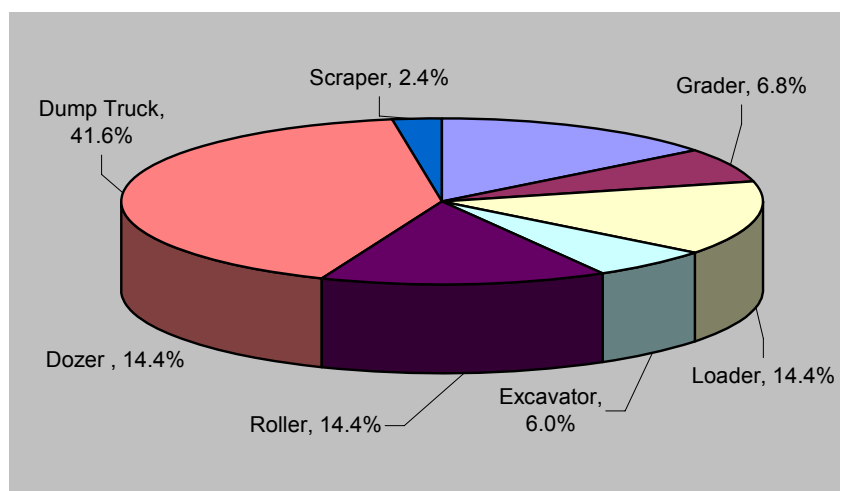
Source: Privatization and Public Enterprises Supervising Agency
NB: - Here only functional and machinery under repair were included

Of the total machinery and equipment the public construction enterprises, Batu Construction Share Company takes the highest, 91 (36.4 percent) followed by Awash construction Share Company 42 (16.8 percent). The remaining enterprises own very few machinery and equipment thereby limiting their construction activities.

9.2.3 Trends in imports of earth moving machinery and equipment

Earth moving machineries and equipment are also important in construction activities. These equipment and machineries are not produced domestically and are imported from abroad duty free taking advantage of the investment incentives schemes for imported capital goods. According to information from Customs Authority much of the imports are second hand machineries and equipment from Dubai.

Imports of earth moving machineries have been increasing from time to time, especially since 2004/05. The total amount of money spent on importing of earth moving machineries and equipment in 2002/03 was estimated to be Birr 220.3 million. In 2006/07, however, the amount jumped to over Birr 2 billion depicting a dramatic increase in the amount of money that goes to import these machineries showing the increased construction activities in the country (Table 9.2).

Table 9.2: Import of earth moving machineries and equipment

Machineries	2002/03 Quantity import	2002/03 Value (M Birr)	2003/04 Quantity import	2003/04 Value (M Birr)	2004/05 Quantity import	2004/05 Value (M Birr)	2005/06 Quantity import	2005/06 Value (M Birr)	2006/07 Quantity import	2006/07 Value (M Birr)
Dozer	66	85.2	86	85.2	96	126.3	192	205.8	265	515.1
Grader	63	38.7	49	64.4	34	24.1	213	188.0	68	86.4
Loader	55	27.2	69	23.0	117	51.0	238	142.5	251	172.8
Excavator	176	45.3	84	52.4	294	46.7	277	155.3	317	284.4
Roller	78	24.0	85	58.0	94	13.2	258	111.5	204	98.1
Dump Truck		0			1383	172.9			1831	861.5
Total	**438**	**220.3**	**373**	**283.1**	**2018**	**434.2**	**1178**	**803.1**	**2936**	**2018.3**

Source: Computed based on data obtained from Customs Authority (CA)

The increased importation of machinery and equipment are believed to improve the country's construction capacity. According to information from rental Companies, the current rental rate per hour of the construction machinery and equipment is very attractive for investors to engage in the machinery rental businesses.

9.3   Construction Capacity of Contractors

The other construction capacity measure is the number and level of domestically operating national contractors. As per the available information there were about 2671 contractors in 2005/06, of which road contractors, general contractors and building contractors are 9, 1570 and 1092 respectively. As can be seen from Table 9.3, the majority (92.7 percent) of the construction contractors were those with low grades (5 to 10) whose annual construction capacity was only Birr 5 million and less. Another 5.2 percent are those with grade (3-4) and annual construction capacity between Birr 5 million and Birr 15 million while the balance (2.1 percent) are those with highest grade (1-2) with annual construction capacity of above Birr 15 million. This indicates that there are very few high capacity contractors (1-2) in the country. This calls for appropriate measures that strengthen the financial, technical and managerial capacities of domestic contractors so as to enable them to become competitive in the market.

Of the total registered contractors, only 1619(60.6 percent) have renewed their licenses in 2005/06. This shows that the number of active contractors is only 60.6 percent of the total contractors registered at MOWUD. Of the road contractors only 5 (or 55.6 percent), of the general contractors, 1021 (or 65 percent) and of the building contractors 593 (or 54.3 percent) have renewed their licenses in 2005/06. Those contractors who did not renew their licenses for the year 2005/06 may have totally gone out of business or have failed to meet some requirements. Thus, the registered number of contractors cannot be used as an effective measure of the domestic capacity.

267

Table 9.3: Number of registered and renewed contractors, by 2005/06

Grade	Number of registered contractors up to 2005/06				Number of contractors who renewed their licenses in 2005/06				Capacity
	BC	GC	RC	Total	BC	GC	RC	Total	
1-2	27	27	2	56	21	25	2	48	>15 million Birr
3-4	121	16	2	139	98	8	1	107	> 5 & < =15 million Birr
5-10	944	1527	5	2476	474	988	2	1464	<= 5 million Birr
Total	1092	1570	9	2671	593	1021	5	1619	
Share (in %)									
1-2	2.5	1.7	22.2	2.1	3.5	2.4	40.0	3.0	>15 million Birr
3-4	11.1	1.0	22.2	5.2	16.5	0.8	20.0	6.6	> 5 & < =15 million Birr
5-10	86.4	97.3	55.6	92.7	79.9	96.8	40.0	90.4	<= 5 million Birr

Source: Computed based on data obtained from MOWUD

Attempt is made to estimate the total construction capacity of contractors in Ethiopia. The total capacity is estimated by multiplying the average financial capacity of contractors by the respective number of contractors who renewed their licenses in 2005/06. Thus, the annual construction capacity of domestic contractors who renewed their license in 2005/06 is Birr 5,930 million, which is about 27.1 percent of the construction Gross Value of Production (GVP) for the same year (Table 9.4). This implies that the domestic construction industry was low enough to undertake the annual construction projects demanded in the country thereby necessitating the involvement of foreign contractors.

The other key players in the construction industry are construction consultants who undertake various construction design and supervision works. Both the number and expertise quality of these consultants in the country is very low. The available domestic expertise is far from meeting the

rising demands by the construction industry in the country. The shortage of such high level expertise domestically has been costing the country huge scarce foreign exchange.

Table 9.4: Estimation of the construction capacity of domestic contractors

Grades	Number of contractors who renewed licenses in 2005/06	Average annual capacity, in million Birr	Total Capacity, in million Birr
5-10	1,464	2.5	3,660.0
3-4	107	10.0	1,070.0
1-2	48	25.0	1,200.0
Total	1,619		5,930.0

Source: Staff Estimation based on data obtained from MOWUD

Between 2002/03 and 2005/06 the total number of registered consultants has been only 150 of which category 1-3, which are capable of undertaking high level consultancy services, are 37.3 percent; category 4-6 constitute about 62 percent and HBC (Highway and Bridge Consult) consultants constitute the balance which is less than 1 percent(Table 9.5).

Table 9.5: Numbers of consultants registered between 2002/03 and 2005/06

S. No	Consultants category	Number of consultants
1	1	2
2	2	4
3	3	50
4	4	30
5	5	56
6	6	7
7	3HBC	1
	Total	150

Source: Data obtained from MOWUD

Foreign construction consultants have mainly handled design and supervision works of many bigger infrastructural and building projects. In donor funded projects local consultants are generally associated with international consulting firms for both design and supervision works. Most domestic consultants consider that they are unreasonably disadvantaged by donor policies, which require experience on substantial projects experience that they cannot obtain by virtue of the same policy.

We can also look at the share of foreign and local contractors' engagements in the construction industry taking the road construction as an example. Of the total asphalt roads built for the period 1997/98 -2005/06, the average share for domestic and foreign contractors were 10.7 percent and 81.2 percent, respectively. This shows that the share of foreign contractors in the country's road construction has been extremely significant. This can be mainly attributed to the low capacity of domestic contractors to undertake road construction works. This, in turn, has foreign exchange implications on the country (Table 9.6).

During the period 1997/98 -2005/06, the total number of supervisors involved in the road sub sector service has been 138 of which 100 were domestic supervisors while the remaining balance were foreigners. The number of domestic road construction supervisors who participated in road construction projects in the same period was by any measure, very low compared with the potential construction activities and the infrastructure requirement of the country (Table 9.7). In addition, although the number of domestic supervisors has accounted for about 72.5 percent of the total number of supervisors in the road construction, the financial payment that was effected to domestic supervisors was only 27.5 percent. So, the lion's share of the payment for road construction supervision work went to foreign supervisors.

Table 9.6: Total roads construction by contractors, in million Birr

Year	Asphalt				Gravel			
	Force Account	Domestic Contractors	Foreigner Contractors	Total	Force Account	Domestic Contractors	Foreigner Contractors	Total
1997/98	-	-	-		-	-	-	
1998/99	-	-	2,602.4	2,602.4	-	73.8	-	73.8
1999/00	-	-	513.5	513.5	-	11.7	-	11.7
2000/01	-	-	-	-	-	-		
2001/02	-	-	172.5	172.5		332.7	-	332.7
2002/03	-	-	-	-	-	-	-	
2003/04	-	-	1,463.7	1,463.7		251.4	-	251.4
2004/05	510.6	523.8	1,392.6	2,427.1	-	816.6	552.2	1,368.7
2005/06	572.7	929.8	4,843.6	6,346.1	-	1,093.1	582.9	1,676.0
Period Total(1997/ 98- 2005/06)	**1,083.4**	**1,453.6**	**10,988.5**	**13,525.4**	**-**	**2,579.2**	**1,135.0**	**3,714.3**
Share (in %)	**8.0**	**10.7**	**81.2**	**100.0**	**-**	**69.4**	**30.6**	**100.0**

Source: Data obtained from ERA

* **N.B**: The above costs do not include the costs of design, feasibility study, EIA and Supervision of the Contractors.

As a result, governments have played both intervening and enabling roles to address these concerns. Various methods and strategies can be employed to ensure a reasonable market share for the local industry. These measures range from pre-qualifying contractors in terms of a contractor registration system to the granting of preferences for indigenous contractors.

271

Table 9.7: **Number of road construction supervisors and payments effected**

Years	Domestic		Foreign		Total	
	Number	Expense (in million Birr)	Number	Expense (in million Birr)	Number	Expense (in million Birr)
1997/98	8	19.913	0	0	8	19.913
1998/99	11	19.949	12	133.236	23	153.185
1999/00	4	5.275	1	10.722	5	15.997
2000/01	8	23.451	1	13.707	9	37.158
2001/02	15	10.975	2	12.773	17	23.748
2002/03	11	16.427	1	9.579	12	26.006
2003/04	8	8.779	6	60.529	14	69.308
2004/05	15	44.805	8	118.485	23	163.29
2005/06	20	104.339	7	138.146	27	242.485
Total(1997/98-2005/06)	100	253.9	38	497.2	138	751.1
Share (in %)	72.5	33.8	27.5	66.2	100.0	100.0

Source: Data obtained from ERA

It has been noted that the capacity of the domestic construction industry is weak and technologically backward. But, globally construction activities are becoming technologically advanced and very complex which demands higher and more sophisticated capacity. The existing contractors do not meet the required manpower and machinery. Moreover, the number of contractors involved in higher construction works such as roads, and dams is very low compared to the number of such projects the country is undertaking. Consultants are also very few and have low capacity to supervise complex projects. Hence, sustaining the current trend in the industry using the low domestic capacity would be difficult, unless the local capacity to carry out

construction, maintenance and rehabilitation works is strengthened. Thus, enhancing domestic construction and maintenance capacity would be critical and an important element to ensure the sustainability of the current trend.

The other limitation that constrained the domestic contractors is lack of the practice of outsourcing part of the construction works for specialized sub contractors. This could have helped to enhance the volume and quality of construction works. Moreover, the inability to create mergers among construction contractors due to the legal barriers has hampered the huge capacity that could have been created in the country.

9.4   Road Construction Capacity of ERA

The annual capacity of the Ethiopian Road Authority (ERA) seems to be improving over time as indicated by its rising annual construction capacity in million Birr (Figure 9.2). However, the per kilometer cost of road construction has also been increasing from time to time. Thus, the indicated increase in the capacity of road construction of ERA in monetary terms does not tell the real improvement of the capacity in terms of the length of kilometer of roads built by the Authority. Since, there is no data on the length and standard of roads built by ERA one cannot judge the trends in the capacity by looking only at the monetary value of the road constructed by ERA.

Figure 9.2: Annual construction capacity of ERA in million Birr
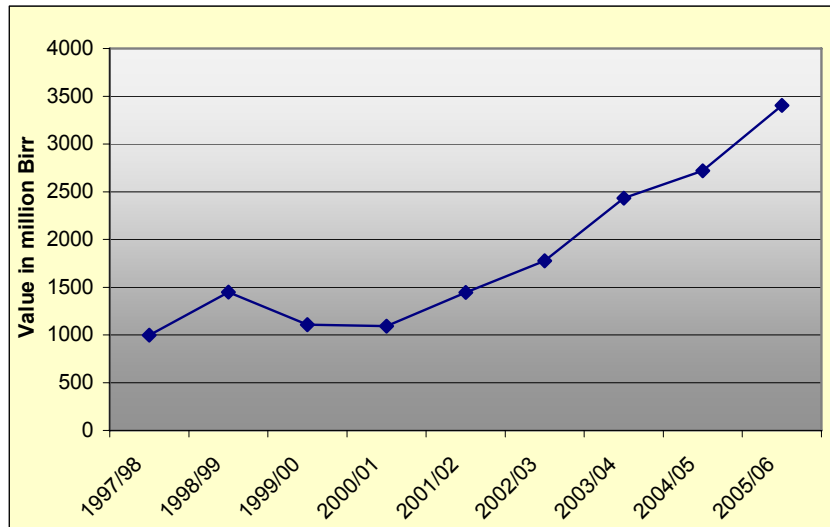
Source: ERA

9.5 Skilled Manpower Availability

The availability of manpower (both skilled and unskilled) is critical for the development of the construction industry of a country; and can serve as a measure of the domestic capacity of the industry. Generally speaking, unskilled labour is the most abundant resource while skilled one is the scarcest. The number of available Skilled and semi-skilled labor in construction is very low, particularly, given the size of the population and the demand.

9.5.1 Registered construction professionals

The Ministry of Work and Urban Development (MOWUD) registers construction professionals and grades them based on their level of education and years of service. Any contractor that wishes to receive a license is

required to fulfill the manpower and machinery requirements. In case of manpower the Ministry requires a registration card indicating the level of the manpower.

As of November 2006, the number of registered construction professionals (all levels including technical school graduates) has reached about 13,577. Out of these professionals 6,941 are Graduate Engineering aid & Engineering aid, 3903 are Graduate Associate Engineer & Associate Engineer, 209 are Graduate Architect & Professional Architect and 2,524 are Graduate Engineer & Professional Engineer (Table 9.8). This number is very low given the population size of over 77 million and the high demand for such professionals for the development of the industry and transfer of technology.

Table 9.8: Construction professionals registered up to November 2006

No	Profession	Number
1	Graduate Engineering aid & Engineering aid	6,941
2	Graduate Associate Engineer & Associate Engineer	3,903
3	Graduate Architect & Professional Architect	209
4	Graduate Engineer & Professional Engineer	2,524
	Total	**13577**

Source: Data obtained from MOWUD.

It should be noted that the registered number of construction professionals does not reflect the actual number of skilled manpower currently operating in the country. This is because some have been working in the industry without formally registering at the relevant public body; students are graduating from colleges and universities and joining the industry. In addition, of the previously registered professionals some might have left for other industries or even countries. Absence of time series data has limited any concrete trend analysis of the number of skilled manpower in the industry.

9.5.2 University graduates in construction professions

Another indicator of the availability of skilled manpower in the construction industry is to examine the number of graduates from higher learning institutions. Available data shows that the number of graduates in construction and related fields from universities and colleges is increasing. For the period 1999/00 -2005/06, the share of construction related graduates from the total graduates is about 3 percent. The average annual growth rates of all graduates from universities and colleges (all levels: diploma, undergraduate and post graduates), has been 16 percent while the growth in the university/college graduates in construction and related profession was 11 percent. Hence, the growth of the construction industries in the economy has not been matched by a proportionate increase in skilled manpower for the industry. In addition, as the industry gets sophisticated, it requires highly qualified manpower. However, the country has not yet reached a stage where it produces such high level professionals (Table 9.9).

Table 9.9: Share of construction and non construction graduates (%)

Fiscal Year	Graduates Share in %		Growth (in %)	
	Construction	Non-Construction	Construction %	All Graduates
1999/00	3.6	96.4		
2000/01	2.0	98.0	-34	19
2001/02	4.1	95.9	70	-16
2002/03	2.7	97.3	28	92
2003/04	2.3	97.7	19	39
2004/05	3.3	96.7	6	-26
2005/06	2.9	97.1	-20	-9
Annual Average	**2.9**	**97.0**	**11**	**16**

Source: Computed based on data obtained from Ministry of Education (MOE)

276

Between 1999/00 and 2005/06, on the average about 23,166 professionals have graduated from universities and colleges every year in all fields of study but only 711 (3.1 percent) graduated in construction profession every year (Figure 9.3). Within the construction and related fields of specialization graduates per annum, the highest average share (51 percent) were civil engineers while the lowest (0.8 percent) were those specializing in urban engineering (See Annex 9.1).

Figure 9.3:   Construction and related graduates (male and female comparison)
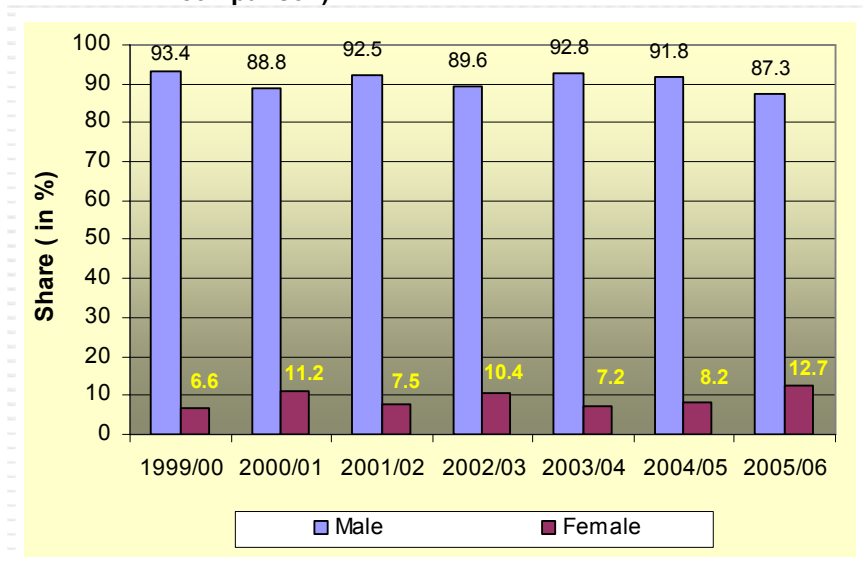
Source: Computed based on data obtained from MOE

Construction and related fields of studies are male dominated professions in Ethiopia as elsewhere. The share of female graduates at all levels (diploma, undergraduate, and post graduate), for instance, has ranged between 6.6 percent in 1999/00 to 12.7 percent in 2005/06 (Figure 9.4.). The trend shows improvement in the proportion of female graduates in the construction and related fields from year to year. However, the share of female graduates

277

decreases if one considers the completed grade. At post graduate level, for instance, there has been no female graduate up until 2004/05 and only two female graduates are reported to have completed their post graduate studies in 2005/06. This number is very low by any measure and requires appropriate measures to encourage female students to climb up the ladder of education in the field.

Of the total female graduates from colleges/universities in the country during 1999/00 – 2005/06, the average share of female graduates in the construction profession has been only 1.3 percent. This shows that the participation of females in the construction profession has been very low compared with their participation in other fields of study. The participation in the post graduate level in the construction field is the worst (0.3 percent). This result substantiates the dominance of males in the construction and construction-related professions (Table 9.10).

Table 9.10: **Comparison between female graduates in construction profession with total female graduates from colleges and universities**

Fiscal Year	Graduates in Construction professions	Total Graduates	Construction /total graduates ratio	Total post graduates	Post graduates in construction	Post graduates in construction total post graduates
1999/00	36	2,863	1.26	0	0	-
2000/01	40	3,854	1.04	3	0	0
2001/02	46	2,961	1.55	12	0	0
2002/03	81	7,285	1.11	25	0	0
2003/04	67	6,847	0.98	12	0	0
2004/05	80	6,982	1.15	37	0	0
2005/06	99	4,260	2.32	29	2	6.9
Average per annum	64.1	5007.4	1.3	16.9	0.3	1.1

Source: Computed based data obtained from Ministry of Education(MOE)

As pointed out earlier, huge infrastructure expansion plans have been launched in spite of the low domestic capacity in the country. Since the contraction capacity of the country is quite limited, foreign contactors have been hired for several large construction projects. For instance, several km of road construction is planned in the coming few years, which requires huge resource including human resource. This would require the use of several foreign experts since there is a limited domestic construction capacity.

Although labor is the abundant factor in Ethiopia it is only the unskilled one. The country does not have skilled manpower that can undertake the various construction works and transfer technology from the rest of the world in the field in sufficient number. Currently, the available skilled manpower is far from meeting the industry's demands. Therefore, foreign experts have been heavily involved in the sector draining the limited foreign exchange the country has. Since the country cannot afford to meet the ever increasing foreign exchange demand, the sustainability of the current trend remains a major challenge. Moreover, the skill acquired does not allow them to undertake sophisticated engineering works. Domestic skilled manpower has not been able to catch up with up-to-date technology. Though there is a growing trend in the number of semi- skilled labour, the demand for the highly skilled would remain unmet in the near future.

9.6   The Supply of Construction Raw Materials

9.6.1 Domestic production of the major construction raw materials

9.6.1.1   Cement

Cement is the major input for the construction industry. What happens in the cement industry determines what will happen in the construction industry in terms of both encouraging and discouraging effects.

279

a) Existing cement factories in Ethiopia

Currently there are three cement producing factories in the country, namely: Mugar Cement Enterprise, Messobo Cement Factory & National Cement (Dire Dawa cement) Share Company. Mugar and National/ Dire Dawa are public enterprises while Messobo is owned by an endowment. There has not been a single private cement producing factory in the country, mainly due to its huge investment requirement.

Since their establishment these cement factories have been supplying cement to the domestic market. However, due to the increasing construction activities and hence increased demand for cement, they have failed to satisfy the domestic demand. As a result, the price of cement per quintal has increased from Birr 42 in 1999 to more than Birr 205 in 2006 depicting a 388 percent increase over the reference period (see annex 9.3) The shortage and the escalating price have resulted in time and cost overrun in the industry thereby making projects not to be completed as per their schedule and budget. This, in turn, has reduced the services that would have been obtained had the construction been completed on time.

The current production capacity of the existing three cement factories is 1.75 million tons per annum. Mugger, Messobo and national cement (Dire Dawa cement) accounting for 50.1 percent, 48 percent and 1.9 percent respectively (Table 9.11).

Table 9.11: **Current production capacity of the existing cement factories**

No.	Name of the Factory	Production Capacity per annum (in ton)
1	Mugar Cement Enterprise	876,000
2	Messobo Cement Factory	840,000
3	National Cement Share Company	34,000
4	Total	1,750,000

Source: Data obtained from MOTI

Production of cement which was about 782.7 thousand tons in 1997/98 has reached   2,747.8 thousand tons in 2005/06 depicting an average annual increase of 22.6 percent over the period. The 2005/06 production size was above the production capacity due to expansion of the factories. The year to year growth, however, has been fluctuating witnessing a high decline in the production of cement in 2004/05 compared to its preceding year despite the continuous increase in the demand for cement in the country. The decline registered was mainly due to the breakage of machinery of the factories (Figure 9.4).

Figure 9.4: Growth of domestic cement production
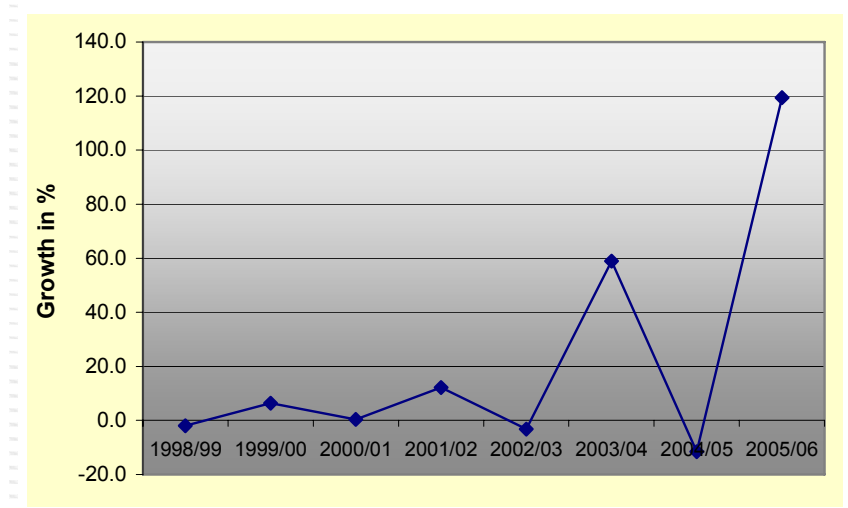
Source: CSA, LMSMI Survey (Various Issues)

b) Cement supply-demand gap

According to a survey conducted by MOTI, the demand for cement in the country in 2005/06 was estimated at about 4.7 million tons whereas the production of cement was 2.7 million tons, the gap being 2 million tons. This

indicates that the gap must have been bridged by import since otherwise construction projects which were unable to get cement would have been forced to postpone their construction activities to future years with cost implications. According to a survey conducted by Mugger Cement Enterprise demand estimate based on 1992 - 2000 historical growth rates shows, the demand for cement increases by 12 percent per annum. Since none of the newly licensed cement industries according to the schedule will go operational up until 2008/09, the demand –domestic production gap is expected to widen (Table 9.12).

Table 9.12: Cement supply-demand gap

Year	Demand, in tons	Supply Capacity, in tons**	Gap, in tons
2005/06	4,696,146	1,750,000	2,946,146
2006/07	5,259,684	1,750,000	3,509,684
2007/08	5,890,846	1,750,000	4,140,840

** If all three produce with full capacity
Source: Computed based on data obtained from Ministry of Trade and Industry (MOTI)

Owing to the ever widening domestic supply-demand gap, and the less likely immediate boosting of production domestically and the negative impacts related with delaying projects, the government has issued import permits, with restrictions on the minimum volume to be imported and sources of financing, which enable investors to import cement on Franco-Valuta basis in 2006.

b) New cement factories

Responding to the huge domestic supply- demand gap, a number of cement producing investors have started joining the cement production industry thereby raising the total number of cement factories in the country from 3 to 17 as of 2006/07. When the new factories join the existing ones in producing

cement, the domestic production will increase. This, in turn, will reduce the volume of cement import and hence save foreign exchange.

In 2009, of the 14 licensed new factories 10 are expected to go operational along with the existing three factories, thereby raising the total domestic production of cement to 10.1 million tons per year. With two additional factories in 2010, the total domestic supply is expected to reach 16.4 million tons. With one more additional factory in 2011, the total domestic supply is expected to reach 17.6 million tons(Table 9.13). The levels of productions expected from 2009 on wards will be more than the forecasted levels of demand. This situation may, in turn, force these factories to operate below their capacity or look for cement markets abroad.

Table 9.13: Expected cement production in Ethiopia, 2009-2011

Production year(G.C)	Production quantity (in ton per year)	Number of factories in production
2009	10,129,868	13
2010	16,465,083	15
2011	17,644,297	16

Source: Data obtained from MOTI, 2007

Note: Production size is estimated based on projects' annual production capacity and their production-starting year.

9.6.1.2   Production of iron bar and iron sheet

Another key input of the construction industry is iron bar and iron sheet. Despite an increasing domestic demand for iron bar and iron sheet, the growth of the domestic production has been fluctuating for the period 1998/99 – 2005/06. The demand for iron bar has been growing by 22.7 percent while for iron sheets by 44.5 percent per year over the review period. This is, however, far lower than the annual growth in domestic demand thereby necessitating import to bridge the gap (Figure 9.5).

Figure 9.5: Growth of Iron bar and iron sheet production
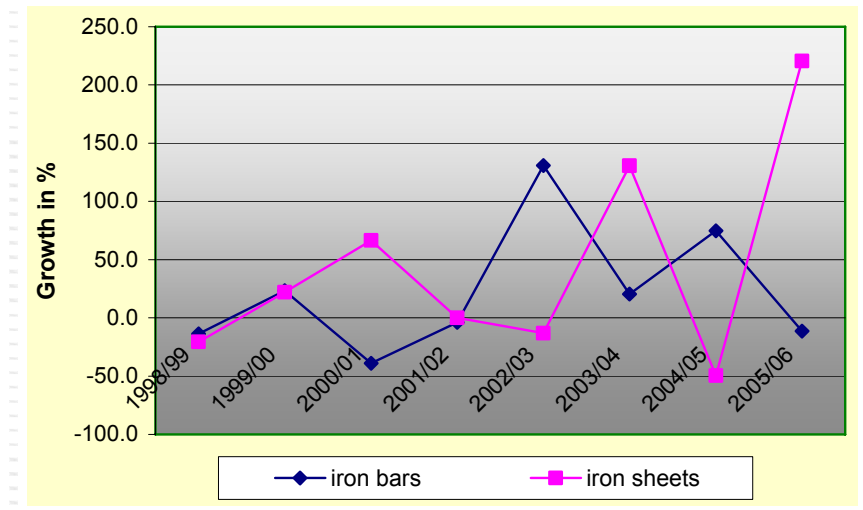
Source: CSA, LMSMI Survey (Various Issues)

9.6.1.3   Production other construction raw materials

The availability of other construction raw materials is one key determining factor for the development of the construction industry in a country. In this regard, the country has been producing mineral-based construction raw materials including stones, sand, gravel, lime stone, and marble for the domestic construction industry. The quantity of the overall raw materials has been increasing in the period 2002- 2005 responding to the increased construction activity in the country (See Annex 9.2). Although there are domestic productions of mineral-based materials discussed above, some, for instance marbles, are also imported due to insufficiency of domestic production and the need for better quality.

9.6.2 Imports of the major construction raw materials

9.6.2.1   Import of cement

The value and quantity of cement imported has been very low during the period 1997 – 2005. However, due to the issuance of Franco-Valuta permit in 2006 to import cement by companies that can obtain foreign currency, the volume of import has increased (Figure 9.6). Cement imported through Franco-Valuta has been made free from Value Added Tax (VAT) and surtax.

Figure 9.6: Value and quantity of cement import
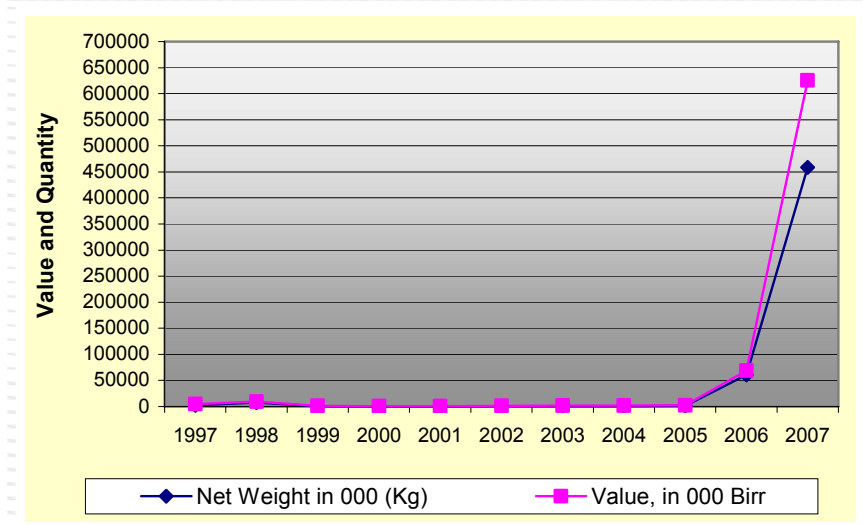
Source: Computed based data obtained from Customs Authority (CA)

The price (proxied by unit value) of a Kilogram of cement for the period 1997-2005 averaged about Birr 2.3 but it has declined to Birr 1.2 per Kilogram in the period since Franco Valuta took effect in 2006 thereby depicting a decline by 91.7 percentage points (Annex 9.4). The average price of a quintal of cement has been stabilized as a result of the permission of Franco-Valuta import in 2006.

The relative cheapness of imported cement compared with domestic cement price even after they have been carried over long distance as far distant as china incurring sea and land transport, loading and unloading costs is indeed surprising. Several reasons could be suggested: either production cost could be higher domestically; or profit margins are higher or domestic productivity is lower as compared to origins of imported cement. Solving of this puzzle requires an in-depth study.

Figure 9.7: Recent trends in average cement prices in Addis Ababa
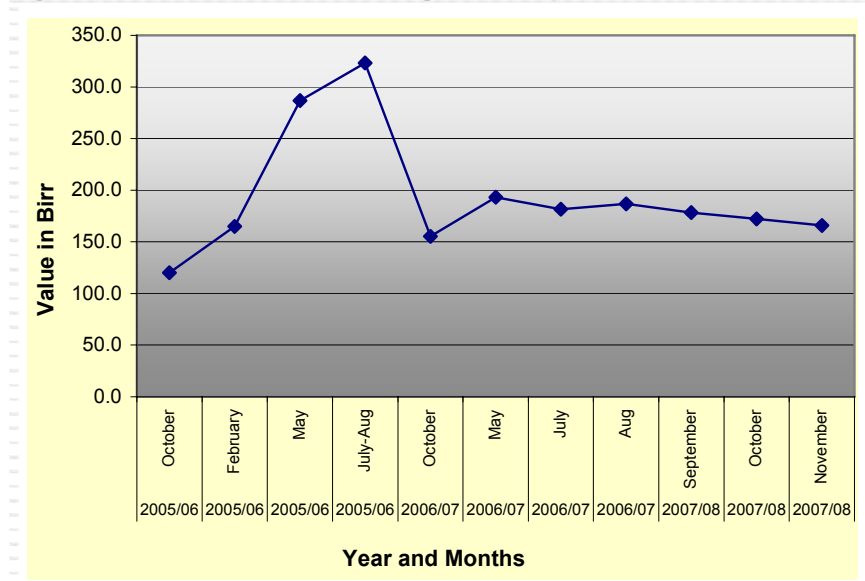
Source: Data collected from Field Survey, Addis Ababa

9.6.2.2   Import of iron bar

The quantity of iron bar imported has doubled in 2006 from its level in 2002. However, its price has more than tripled in the same period, mainly due to soaring international price for iron bar and steel. The unit value of iron bar

(total value of iron bar /total quantity imported) has increased from Birr 2.71 in 2000 to about Birr 6.33 in 2007 thereby depicting a 133.6 percentage point increase over the period. The increase in both the volume of iron bar and its price has serious foreign exchange implications on a foreign exchange constrained country, like Ethiopia (Figure 9.8).

Figure 9.8: Imports of iron bar, quantity and value
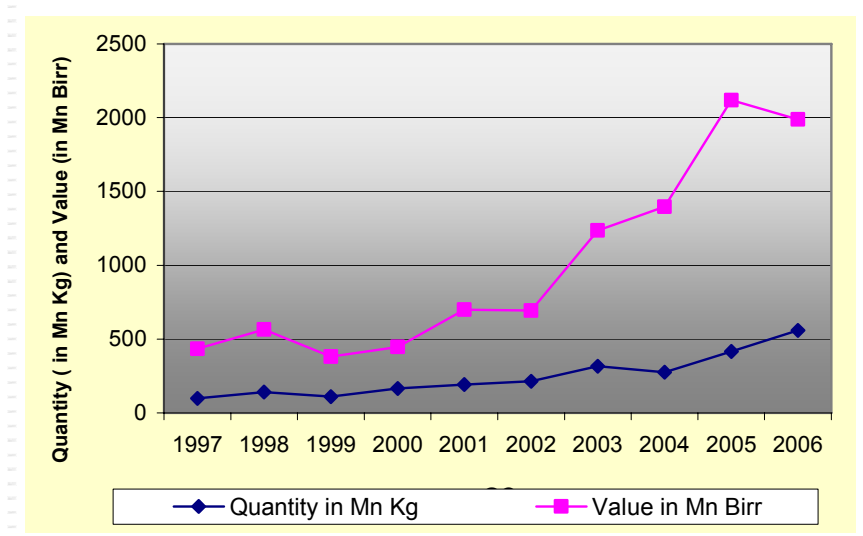
Source: Computed based on data obtained from CA

The industry has been suffering from shortage of Construction raw materials and escalation of its prices**.** The industry has been suffering from shortage of construction raw material to achieve the planned target in the industry. Shortage of raw materials has been one of the major factors which have been affecting the timely completion of construction projects in the country. Domestic production and supply of construction raw materials such as cement, iron bar and iron sheet, aluminum, glasses, etc have been far less than domestic demand, thereby resulting in widening gap and increasing price. This led to high imports of construction materials which led to

inflationary pressure since the international prices of cement, iron and metals as well as oil have been rising. Several construction activities have not been completed in time and are faced with high cost and time overrun. As a result, they have incurred additional financial cost and have taken longer time than initially planned. The existing few domestic construction materials producing enterprises have not managed to narrow the demand-supply gap adequately. Thus, the construction activity may not be sustained at its current level unless the price of raw material is lowered.

One of the crucial factors for the development of the construction industry of a country is access to financing. In the next chapter, attempt is made to examine the financing of the construction industry in detail.

Chapter 10

Financing of the Construction Industry

Construction activities in Ethiopia are generally financed by government budgets and private equity capital, NGOs and banks. Government budget finances public infrastructures and other public constructions such as schools, clinics, etc. Government budget consists of resources originating from government treasury, domestic borrowing and foreign loans and grants. The private sector, on the other hand, finances buildings for residential and business purposes. Private sector's sources of financing originate from own capital and loans from formal and informal money markets.

10.1 Financing of Public Construction Projects

10.1.1 Government budget

The total expenditure on construction activities from government budget has increased from Birr 4.7 billion in 2003/04 to Birr 7.0 billion in 2004/05 and further to Birr 8.5 billion in 2005/06 depicting an average annual increase of 34.4 percent over the period. The growth of the expenditure in the industry is higher when compared to the increase in capital expenditure (30.5 percent) and the total expenditure (20.3 percent) over the period 2003/04 -2005/06 (Table 10.1).

Of the total government expenditure and capital expenditure in 2003/04 the respective share of construction expenditure is 23.4 percent and 57.7 percent. The share, however, increased to 28.9 percent and 60.2 percent in 2005/06.

289

Table 10.1: General government expenditure, in million Birr

No	Description	1996	1997	1998
1	Construction expenditure	4,726.2	7,004.4	8,451.4
2	Capital expenditure	8,271.3	11,343.4	14,041.8
3	Recurrent expenditure	11,965.0	13,228.0	15,234.0
4	Total government expenditure	20,236.3	24,571.4	29,275.8
Share of Construction (in %)				
5.1	Capital expenditure	57.1	61.7	60.2
5.2	Total Gov. expenditure	23.4	28.5	28.9

Source: computed based on data from MoFED

Note: Data for total government expenditure on construction are obtained from national accounts department, MoFED. And data on the recurrent, capital and total expenditures are obtained from economic policy and management department, MoFED.

The share of construction expenditure in the total capital budget allocated to different sectors varies by sector. Though construction expenditure constitutes a significant proportion of capital expenditure in the indicated sectors, the highest share of construction expenditure (90.4 percent) has been allocated to the road sector while the lowest (12 percent) was allocated to the trade and tourism sector (Table 10.2).

Table 10.2: Share of construction in the sector's capital budget, 2002/03

Sectors	Share (in %)
Agriculture	70.2
Natural Resource	56.7
Mines & Energy	71.4
Industry	78.6
Trade & Tourism	12.0
Road construction	90.4
Transport & communications	89.4
Education	79.7
Health	69.5

Source: Computed by dividing expenditure code 6300 by total capital expenditure for each sector based on MoFED's 2002/03 audited report.

290

10.1.2   Extra-budgetary institutions

The construction expenditure of the Government parastatals is also very significant. Most of these public parastatals are non-budgetary and finance their investment from various sources, the major ones being loans obtained from both domestic and external lenders. Since obtaining data on each parastatal proved to be difficult attempt has only been made to show the case of the power generation and public large and medium scale manufacturing industries.

10.1.2.1   Investment in power generation

Ethiopia has been investing heavily in electric power generation in the different parts of the country in the last ten years. Of the total investment in the electricity industry, significant proportions have found their way into construction and construction related works. Although the share that goes to construction in the electricity industry fluctuates from year to year, the average share for the period 1997/98 - 2005/06 was about 56.5 percent (Figure 10.1).

Figure 10.1: Share of construction in total investment in electricity

	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Construction Share	12.0	0.0	51.9	68.9	96.4	95.6	95.4	6.4	81.5
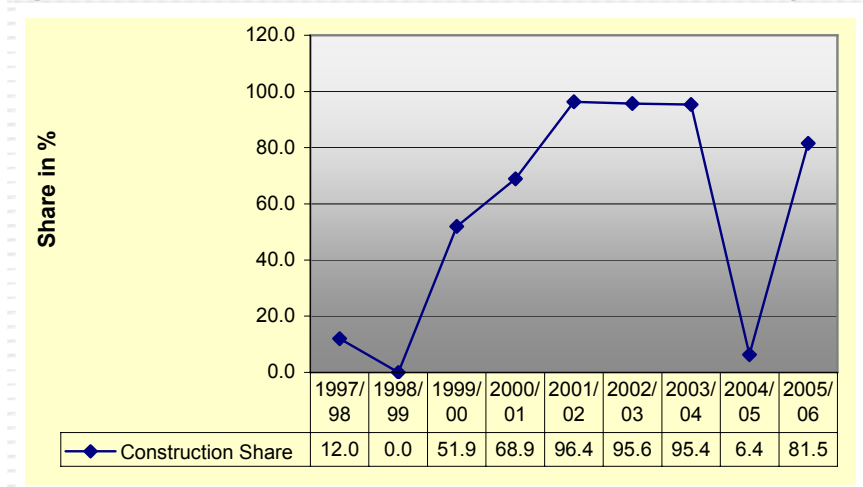
Source: CSA, LMSMEI Survey (various issues)

10.1.2.2 Construction investment in public manufacturing industries

Attempt is made here to see the total value of building and construction works in the public large and medium scale manufacturing industries. Evidence shows that a good part of the total public investment in the manufacturing sector has been the financing of building and other construction works. For instance, of the total value of fixed assets in the public large and medium scale manufacturing industries, the value of building and construction works has been in the range of 36.8 percent to 49.4 percent during the period 2000/01 – 2005/06 (Table 10.3). This investment was largely financed by bank loans.

Table 10.3: Share of construction in total fixed assets of large and medium scale public manufacturing industries

Description	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Value of Building and other construction works	1,274,360	1,160,811	1,018,882	1,075,648	1,066,101	1,310,524
Total Fixed Assets	3,025,067	2,994,085	2,770,751	2,561,642	2,665,797	2,653,547
Share in %						
Building and other construction works/ fixed assets	42.1	38.8	36.8	42.0	40.0	49.4

Source: CSA, LMSMEI Survey (Various Issues)

10.2   Financing of Private Construction Activities

10.2.1   Private residential housing construction

Addressing the existing and the growing enormous demand for shelter depends critically on the availability of long-term housing finance on a fairly large and sustainable scale. The central issues here are availability, affordability and accessibility of housing finance to households. Evidence indicates that a dominant proportion of housing finance in developing countries is accounted for by informal non-institutional sources. The informal housing financing system will remain a viable option at least for sometime in the circumstances of developing countries. But it has been increasingly argued nowadays that the development of a formal institutional housing finance system is indispensable for effectively addressing the quantitative and qualitative housing inadequacy problem [Okpala, 1994]. While integration of housing finance into the national financial system and market sourcing and pricing may be the desired goals, these will be very much in the long-term. The long-term development of sustainable institutional housing finance systems requires continued discrete and prudent roles for government to establish and to enforce an effective system of rules, regulations, safeguards and supervisory functions to monitor and prevent abuses. Some degree of support (subsidy) and incentives, albeit indirect, may even be necessary and advisable.

Private residential houses in Ethiopia are constructed through various ways. In the rural areas, the mode of construction is a bit different from urban areas. Rural communities bring their effort together (through 'dabo', 'jige') to build their houses. No material is required from external sources and every thing is colleted from the locality freely. In other words there are often no purchased inputs for construction and no payment for carpentry service. In urban areas, however, the material that is used to build a house is different from rural areas and, therefore requires financing for its construction.

Although there is no data which shows that actual sources of finance for own house construction in urban areas, one can safely conclude that most, if not all, private residential buildings are financed from own account. In other countries, especially developed ones, citizens have access to banks and other creditors to purchase residential houses. Indeed, it is such arrangements that had enabled many citizens in such countries to own private residential houses. However, one cannot rule out access to credits from the informal sector and supports from family and relatives. In some cases, at least recently, bank loans are also used to finance housing construction in limited cases.

Though it might have changed since then, one can also use the 1997/98 and 1998/99 CSA survey report on the sources of finance for construction activities for public and private enterprises (Table 10.4). Of the total investment in fixed assets of private construction enterprises about 78.9 percent and 67.3 percent of the source of fund have come from own fund in 1997/98 and 1998/99, respectively. From this it can be concluded that the owner's equity has been very important in the construction industry during the two years. However, currently due to the rising of cost of construction and improvement in access to bank credit, the share of owner's equity is lower than indicated in Table 10.4.

During the Derg regime some has access to bank loans, especially from business and construction bank, for own house construction was possible at a subsidized rate. At the time, the housing and saving bank, the now Construction and Business Bank(CBB) S.C, was granting long-term loans for residential housing and commercial building construction. Nonetheless, those who had access to the credit facility were those organized into house builders' cooperatives of public sector employees. Otherwise, the majority of the citizens have been denied access to bank loans and depended on their own capital to build their own residential houses. The bank has been administering special housing fund (IDA, IC, UNCDF, and FHLBB (bole Homes) which were channeled through the Ethiopian government (CBB, 2007).

294

Table 10.4: Investment in fixed assets of reporting construction enterprises by source and main construction activity (In %)

	Domestic Source				Foreign source	Grand total
	Own fund	Bank loan	Others	Total		
1997/98						
Private	78.9	12.7	8.3	100	0.1	100
Public	0.6					
Total						
1998/99						
Private	67.3	19.0	3.8	90.1	9.9	100.0
Public	2.2	0.1	97.7	100.0	0.0	100.0
Total	17.8	4.6	75.2	97.6	2.4	100.0

Source: CSA, Report on Contractors Survey 1999 and 2000

After the Derg regime collapsed, banks stopped extending credit to private house builders organized under housing cooperatives. As a result, almost all citizens including civil servants have been compelled to depend on their own capital for their housing construction. Those who have been building houses were households with sufficient finance, which, in turn, has led to building of fewer houses in towns.

But since 2004/05, cognizant of the housing problems in towns, government has started constructing subsidized condominium common houses in Addis Ababa. The city administration has used different modalities to transfer houses to urban dwellers. Among the modalities the major one consists of arranging long-term credit facility from the commercial bank of Ethiopia. According to the arrangement, the tenant is expected to pay a minimum of 7.5 percent of the estimated value of the house in down payment while the remaining payment is effected in 20 years through monthly installments.

295

10.2.2 Financing of business constructions

10.2.2.1 Bank credits to the construction industry

Customarily, banks disburse loans for the establishment or expansion of the construction projects upon appraising project proposals (feasibility studies) and securing sufficient collaterals. Although it varies from one bank to another, they customarily finance up to 70 percent of the total project cost for a medium term. The total credit disbursement of banks to the construction industry has rarely exceeded Birr 200 million per year up until 2001/02. But thereafter, it has started to shoot up reaching a maximum level of Birr 1.2 billion in 2006/07(Figure 10.2).

The banking industry is currently faced with a critical problem where the same investor obtains loans from different banks at the same time for the same project. This has led to serious repayment problems and legal complications. This was mainly due to the loose information exchange among lender banks regarding their clients.

Figure 10.2: Disbursement of bank loans for construction industry
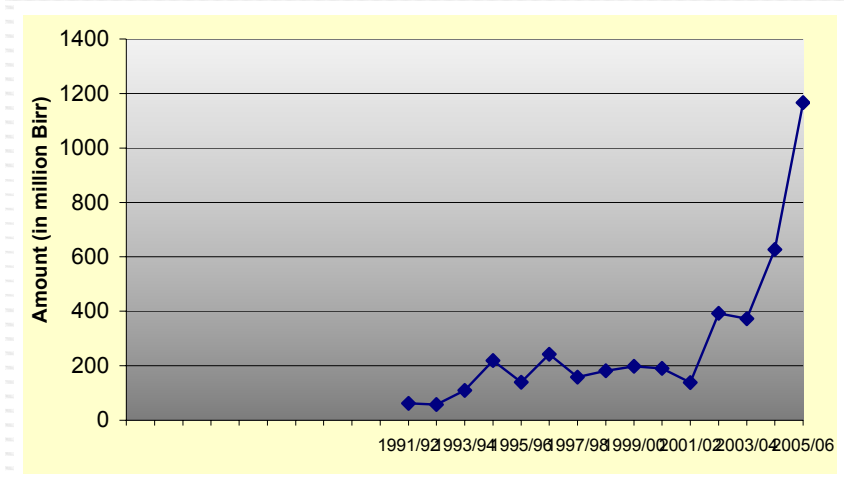
Source: National Bank of Ethiopia (various reports)

The share of the service sector loans have been the highest although declining over time if one examines the share of the different sectors in the total bank loans for the period 1998/99- 2006/07. Loans to the industrial sector come next. The agricultural sector and construction industry have been allocated more or less the same share throughout the period (Figure 10.3).

Figure 10.3: Sectoral share in the total bank credits
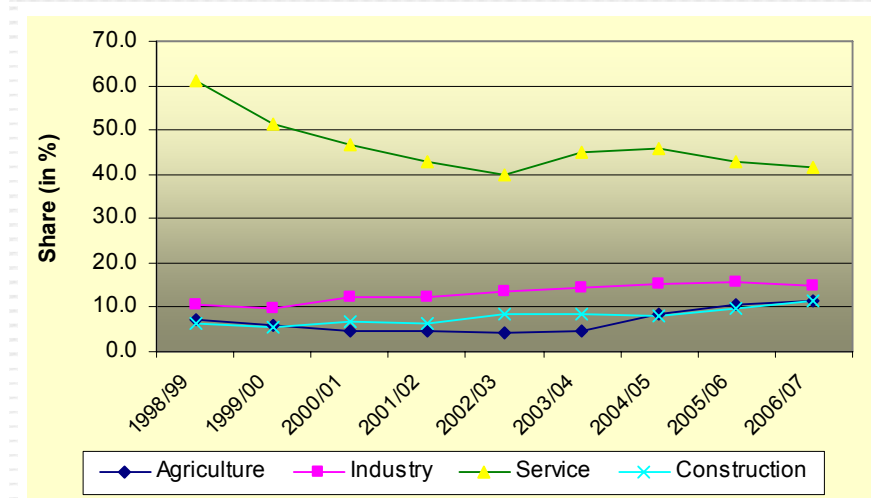
Source: National Bank of Ethiopia (various reports)

The annual Bank credit disbursed to the construction industry and the annual repayment seems to have been going hand in hand in the period 1991/92 – 2004/05, i.e., annual repayment seems to closely mimic annual disbursement except for the year 2005/06. In this year, repayment started to significantly deviate from disbursement mainly due to increased disbursement to the construction industry. This shows that there had been no significant repayment problems from the construction industry up until 2004/05 (Figure 10.4).

297

Figure 10.4: Disbursement and repayment of bank loans to construction industry
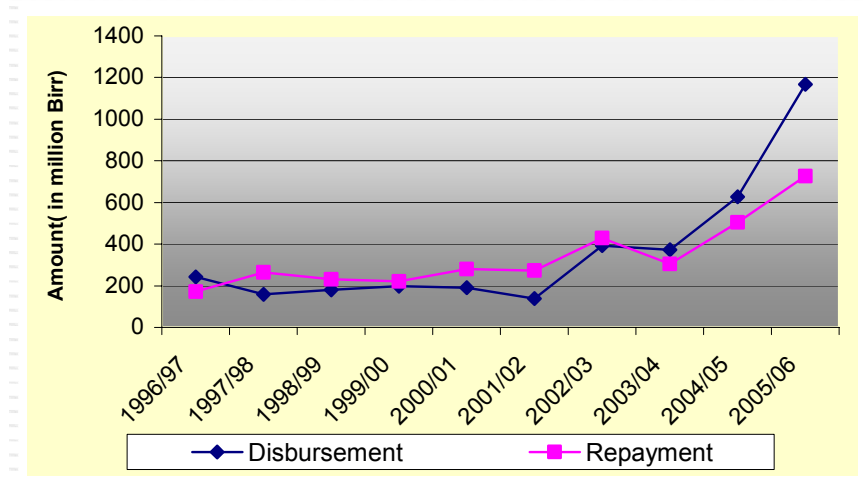
Source: National Bank of Ethiopia (various reports)

i) Construction credit from public banks

The share of service sector in the public banks loan has declined in the second half of the period (2002/03-2006/07) whereas the share of the other three sectors namely, industry, agriculture and construction have increased. Of the total public bank loans, the share of the service sector has declined from 50.3 percent in the first half (1998/99-2001/02) to 43.8 percent in the second half, while the share of construction, agriculture and industry has increased from 6.1 percent, 6.0 percent and 10.3 percent in the first half to 7.5 percent, 13.1 percent and 12.8 percent in the second half, respectively. This depicts that public bank loans have started shifting slightly towards agricultural sector (Figure 10.5).

298

Figure 10.5: Share of sectoral loans from public banks
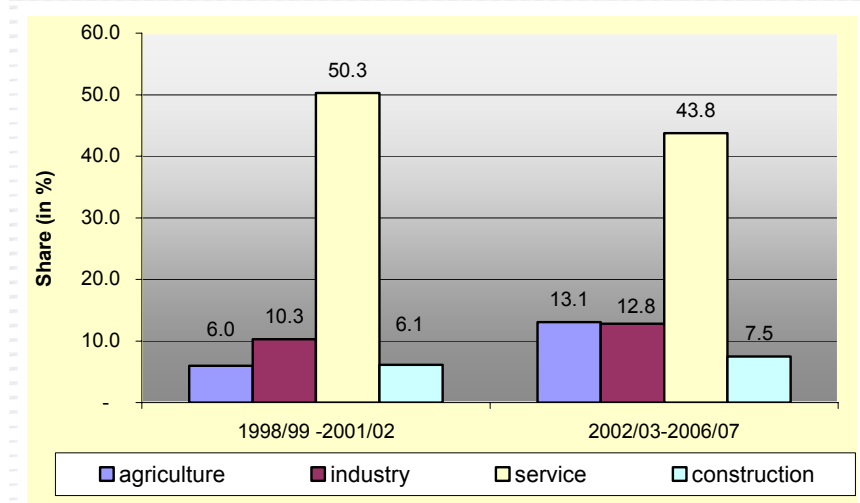
Source: Public Banks (CBE, CBB, DBE), Various Reports

With regards to the share of construction loans in the total loan that public banks extended, the role of Construction and Business Bank (CBB) has been quite significant providing over 80 percent of its total loan for construction activities for the period 2000/01-2006/07. Of the total loans disbursed by CBE, construction share, on average, has been only 6 percent and that of DBE was only 2.9 percent over the same period. In terms of the absolute size of loan disbursed, however, the Commercial Bank of Ethiopia (CBE) tops the other two public banks. This is due to the large loanable funds that CBE has compared to the other two public banks (Table 10.5).

299

Table 10.5: Total construction loans and its share in total loans, public banks

Banks		2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
CBB	Share in %	83.6	45.1	89.8	93.7	87.7	83.3	80.4
	Amount in million	17.4	18.0	58.0	94.0	191.4	350.6	277.1
CBE	Share in %	5.4	6.5	6.1	8.2	7.6	5.0	4.1
	Amount in million	541.7	667.7	578.8	682.3	620.1	480.6	383.0
DBE	Share in %	13.7	3.7	2.0	0.3	0.2	0.0	0.2
	Amount in million	27.4	40.2	1.3	1.0	1.0	0.0	1.9
Total		**586.6**	**689.7**	**638.1**	**777.2**	**812.5**	**831.1**	**662.0**
Share (in %)								
CBB		3.0	2.6	9.1	12.1	23.6	42.2	41.9
CBE		92.4	96.8	90.7	87.8	76.3	57.8	57.9
DBE		4.7	0.6	0.2	0.1	0.1	0.0	0.3

Source: Public Banks (CBE, DBE and CBB), Various Reports

With regards to the repayment of loans, the construction industry has registered the lowest compared to the other sectors during the period 1998/99 -2002/03 with a ratio of only 26.0 percent. Some improvements were registered during the period 2003/04- 2006/07 rising to a percentage point of 33.1. This low repayment by the industry is due to the long-term nature of the loans and the low revenue generation of the industry due to the low profitability in the face of rising construction cost and lowering office space rent (Figure 10.6).

Figure 10.6: Repayment to loan ratios of sectors in public banks
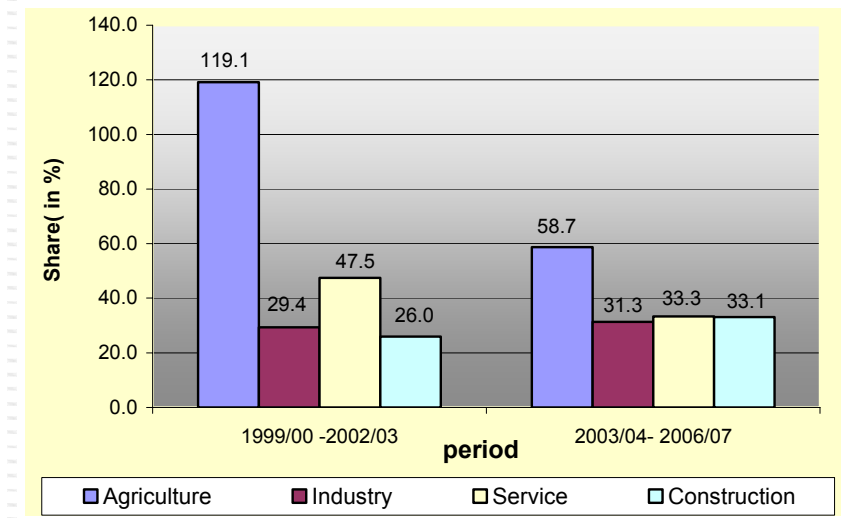
Source: Public Banks (CBE, DBE and CBB), Various Reports

ii) Construction credit from private banks[83]

Overall the share of the loan disbursed by private banks for service and industry has been declining while that of construction and agriculture has been increasing but very slightly. The share of the service sector, like in the public banks, has been declining, especially since 2002/03. This trend depicts that the private banks have shifted their emphasis towards the construction industry and agriculture (Figure 10.7).

---

[83] Private banks include, AIB, BA, WB, UB, NIB and DB

Figure 10.7: Sectoral shares of loans from private banks
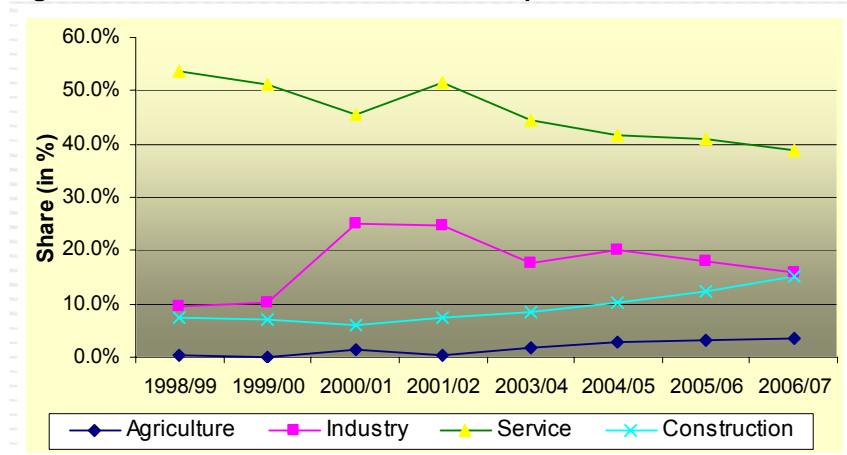
Source: Private Banks (AIB, BA, WB, UB, NIB and DB), Various Reports

The share of agriculture and construction has increased from below 1 percent and 7.11 percent in the first half (1999/00-2002/03) to about 3 percent and 12.5 percent in the second half (2003/04-2006/07) depicting an increase of about 211 percent and 75.3 percent, respectively while the share of industry and services has declined from 19.8 percent and 51.1 percent to 17.5 percent and 40.8 percent in the same period (Table 10.6).

Table 10.6: Loan disbursements by sectors, private banks

S. No	Sectors	1999/00 - 2002/03	2003/04- 2006/07	Growth Over the Periods (%)
1	Agriculture	0.98	3.04	210.74
2	Industry	19.81	17.49	(11.70)
3	Service	51.12	40.82	(20.15)
4	Construction	7.11	12.46	75.33
5	Others	20.99	26.19	24.78

Source: Private Banks (AIB, BA, WB, UB, NIB and DB), Various Reports

This shows that private banks have shifted their focus towards financing construction industry particularly urban business buildings in the second half (2003/04-2006/07) than during the first half (1999/00-2002/03) of the period 1999/00 – 2006/07. Thus, the booming of the construction activities, especially business buildings in urban centers of the country, is mainly attributed to the increased financing from private banks.

The average repayment rate of loans by all the sectors have increased from the period 1999/00-2002/03 to the period 2003/04 – 2006/07 except for the repayment by the construction sector. For instance, the repayment to loans ratio has increased from 31.7 percent to 52.3 percent for agriculture, 25 percent to 37.9 percent for industry, from 50.7 percent to 56.5 percent for service while it declined from 36.7 percent to 35 percent for construction (Figure 10.8). This could possibly be due to either the industry has not been generating the amount of revenue needed to repay its debt, or the loan extended is long term and hence the banks have not yet started collecting repayments. So, lending to the construction industry is becoming riskier than to other sectors.

Figure 10.8: Repayment to loan ratio of private banks (%)
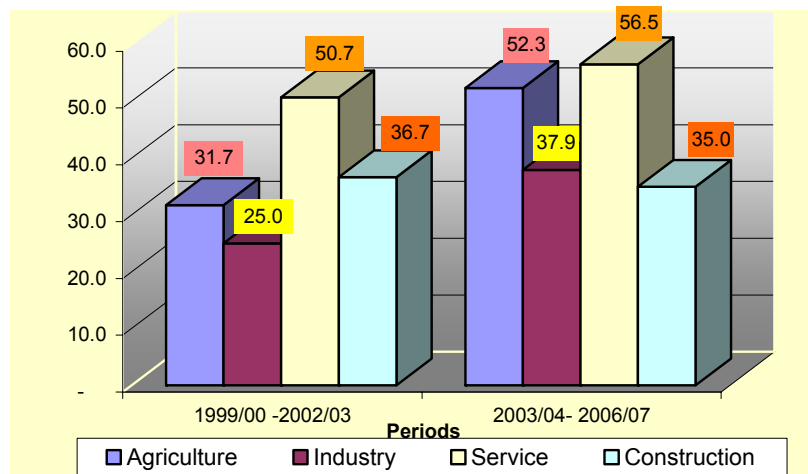
Source: Private Banks (AIB, BA, WB, UB, NIB and DB), Various Reports

iii) Comparing public and private banks

The absolute amount of loan extended by private banks for construction industry has been increasing and even has surpassed the amount that the public banks have extended to the industry despite their low capital and deposit mobilization capacity. The amount of loans extended to the industry by private banks has surpassed the amount disbursed by dominant public banks since 2004/05, thereby leading to the conclusion that the increase in building activities in the country is mainly due to the rising share of private bank loans than the public ones (Figure 10.9).

Figure 10.9: **Disbursement of bank loan for construction by type of bank**
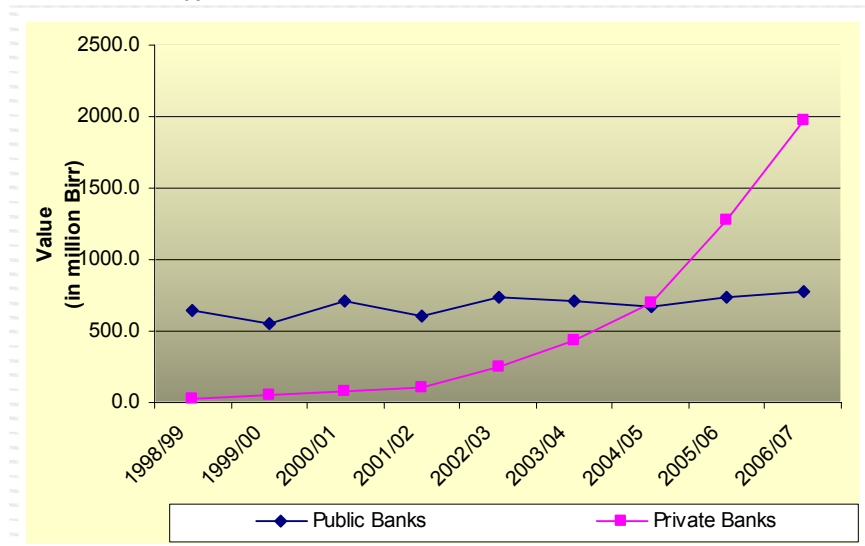
Source: Private Banks (AIB, BA, WB, UB, NIB and DB), Various Reports

10.3   Foreign Financing of Domestic Construction

10.3.1   Foreign direct investment

It is often difficult to say that FDI are financed solely by foreign sources since investors have access to credit from domestic banks to finance their projects. Thus, part of their finance emanates from domestic banking sources. Therefore, the financial investment made by foreign investors cannot be taken as totally foreign and may have been included in the banking industries credit for construction industry discussed above.

For the period 1991/92 - 2006/07 about 664 foreign investors have received investment licenses in the area of construction industry- real estate development, construction machinery leasing and other construction activities, of which about Birr 17.3 billion was registered to be invested. However, only 92 projects (13.9 percent) and Birr 2,387 million of the registered capital (or 13.8 percent) have gone operational during this period. This means, on average, only Birr 159 million (less than US 25 million dollars) foreign capital has been invested in the country every year in the review period (Table 10.7).

Table 10.7:   Number and capital of licensed and operational foreign investments in construction industry, 1991/92 - 2006/07.

S, No	Description	Total licensed	Operational	Operational/licensed ratio (in %)
1	Number of projects	664	92	13.9
2	Capital, in mil Birr	17,261.5	2,387.0	13.8

Source: Data obtained from Ethiopian Investment Agency (EIA)

305

10.3.2   External loans and grants

Official external loans and grants that have been used to finance projects are included under government expenditure. It is difficult to obtain data as to what percent of foreign loans and grants have gone to the financing of the construction industry. However, estimate can be made based on the share of loans and grants that have been spent on road construction. Though difficult to obtain data, it is clear that many development projects in the area of power generation, telecom, buildings of airports and projects designed to achieve MDGs in Ethiopia have been financed by foreign loans and assistances

For instance, of the total road construction expenditure about 41.5 percent have been from loans and grants, loans 28.4 percent while grant accounts for about 13.1 percent on average in the period 1997/98 -2005/06. This depicts how much foreign loans and assistances have been playing a determinant role in the domestic road construction and hence construction industry (Annex 10.1).

Although access to finance seems improving these days, the industry has continued to face limited access to finance**.** Construction is an expensive business to be financed solely by investor's own savings. The problem facing the industry in this connection is the low access to finance, especially for contractors, construction machinery leasing companies and residential real estate developers. Moreover, the loans that have been extended by banks for non-buildings for business have been facing repayment problems. There occurs also huge construction time and cost overrun due to mainly the doubling and even quadrupling of the prices of construction raw materials by increasing expenses more than initially depicted in feasibility studies. Thus, allocating sufficient financial resources for the construction sector is an important instrument for sustaining the current trend in the industry.

Chapter 11

Summary, Conclusions and Recommendations

11.1 Summary and Conclusions

The construction industry has both a direct and an indirect impact on a given national economy. It contributes to the national output and stimulates the growth of other sectors through a complex system of linkages. It contributes to employment and income creation for the population. It also contributes to government revenue through generation of corporate profit tax and employees income tax which in turn goes to finance public services such as schools and health institutions among others.

Similarly, the construction industry is making important contributions to the Ethiopian economy. The share of construction in the GDP has been rising and has reached about 5.6 percent recently. The construction industry employs a significant size of the population. The construction industry also contributes significantly to the generation of revenue for the government. The GVP of the construction sector has been increasing by more than 16 percent annually over time and has now reached nearly 30 billion Birr.

The value added (at constant market price) that the construction industry generates has increased from Birr 2. Billion in 1995/96 to Birr 4.5 billion in 2005/06 depicting an average annual growth rate of 8.5 percent over the period. Within the construction industry value added, the share of the residential construction, non-residential and other constructions are 42 percent, 30 percent and 28 percent, respectively. This shows the dominance of the residential construction in the industry.

The share of the construction industry in the Gross Domestic Capital Formation (GDCF) which was about 60 percent in 1996/97 has reached nearly 75 percent in 2002/03. This depicts that the greater proportion of capital investment in the country has been spent on construction activities. The share of the operational FDI in the Gross Value of Production (GVP) of the construction industry and the Gross Domestic Capital Formation (GDCF) averaged at 1.7 percent and 1.2 percent per annum, respectively for the period 1996/97-2006/07.

The domestic construction capacity of industry has been improving recently due to the increased imports of construction machinery and equipment, and increased trained manpower in the area of construction professions from universities and colleges.

Total expenditure on construction activities particularly by the public sector has increased significantly. The total credit disbursement of banks for construction activities has also been increasing over time.

10.2   Recommendations

In order to unravel the various problems and constraints the construction industry has been suffering from, the following recommendations are forwarded:-

❈   Taking into account the role that the construction industry plays in the economy, there is a need to design appropriate construction industry policy that encourages and facilitates the growth of the industry through providing an enabling environment in which viable construction activity might expand in quantitative and qualitative terms. This could encompass the establishment of the appropriate legal and regulatory framework for the industry, the provision of human resource capability and strategic project interventions.

❋ Strengthening the capacity of all stakeholders in the construction industry including public bodies, domestic contractors and consultants through various mechanisms will also be critical. Revising the commercial code that deters construction contactors from creating mergers is one such measure.

❋ Expand the quantity and quality of graduates in the field of construction and also encourage private sector to be engaged in construction education. Appropriate incentive could be useful to realize this objective.

❋ Establish specialized credit funds that serve only the construction industry and improve access to finance for the various actors in the construction industry, especially contractors, construction machinery leasing companies and residential real estate developers.

❋ Initiate the production of construction raw materials that were not produced before and increase the domestic production of the critical construction materials that have been produced in the country such as cement, iron bar and iron sheet, aluminum, glasses, etc.

❋ Establish construction industry research center that will undertake research on the industry and take it from its current low level development to advanced level. The research could include efforts to substitute imports of critical machinery and raw materials through domestic production. In addition, there is a need to establish and up-date the statistical database of the industry periodically at all possible level and dis-aggregation.

❋ Take strong measure to contain the widespread corrupt practices in the industry, and ensure compliance of the work done to the specified quality. There is a need for standardized specifications for civil and building works.

❋ Amend rules and regulations governing the industry periodically, taking into account the sophistication in the technology and the objective reality of the economy.

❋ Undertake, at least, macro level construction industry planning exercise that looks at the industry holistically including the total volume of major raw materials' requirement for the planned activities, the domestic availability, the foreign currency requirement for materials' import, the domestic construction capacity, etc.

❋ Put in place the appropriate environmental requirements for the industry and ensure the compliance of the industry to these environmental requirements.

References

Abebayehu Tegene and Wiebe, K. D. 2001. Resource Quality and Agricultural Productivity: Evidence from Sub-Saharan Africa and Implications for Ethiopia. Economic Research Service, U.S. Department of Agriculture Washington, D.C.

Abebe Shimeles and Andinet Delelegn. 2007. Inflation and the Poor in Ethiopia". [Paper Prepared for the World Bank Inflation Study Group, Addis Ababa, Ethiopia](Unpublished manuscript).

Abeysekera, Wvkm and De Zylva, E. 1997. Development of Domestic Construction Contractors in Sri Lanka Proceedings First International Conference on Construction Industry Development, School of Building and Real Estate, National University of Singapore.

Addis Ababa Public Housing Project Office. 2008. Reports on the Construction and Transfer of Condominium Houses. Addis Ababa.

Adebayo. (undated). Agenda 21 for Sustainable Construction in Developing Countries. Africa Position Paper.

Arghadeep Laskar and C. V. R. Murty. 2004. Challenges before Construction Industry in India.

Asia Construct Team. (2003). An Annual Report of the Construction Industry of China/ Hong Kong. The 9th Asia Construct Conference 8-9 December 2003 Sydney, Australia.

Awash International Bank (AIB). Various Reports

Azage Tegene, Berhanu Gebremedhin and Dirk Hoekstr. 2006. Input Supply Situation and Services for Market-oriented Livestock Production in Ethiopia. In: ESAP (2006). Institutional Arrangements and Challenges in Market-Oriented Livestock Agriculture in Ethiopia. Proceedings of the 14th Annual Conference of the Ethiopian Society of Animal Production (ESAP) held in Addis Ababa, Ethiopia, September 5-7, 2006.

Bacchetta, M and Drabek, Z. 2002. *Effects of WTO Accession on Policy Making in Sovereign States: Preliminary lessons from the recent experience of transition countries*, WTO Staff Working Paper DERD-2002-02.

Banister D. and Button, K. (ed). 1995. Transport, the Environment and Sustainable Development. Paper on Environmental Policy and Transport,

Bank of Abyssinia (BA). Various Reports

Baxter, M & Stockman, A. C. 1988. Business Cycles and the Exchange Rate System: Some International Evidence. RCER Working Papers 140, University of Rochester - Center for Economic Research (RCER).

Berhanu Lakew. 2005. Determinants of Ethiopian Export Performance: An Econometric Investigation in EEA, 2005. Proceedings of the Second International Conference on the Ethiopian Economy. Volume III, 2005, Addis Ababa.

Berhanu Nega and Kibre Moges. 2002, *Declining Productivity and Competitiveness in the Ethiopian Leather Sector,* EEA/Ethiopian Economic Policy Research Institute Working Paper No. 1/2002, Addis Ababa.

Berhanu Nega, Kibre Moges and Worku Gebeyehu. 2002. *Sources and Uses of Export Support Services in Ethiopia,* EEA/Ethiopian Economic Policy Research Institute Working Paper No. 2/2002, Addis Ababa.

Bienen, D. (eds.) 2005. *Impact Assessment of WTO Accession: Technical Assistance to Support Ethiopia in its Accession to the WTO,* Programme to Support the Integration of the ACP States into the Multilateral Trading System of the WTO, Contract no. 7 ACP-RPR-753-Project No. 39 b, Pohl Consulting and Associates, Munich, Germany.

Bora, B., Lloyd, P. J. and Pangestu, M. 2000. *Industrial Policy and the WTO,* United Nations, UNCTAD, Policy Issues in International Trade and Commodities Series, No. 6, 2000, New York and Geneva.

Brown, D. Deardoff, A. and Stern, R. 2001. *CGE Modelling and Analysis of Multilateral and Regional Negotiating Options*, University of Michigan School of Public Policy, Discussion Paper No. 468.

Byerlee, D., Diao, X. and Jackson, C. 2005. Agriculture, Rural Development and Pro-Poor Growth. Country Experiences in the Post-Reform Era. Agriculture and Rural Development Discussion Paper 21. The International Bank for Reconstruction and Development/ The World Bank.

REFERENCES

Caves, R. E. and Jones, R. W. 1985. *World Trade and Payments: An Introduction*, Little Brown and Co., Boston.

Central Statistical Agency. 2007. Report on Large and Medium Scale Manufacturing and Electricity Industries Survey, SB 403, October 2007, Addis Ababa.

_____. 2006/07. Report on Area and Production of Crops. Agricultural Sample Survey 2006/2007. Private Peasant Holdings, *Meher* Season. Volume I. Statistical Bulletin 388. Addis Ababa, Ethiopia.

_____. 2006/07. Report on Land Utilization. Agricultural Sample Survey 2006/2007. Private Peasant Holdings, *Meher* season. Volume IV. Statistical Bulletin 388. Addis Ababa, Ethiopia.

_____.. 2006/07. Report on Livestock and Livestock Characteristics. Agricultural Sample Survey 2006/2007. Private Peasant Holdings, Volume II. Statistical Bulletin 388. Addis Ababa, Ethiopia.

_____. (2006a). Agricultural Sample Survey 2005/06. Volume I. Statistical Bulletin 361.

_____. 2006. Report on the 2005 National Labour Force Survey, Addis Ababa, May, 2006

_____. 2005. Report on the 2005 National Labor Survey, SB No. 365, May 2006, Addis Ababa

_____. 2004. Report on Farm Management Practices. Agricultural Sample Survey (2003/04). Volume III. Statistical Bulletin 305. Addis Ababa.

_____. 2003. Report Distributive and Service Trade Survey February 2003, SB No. 288, November 2003, Addis Ababa

_____. 2000. Report on Contract Construction Activities Survey, Addis Ababa

_____. 2000. Report on the 1999 National Labour Force Survey, Addis Ababa.

_____. 1999, Statistical Report on the 1999 National Labor Survey, SB No. 225, November 1999, Addis Ababa

_____. 1999. Report on Contract Construction Activities Survey, Addis Ababa

_____. Large and Medium Scale Manufacturing and Electricity Industries Survey (Various Issues)

Chan Swee Lean. 2001. Empirical Tests to Discern Linkages between Construction and other Economic Sectors in Singapore. Construction Management and Economics, Volume 19, Issue 4 July 2001, Pages 355 - 363

CIB/UNEP-IETC. 2002. Du Plessis, C. (ed.).   Agenda 21 for Sustainable Construction in Developing Countries, CIB, Final Document,

Commercial Bank of Ethiopia (CBE). Various Reports

Construction and Business Bank (CBB).Various Reports

Craig, Barbara J., Philip G. Pardey, and Johannes Roseboom. 1997. International Productivity Patterns: Accounting for Input Quality, Infrastructure, and Research. A*merican Journal of Agricultural Economics* 79: 1064-1076.

CSIR (Boutek). 2004. A Review of the South African Construction Industry. South Africa.

Czinkota, M. 2002. National Export Promotion: A Statement of Issues, Changes, and Opportunities, in Kotabe, M and Aulakh, P (eds.), *Emerging Issues in International Business Research*, Edward Elgar, Cheltenham UK, Northampton MA.

Dashen Bank (DB). Various Reports

De Cordoba, S. F. 2007, *Non-Agricultural Market Access: International Trade and the Doha Round*, Retrieved 30 November 2007 from www.unitarny.org/mm/File/UNITAR%20Trade%20and%20Development %20Revised%202%20(Santiago%20Fernandez%20de%20Cordoba).ppt

Development Bank of Ethiopia (DBE). Various Reports

Edwards, L. and Alves, P. 2005. *South Africa's Export Performance: Determinants of Export Supply,* Africa Region Working Paper Series No. 95, University of Cape Town.

Ethiopian Economic Association (EEA). 2007. Report on the Ethiopian Economy, Volume V , 2005/06, Addis Ababa.

_____. 2005. Industrialization and Industrial Policy in Ethiopia, Research Report, February 2005.

_____. 2005. Report on the Ethiopian Economy, Volume IV 2004/05, Addis Ababa.

_____. 2004. Report on the Ethiopian Economy, Volume III 2003/04, Addis Ababa.

_____. 2000/2001. *Second Annual Report on the Ethiopian Economy,* Ethiopian Economic Association, Addis Ababa.

Ethiopian Economic Association/EEPRI. 2006. Evaluation of the Ethiopian Agricultural Extension with Particular Emphasis on the Participatory

Demonstration and Training Extension System (PADETES). Addis Ababa/Ethiopia.

Ethiopian Chamber of Commerce. 2007. National Business Agenda 2006-2007, Addis Ababa.

Ethiopian Customs Authority (CA). Various Reports.

Ethiopian Investment Agency. 2008. Total Investment Projects From 1992-7, (Soft copy release), January 2008.

Ethiopian Roads Authority. 2007. RSDP Performance: Ten Years Later, September 2007, Addis Ababa

FAO. 2004. *The State of Agricultural Commodity Markets,* Retrieved 20 February from http://www.fao.org/docrep/007/y5419e/y5419e02.htm

FAO/WFP. 2007. FAO/WFP Crop and Food Supply Assessment Mission to Ethiopia. Special Report.

_____. 2006. FAO/WFP Crop and Food Supply Assessment Mission to Ethiopia. Special Report.

FAO/WFP. 2005. FAO/WFP Crop and Food Supply Assessment Mission to Ethiopia. Special Report.

Federal Negarit Gazeta. 2003. 'Trade Practices Proclamation: No. 329/2003, April 2003, Addis Ababa

_____. 2002. 'Value Added Tax Proclamation, Proclamation No. 285/2002, July 2002, Addis Ababa

Frisvold and Ingram. 1995. Sources of agricultural productivity growth and stagnation in sub-Saharan Africa. *Agricultural Economics* 13: 51-61.

Gann D. M. 2000. *Building Innovation: Complex Constructs in a Changing World.* Thomas Telford Publishing, London.

Global Insight/National City Corporation Joint Venture. 2005. Home Prices in America. December 2005

Government of Ethiopia. 2002. Industrial Development Strategy, Ministry of Information August 2002 (Amharic).

Government of India. 2002. Tenth Five Year Plan: 2002-07, India.

Granger, C. W. J. 1969. Investigating causal relations by Econometric Methods and Cross Spectral Methods, *Econometrica.* 34, 541-51

Gujarati, D. N. 2003. *Basic Econometrics.* Fourth Edition. Tata McGraw-Hill Publishing Company Limited, New Delhi, India The McGraw-Hill Companies, Inc.

315

Harrod, R. and Hague, D. C. 1963, *International Trade Theory in a Developing World*, St. Martin's Press, inc. New York.

Hodgson, S. and Bici, L. 2000. Creating the Policy, Legal and Institutional Framework for Growth, Development, Delivery and Transformation of the South African Construction Industry. 2nd International Conference of the CIB Tg 29. Botswana.

Housing Development Project Office. 2004. The Addis Ababa Grand Housing Project, Addis Ababa, May, 2004

International Labour Organization (ILO). 2001. *The Construction Industry in the Twenty-First Century: Its Image, Employment Prospects and Skill Requirements.*

J. N. Govender and R. B. Watermeyer. (Undated). Potential Procurement Strategies for Construction Industry Development in the SADC Region. Department of Public Works, Private Bag X65, Pretoria, 001.

Krugman, P. 1991. *Geography and Trade*. MIT Press, London.

Lanoszka, A. 2001. The World Trade Organization Accession Process; Negotiating Participation in a Globalizing Economy. *Journal of World Trade*, 35: (4): 575-602.

Limão, N. and Venables, T. 2001. Infrastructure, Geographical Disadvantage, Transport Costs and Trade. *World Bank Economic Review*, 15(3): 451-479.

Loungani et al., Prakash and Phillip Swagel. 2001. Sources of inflation in developing countries. *IMF working paper*, WP/01/198.

Mekonnen Tadesse. 2000. Determinants and Dynamics of Urban Poverty Ethiopia. *Ethiopian Journal of Economics*, Vol. VIII, No. 1, Addis Ababa, Ethiopia.

Minale, M. 2002. *Competitiveness and the Real Exchange Rate: Lesson for Ethiopia,* Retrieved 20 November 2007 from http://www.addischamber.com/downloads/pepdownloads.asp

Ministry of Education (MoE). Annual Education Statistical Abstracts (Various Issues)

Ministry of Finance and Development Planning (MFDP). 2000. Reform of the Public Procurement System in Botswana: Request for Proposals (RFP) No 2 for a consultancy on the preparation of standardized bidding

packages for works, supplies and services of varying complexity and scale.

Ministry of Finance and Economic Development (MoFED). 2008. Data on Government Finance Statistics.

_____. 2007. National Accounts New Series, Soft copy release, 2007.

_____. 2006. A Plan for Accelerated and Sustained Development to End Poverty (PASDEP) (2005/06-2009/10). Volume I: Main Text. Addis Ababa. Ministry of Finance and Economic Development.

_____. 2005. National Accounts Statistics of Ethiopia: Sources and Methods. Addis Ababa, Ethiopia.

_____. National Accounts Statistics (various Reports)

_____. and UNDP. 2007. A Review of Ethiopia's Economic Performance (1995 to 2005) and the Human Development Outcomes and Issues. Paper Presented at Consensus Building Workshop for National Human Development Report (NHDR), Ethiopia. Addis Ababa, Ethiopia.

Ministry of Planning and Economic Cooperation (MEDaC). 1999. Survey of the Ethiopian Economy: Review of Post Reform Developments, April 1999.

Ministry of Works and Urban Development (MoWUD). 2008. Various Reports.

Montobbio, F. and Rampa F. 2005. The impact of technology and structural change on export performance in nine developing countries. *World Development,* 33 (4): 527-547.

National Bank of Ethiopia (NBE). 2005/06. National Bank of Ethiopia Annual Report 2005/06. Addis Ababa, Ethiopia.

_____. Various Reports.

Nib International Bank (NIB). Various Reports.

North, D. C. 1990. *Institutions, Institutional Change, and Economic Performance.* Cambridge: Cambridge University Press.

Ofori G. 1996. International Contractors and Structural Changes in Host Country Construction Industries: The Singapore Case. Engineering, Construction and Architectural Management, Volume/Number, 3/4.

_____. 1991. Programmes for Improving the Performance of Contracting Firms in Developing Countries: A Review of Approaches and Appropriate Options. *Construction Management Economics.*

Okpala D. C. I. 1994. Financing Housing in Developing Countries: A Review of the Pitfalls and Potentials in the Development of Formal Housing

Finance Systems Urban Studies, Volume 31, Number 9, November 1994, Pp. 1571-1586(16)]

Oromia Regional Road Authority (ORRA). 2008. Data on the Number of Machinery and Equipment of the Authority.

Privatization and Public Enterprises Supervising Agency (PPESA). 2008. Various Reports

Porter, M. E. 1990. *The Competitive Advantage of Nations*, The Free Press, New York.

Raufdeen Rameezdeen, et al (undated). Study of Linkages between Construction Sector and Other Sectors of the Sri Lankan Economy. Department of Building Economics University of Moratuwa.

Raymond Y. C. Tse and Sivaguru Ganesan. 1997. Causal Relationship between Construction Flows and GDP: Evidence from Hong Kong. University of Hong Kong, Hong Kong.

Santos-Paulino, A. U. 2002. The Effects of Trade Liberalisation on Imports in Selected Developing Countries', *World Development*, 30 (6): 959–74.

Snyman E. 2000. State of the Construction Industry. Second Quarter. Building Industry Federation of South Africa and South African Federation of Civil Engineering Contractors.

Soderbom, M. and Teal, F. 2000. *Skills, investment and exports from manufacturing firms in Africa.* Centre for the Study of African Economies WPS/2000-8, Oxford.

Solow, R. 1956. A Contribution to the Theory of Economic Growth. *Quarterly Journal of Economics*, 61 (1): 65–94.

Stephen, D. and Bruce, G. 2007. Social Protection and Agriculture in Ethiopia: Draft paper on Country case study prepared for a review commissioned by the FAO on 'Social Protection and Support to Small Farmer Development.

Teffera, A. H. 2000. Tariff Reform, Tariff Rates and Tariff Revenue in Ethiopia. *Economic Focus,* 3 (4): 32-35.

Taylor R. G and Norval G. H. M. 1994. Developing Appropriate Procurement Systems for Developing Communities. CIB W92 Symposium, CIB Publication No.175

UN. (1996). International Standards Industrial Classification (ISIC), Rev. 3, United Nations Statistical Division.

UNCTAD. 2006. *The Least Developed Countries Report 2006: Developing Productive Capacities,* United Nations Conference on Trade and Development, New York and Geneva.

_____. 2005. *Developing Countries in International Trade 2005: Trade and Development Index*, United Nations Conference on Trade and Development, New York and Geneva.

_____. 2004. *The Least Developed Countries Report 2004: Linking International Trade with Poverty Reduction,* United Nations Conference on Trade and Development, New York and Geneva.

_____. 2002. *World Investment Report*, United Nations Conference on Trade and Development, New York and Geneva.

United Bank (UB).Various Reports.

United Nation Centre For Human Settlement (UNCHS). 1984. The Construction Industry in Developing Countries. Contribution to Socio-Economic Growth. Nairobi

United Nations Environmental Program (UNEP). 1996. The construction industry and the environment. Industry and Environment, volume 19 no. 2, Paris

USGS. 2005. The Changing World, Minerals Yearbook.

Watermeyer. 1998. Procurement Strategies to Achieve Socio-Economic Deliverables. Paper Presented at the Conference in Affirmative Procurement in the Construction Industry, South Africa.

Wegagen Bank (WB). Various Reports.

Weiss, J. 2005. *Export Growth and Industrial Policy: Lessons from the East Asian Miracle Experience*, ADB Institute Discussion Paper no. 26, Retrieved 1 February 2008, from http://www.adbi.org/discussion-paper/2005/02/23/899.eastasia.govt.policy/.

Welfare Monitoring Survey (CSA/WMS). 2004. Ethiopian Welfare Monitoring Survey, Central Statistical Authority, Addis Ababa.

Woldehanna, T., and Alemu, T., 1999/2000. *Poverty Profile of Ethiopia*. A Report for Welfare Monitoring Unit (WMU), Ministry of Finance and Economic Development (MoFED), Federal Democratic Republic of Ethiopia (FDRE), Addis Ababa, Ethiopia.

World Bank. 2008. Agriculture for Development. The world Development Report. Washington, D C.

_____. 2007. Explaining Sources of Food Price Inflation in Ethiopia: Just–in–time Policy Note", Addis Ababa, Ethiopia. [Unpublished Manuscript, Policy Note].

_____. 2007a. Capturing the Demographic Bonus in Ethiopia: Gender, Development and Demographic Actions. Report No. 36434-ET. Poverty Reduction and Economic Management 2 (AFTP2). Country Department for Ethiopia, Africa Region.

_____. 2007b. Ethiopia: Accelerating Equitable Growth. Country Economic Memorandum. Part I: Overview. Report No. 38662-ET.

_____. 2005. World Development Indicators 2005.

_____. 2003. Diagnostic Trade Integration Study in Ethiopia: Trade and Transformation Challenges – the Legal and Regulatory Environment for Investment and Trade. Volume 2, Annex 5, 203.

_____. 2003. *Diagnostic Trade Integration Study: Ethiopia Trade and Transformation Challenges,* Volume 2, World Bank, Addis Ababa.

World Economic Forum. 2005. The Global Competitiveness Report 2005-2006, Geneva, Switzerland, 2005.

WTO. 2003. Accession of the Least Developed Countries, Decision of 10 December 2002, WT/L/508 (03-0191), 20 January, Geneva.

_____. Doha Ministerial Declaration, WT/MIN(01)/DEC/1, 20 November, Geneva

Xinshen D. and Alejandro, N.P. 2005. Growth Options and Poverty Reduction in Ethiopia. A Spatial Economic-wide Model Analysis for 2004-15. DSGD Discussion Paper No. 20. IFPRI.

Annex

Annex 2.1: Agricultural land use in 2006/07

Type of Land Use	Share (%)
Annual/temporary crops	74
Permanent crops	6
Fallow land	10
Grazing land	7
Wood land	1
Other land uses	2
N=	14.744 million hectare

Source: CSA (2006/7), Volume IV.

Annex 2.2: The specified model

Following is the description of the model adopted and its transformation.

The C-D production function, in its stochastic form, may be expressed as

$$Y_i = \beta_1 X_i{}^{\beta i} Z_i{}^{\alpha i} e^{\mu i} \tag{1}$$

Where Y is a dependent variable (output per hectare of land), Xi is a vector of conventional inputs including land, labor and ox and Zi represents a vector of non-conventional factors that affect the operation or the efficiency of a farmer and u, e and βi are the stochastic disturbance term, the base of natural logarithm and parameters to be estimated, respectively.

Equation 1 is non-linear, but if we log-transform this model, we obtain[84]

$$\ln Y_i = \ln \beta_1 + \beta_i \ln X_i + \alpha_i \ln Z_i + \mu i \qquad (2)$$

$$= \beta_0 + \beta_i \ln X_i + \alpha_i \ln Z_i + \mu i$$

where $\beta_0 = \beta_1$

The original equation (equation 1) is non-linear in the variables Y, X and Z, but linear in the log of these variables. Consequently, the model is linear in the parameters β_i and α_i, and is, therefore, a linear regression model. The properties of the C-D function are quite well known: β_i and α_i are partial elasticity of output with respect to the conventional (or physical) and non-conventional inputs. The sum of the parameters β_i and α_i gives information about the response of output to a proportionate change in the inputs.

---

[84] This model building is adopted based on Gujarati (2003).

Annex 2.3: Summary statistics of sample data by region

	National		Tigray		Amhara		Oromia		SNNP	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Cultivated land (hectare)	1.36	1.21	1.23	1.20	1.38	1.07	1.78	1.44	1.03	1.51
Labor spent for farming activities (hour)	1495	1067	1713	1158	1823	1059	1712	1043	759	712
Number of oxen owned	1.62	1.32	1.31	1.13	1.61	1.22	1.93	1.38	0.90	1.10
Households without oxen (% of sample)	3%		4%		2%		3%		5%	
Literacy (% able to read & write)	45%	50%	51%	50%	38%	48%	45%	50%	54%	50%
Age (years)	43	13	45	13	43	13	44	14	44	13
Sex (% male headed households)	86%	34%	77%	42%	87%	33%	86%	35%	89%	31%
Access to agricultural, price information (listen to radio)	23%	42%	24%	43%	18%	38%	30%	46%	18%	38%
Access to water services (% of hh having access)	29%	46%	31%	43%	28%	44%	29%	49%	34%	38%
Access to electric power (% of hh having access)	24%	43%	25%	43%	26%	49%	25%	43%	17%	35%
Access to health centers (% of hh having access)	54%	44%	77%	29%	63%	40%	55%	49%	46%	53%
Soil moisture (% of woredas in the region classified as moisture reliable)	57%		19%		48%		75%		69%	
Access to irrigation water (% having access)	5.2%	2.2%	6.2%	24.3%	3.2%	1.8%	5.1%	2.2%	2.7%	1.6%
Land degradation (% farms who said 'have degraded land')	40%	49%	48%	35%	43%	49%	38%	50%	24%	42%
Total expenses for variable inputs (Birr)	700	1394	333	372	620	834	959	1823	420	906
Proximity to fertilizer distribution center (% having access)	54%	50%	69%	46%	57%	50%	54%	49%	50%	50%
Access to credit services (% having access)	39%	48%	79%	40%	67%	47%	44%	43%	33%	47%
Access to telephone services (% having access)	33%	47%	43%	50%	44%	49%	29%	45%	25%	43%
Access to transport services (% having access)	59%	31%	81%	29%	79%	36%	75%	45%	49%	39%
Participation in extension program (% participated)	53%	50%	52%	50%	62%	49%	58%	49%	43%	49%
N	3547		323		853		1410		591	

Note: If the figures do not correspond to national average figures, these could be due to sampling procedure employed in the study.
1. Access to various institutions implies farmers' response to whether they have access or not. Access could indicate either physical or/and financial access to the respective institutions or the services they provided.
2. The survey was conducted in July-August 2004.

Annex 6.1: Expenditure share of major food groups by quintile: 2004/05.

Food Group	Country Level						Calorie Level		Urban Level					
	Quintile								Quintile					
	1	2	3	4	5	All	Country	Urban	1	2	3	4	5	All
Food and Non-Alcoholic Expenditure	56.9	58.0	57.6	56.0	41.7	50.8	1453.8	1514	58.3	56.4	53.8	49.7	29.1	38.4
Cereals	22.8	24.4	24.4	23.2	15.3	30.4	61.80	63.20	16.2	15.2	14.7	12.7	7.1	9.8
Pulses	4.6	4.7	4.6	4.4	2.9	3.9	6.90	7.00	3.9	3.4	3.2	2.6	1.4	2.1
Oilseeds	0.2	0.1	0.1	0.1	0.1	0.1	0.30	0.30	0.1	0.0	0.0	0.0	0.0	0.0
Pasta Products	0.1	0.1	0.1	0.1	0.1	0.1	0.20	0.10	0.2	0.3	0.3	0.4	0.3	0.3
Injera (Bread) & other Prepared Food	2.4	2.0	1.7	1.5	1.3	1.6	1.90	0.80	9.1	8.7	7.4	6.7	2.5	4.5
Meat	1.7	2.2	2.5	2.7	2.7	2.5	0.80	0.60	2.5	3.3	4.0	4.7	3.9	3.9
Milk, Cheese and egg	1.3	1.8	1.9	2.0	1.7	1.8	1.00	1.10	0.4	7.0	0.9	1.1	0.8	0.8
Oils and Fat	1.3	1.7	1.9	2.2	2.3	2.0	2.30	1.50	3.7	3.9	4.2	4.1	2.9	3.3
Vegetables and Fruit	2.4	2.6	2.6	2.5	1.9	2.3	1.70	1.60	2.9	3.2	3.1	2.9	1.8	2.2
Spices	2.5	2.2	2.1	1.9	1.3	1.8	1.10	1.00	2.4	2.2	2.1	1.8	1.1	1.5
Potatoes, Tubers and Stems	3.5	4.0	4.4	4.5	3.1	3.8	13.90	15.30	1.3	1.5	1.3	1.2	0.5	0.8
Coffee, T'chat & Hopes'	3.4	4.0	4.3	4.4	3.4	3.9	1.30	1.30	3.1	3.4	3.3	3.3	1.6	2.3
Other Food Items	1.1	1.3	1.2	1.2	1.0	1.1	1.30	1.00	1.8	2.0	2.2	2.1	1.3	1.6
Food out-home	6.8	4.2	3.3	2.8	1.9	3.0	2.00	1.80	9.1	6.8	5.2	4.1	1.7	3.3
Non Alcoholic Beverages	2.3	1.7	1.7	1.4	1.1	1.4	2.30	2.00	1.3	1.0	1.2	1.0	0.6	0.8
Alcoholic Beverages	1.7	1.4	1.1	1.3	0.8	1.1	1.50	1.50	1.1	1.0	0.8	1.0	0.6	0.8

Source: CSA, HICES data 2004/05

324

Annex 7.1

Using time-series data (1981-2007), attempt is made to test the relationship between the construction output and GDP using Granger causality methodology to investigate the lead- lag relationships.

To this end, the test equation is specified as:-

$$GDPt = \sum_{i=1}^{n} \alpha_{0i} CTN_{t-i} + \sum_{i=1}^{n} \beta_{0i} GDP_{t-i} + u_{t_t} \quad \textbf{(1)}$$

$$CTNt = \sum_{i=1}^{n} \alpha_{li} GDP_{t-i} + \sum_{i=1}^{n} \beta_{li} CTN_{t-i} + v_{t_t} \quad \textbf{(2)}$$

Where   GDP gross domestic product
       CTN   construction
        t   time period

Annex Table 7.1
Granger causality test between construction and GDP

Direction of Causality	F – Statistics (with 3 lag length)
in level form	
GDP ⟶ CTN	F(7,16) 138.2(0.00)**
CTN ⟶ GDP	F(7,16) 114.3(0.00)**
in first difference	
DGDP ⟶ DCTN	F(7,15) 4.486(0.007)**
DCTN ⟶ DGDP	F(7,15) 2.902(0.039)*

Note: * indicates significance at 5 % and ** indicates significance at 1%. The null hypothesis of no causality is rejected if the F Statistics exceeds the critical values.

Annex 7.2

In the absence of I/O Table, attempts are made to examine the specific lead-lag relationships between construction and agriculture using Granger causality methodology.

The test equation is specified as:-

$$AGRIt = \sum_{i=1}^{n} \alpha_{0i} CTN_{t-i} + \sum_{i=1}^{n} \beta_{0i} AGRI_{t-i} + u_t \quad (3)$$

$$CTNt = \sum_{i=1}^{n} \alpha_{1i} AGRI_{t-i} + \sum_{i=1}^{n} \beta_{1i} CTN_{t-i} + v_t \quad (4)$$

Where
AGRI agriculture and allied activities
CTN construction
t time period

Annex Table 7.2
Granger causality test between construction and agriculture

Direction of Causality	F – Statistics (with 3 lag length)
Iin level form	
AGRI → CTN	F(7,16) 32.08(0.00)**
CTN → AGRI	F(7,16) 116.5(0.00)**
In first difference	
DAGRI → DCTN	F(7,15) 2.251(0.089)
DCTN → DAGRI	F(7,15) 2.755(0.047)*

Note: * indicates significance at 5 % while ** indicates significance at 1%. The null hypothesis of no causality is rejected if the F Statistics exceeds the critical values.

Annex 7.3

In the absence of which, attempts are made to examine the specific lead- lag relationships between construction and industry using Granger causality methodology.

The test equation is specified as:-

$$INDt = \sum_{i=1}^{n} \alpha_{0i} CTN_{t-i} + \sum_{i=1}^{n} \beta_{0i} IND_{t-i} + u_{t} \qquad (5)$$

$$CTNt = \sum_{i=1}^{n} \alpha_{1i} IND_{t-i} + \sum_{i=1}^{n} \beta_{1i} CTN_{t-i} + v_{t} \qquad (6)$$

Where
IND industry excluding construction sector
CTN construction
t time period

Annex Table 7.3
Granger causality test between construction and industry

Direction of Causality	F - Statistics (with 3 lag length)
in level form	
IND $\longrightarrow$ CTN	F(7,16) 68.86(0.00)**
CTN $\longrightarrow$ IND	F(7,16) 118.8(0.00)**
in first difference	
DIND $\longrightarrow$ DCTN	F(7,15) 2.543(0.061)
DCTN $\longrightarrow$ DIND	F(7,15) 3.444(0.021)*

Note: * indicates significance at 5 % while ** indicates significance at 1%. The null hypothesis of no causality is rejected if the F Statistics exceeds the critical values.

327

Annex 7.4

In the absence of which, attempts are made to examine the specific lead- lag relationships between construction and service using Granger causality methodology.
The specified equation for test is:-

$$SERt = \sum_{i=1}^{n} \alpha_{0i} CTN_{t-i} + \sum_{i=1}^{n} \beta_{0i} SER_{t-i} + u_{t} \quad (7)$$

$$CTNt = \sum_{i=1}^{n} \alpha_{li} SER_{t-i} + \sum_{i=1}^{n} \beta_{li} CTN_{t-i} + v_{t} \quad (8)$$

Where
SER service sector
CTN construction
t time period

Annex Table 7.4
Granger causality test between construction and service

Direction of Causality	F – Statistics (with 3 lag length)
in level form	
SER ⟶ CTN	F(7,16) 291.3(0.00)**
CTN ⟶ SER	F(7,16) 119.7(0.00)**
in first difference	
DSER ⟶ DCTN	F(7,15) 4.302(0.00)**
DCTN ⟶ DSER	F(7,15) 3.947(0.00)*

Note: * indicates significance at 5 % while ** indicates significance at 1%. The null hypothesis of no causality is rejected if the F Statistics exceeds the critical values.

Annex 8.1: Operational FDI in construction, construction GVP and GDCF at current market price, (in million Birr)

Description	Operational FDI in the construction industry	Construction GVP at current market price, in million Birr	GDCF at current market price, in million Birr	Construction FDI/ Construction GVP (in %)	FDI in Construction/ GDCF (%)	Construction GVP at Constant (growth)
Average(1996/97-2006/07)	224.43	13,744.39	20,261.87	1.84	1.25	9.6
Average(1996/97-2001/02)	159.04	8,615.42	13,346.05	1.81	1.22	7.9
Average(2002/03-2006/07)	289.82	19,040.52	27,427.34	1.87	1.28	11.3

Source: Computed based on data obtained from MoFED and EIA

Annex 8.2: **Distribution of currently employed population in construction aged ten years and over by sex, major occupational group, 2005 and 1999**

	Total employed population	senior official & mangers	Professionals	technician & associate professionals	clerks	service workers, shop and market sales	skilled agricultural and fishery workers	crafts &related trade workers	plant machine operator & assembly	elementary occupation	not stated
2005											
Total	445,619	1.04	1.14	1.05	0.99	0.37	0.94	50.38	1.33	42.76	0.00
Male	349,927	1.30	1.29	1.14	0.67	0.27	1.20	58.62	1.68	33.84	0.00
Female	95,692	0.11	0.60	0.74	2.15	0.73	0.00	20.24	0.03	75.40	0.00
1999											
Total	228,526	0.4	0.6	3.2	2.1	0.2	0.0	57.1	1.6	34.8	0.0
Male	193,913	0.5	0.7	3.4	1.1	0.2	0.0	61.6	1.8	30.7	0.0
Female	34,613	0.0	0.5	2.2	7.7	0.0	0.0	32.0	0.0	57.6	0.0

Source: Labor Force Survey, 2000 and 2006

Annex 8.3: Roads constructed and maintained in kilometers; and expenditure in million birr

Year	Asphalt				Gravel				Federal Routine Maintenance		Rural	
	New roads (in km)	Expenditure	Heavy Maintenance (in km)	Expenditure	New roads (in km)	Expenditure	Heavy Maintenance (in km)	Expenditure	Maintenance (in km)	Expenditure	New roads (in km)	Expenditure
1997/98	224	422.8	48	4.2	218	225.3	9.9	1.4		117.9	1500	294.4
1998/99	168	644	37	6.3	145	154	52.2	6.2		123.5	1500	275.8
1999/00	244	443.3	31	6.7	176	183.3	42	8.5		118.2	1500	269.1
2000/01	429	901.4	10	3.9	176	173.8	26.9	23.9		140.4	1500	330.6
2001/02	458	1201.5	0	3.5	214	141.7	0	27.5		176.2	-	330.1
2002/03	617	1384.3	23.3	20.4	94	275.5	315.5	48.2		115.7	474	226.1
2003/04	461	1320.5	66.6	25.2	47.5	125.6	627.9	120.5		192.8	802	348.6
2004/05	492	1832.3	124.4	50.8	83	182.5	1197.3	432.5	12589	137.1	80	80
2005/06	424	1614.1	54.2	42.3	180.3	650	975.1	260.6	13084	172.5	17580	290.4
Total	**3,517**	**9,764.20**	**394.5**	**163.30**	**1,333.8**	**2,111.70**	**3,246.8**	**929.30**	**25,673**	**1,294.30**	**24,936**	**2,445.10**

Source: Ethiopian Road Authority (ERA)

Annex 9.1: Number of graduates from universities/colleges by construction profession and total graduates

Year	Architecture and Urban Planning	Building Engineering	Civil Engineering	Drafting and Design Technology	Surveying Technology	Construction Technology	urban engineering	urban planning	total construction related graduates	Total No of graduates	construction/ total ratio
1999/00	171	73	136	61	38	67			546	15,131	3.61
2000/01	33	73	132	38	29	59	0	0	358	17,969	1.99
2001/02	2	89	319	36	37	74	0	53	610	15,044	4.05
2002/03	22	121	490	13	31	101	0	0	778	28,810	2.7
2003/04	28	184	505	8	30	109	28	34	926	28,810	3.21
2004/05	40	137	567	24	75	101	0	34	978	29,581	3.31
2005/06	43	48	382	98	95	112			778	26,820	2.9
Period Average	48	104	362	40	48	89	6	24	711	23,166	3

Note: Graduates include diploma, under graduates and post graduate level graduates from government and non-government colleges and universities

Source: Computed based on data obtained from MOE

332

Annex 9.2: Production estimates of construction materials in Ethiopia

Commodity	Unit	2001	2002	2003	2004	2005
Stone, sand and gravel						
basalt	Metric tons(Mt)			592000	17800	21000
dolomite	Metric tons			1600	2250	2300
granite	Square meters	17000	10000	4087	19499	23000
Ignimbrite	Cubic meters			229013	229277	270000
Limestone						
slab/tiles	Square meters			6420	3078	3700
others	Thousand Mt	1600	2000	2290	2380	2800
Marble						
slab/tiles	Square meters	110000	110000	106241	122008	145000
terrazzo	Square meters			144045	114446	140000
block and other	Metric tons	14000	14000	16200	14600	16000
pumice	Metric tons	180000	210000	218676	270994	320000
Rhyolite	Metric tons			34000	20900	25000
Sand						
sandstone	Thousand Mt			318	1221	1500
scoria	Thousand Mt	310000	340000	350000	350000	420000
Silica sand	Thousand Mt	6000	6000	5400	4550	4600

Source: USGS for the changing world 2005 Minerals Yearbook

Annex 9.3: Trends of construction materials prices in Addis Ababa from 1999 – 2006

S. No	Type of building material	Unit of measurement	Unit price in different years (birr)			
			1999	2001	2003	2006
1	Cement	Quintal			60	**205**
			42	54		
2	Sand	M³			85	**169**
			70	80		
3	Reinforcement bar	Kilo			5.25	**11.50**
			2.50	3.75		
4	HCB	Piece			3.50	**5.50**
			1.80	2.75		
5	Timber	Piece			13	**17**
			10	11		
6	Stone	Vehicle				**450**

Source: Compiled from different sources and field survey

Annex 9.4: Quantity and value of cement imported in the period 1997 -2007*

Year	NW in 000 (Kg)	Value, in 000 (ETB)	unit value per kg	Quantity growth (in %)	Value growth (in %)
1997	2,283.50	4,816.70	2.11	-	-
1998	7,712.20	9,245.20	1.2	237.7	91.9
1999	426.4	958.1	2.25	-94.5	-89.6
2000	223.6	451.5	2.02	-47.6	-52.9
2001	194.3	461.4	2.38	-13.1	2.2
2002	387.7	1152.2	2.97	99.6	149.7
2003	518.2	1534.9	2.96	33.6	33.2
2004	590.8	1493.9	2.53	14	-2.7
2005	870.3	2218.5	2.55	47.3	48.5
2006	60,742.4	68,665.8	1.1	6,879.7	2,995.1
2007	458,578.7	625,655.5	1.4	655.0	811.2
Period average(1997-2005)	1467.4	2481.4	2.3	34.6	22.5
Period average 2006-2007	259660.5	347160.6	1.2	3767.3	1903.1

* 2007 only 8 months figure

Source: Compiled based on data obtained from Customs Authority

335

Annex 10. 1 Sources of finance for road construction (in million Birr)

Year	Total road construction expenditure	Government Treasury	Foreign		
			Loans	Grants	Total
1997/98	1138.09	710.89	347.4	79.8	427.2
1998/99	1275.1	752.8	357.5	164.8	522.3
1999/00	1147.62	785.4	154.82	207.4	362.22
2000/01	1722.11	1029.83	416.98	275.3	692.28
2001/02	2001.66	1154.79	677.67	169.2	846.87
2002/03	2355.86	984.09	911.47	460.3	1371.77
2003/04	2339.62	1180.91	856.51	302.2	1158.71
2004/05	2114.17	686.68	1021.49	406	1427.49
2005/06	3888.1	3230.54	358.16	299.4	657.56
Total(1997/98-2005/06)	**17982.3**	**10515.9**	**5102.0**	**2364.4**	**7466.4**
Share (in %)	**100.0**	**58.5**	**68.3**	**31.7**	**41.5**

Source: Data obtained from ERA