

Ethiopian Economics Association



State of the Ethiopian Economy 2020/21

Economic Development, Population Dynamics, and Welfare

Editors:

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Foreword

Ethiopian Economics Association (EEA) is a non-profit, non-partisan, and an independent research and membership organization in Ethiopia. Since its establishment in 1991, EEA strives to: a) provide its members a platform of network, experiential learning, and access to current information; b) undertake evidence-based analysis on an evolving social, economic and the environment realities of Ethiopia for informing policymakers, practitioners, investors, researchers, development partners and the general public; c) contribute, more broadly, to frontier and emergent economic thinking relevant for Ethiopia, to advance research methodologies, contribute to academic rigor, and development processes.

With the view of consistently providing an independent and professional overview of the Ethiopian economy, the Ethiopian Economics Association has been producing ‘Annual Report on the Ethiopian Economy’ which usually evaluates the performance of almost all sectors and made in-depth analysis on one selected thematic topic. This year, EEA has changed this approach and envisioned to produce a technical study framed as the State of the Ethiopian Economy (SEE) often taking two or more sectoral themes that intersect each other. Thus, the State of the Ethiopian Economy (SEE) will be a flagship report of the EEA which will be issued once in two years and it replaces the former Annual Report. The SEE is conceived as a dynamic and living document which looks into not only the current and the past economic performance but also offers the future diagnostics of social and economic issues of Ethiopia. It is an expression of EEA’s responsiveness to the comments and suggestions of its clients and partners, and a realization of change with the time

thereby offering realistic and informative social, economic and policy analyses. It aims to contribute to a deeper understanding of social and economic issues; inform policymaking; contribute to the design of operational programs and investment options; and initiate further research and debate; and serve as an important reference document.

This first report, SEE 2020/21, covers Urbanization, Population Dynamics, Welfare and Economic Development in recognition of their interrelationships. However, it has to be noted that though the themes of SEE 2020 contain four sectoral areas, the SEE is a single, interlinked and holistic study bringing salient features of population, migration, urbanization and welfare to be informed by and further informing economic development. A new dimension that is added in the SEE is that, in contrary to the traditional approach of a single sector analysis, SEE has made a thorough analysis among interrelated themes. Accordingly, the current SEE 2020 explored the interlinkages among urbanization, population dynamics, and welfare and their implications to macroeconomic development and made holistic policy implications.

The report has tried to trace back 10 years and look 10 years into the future end beyond on each theme where data permits. It also integrates spatial and gender dimensions including urban/rural dynamics, and pull-push factors into the overall analysis.

Keeping in mind policymakers, program planners, investors, development partners, researchers/scholars and the general readers, the report blends robust conceptual and methodological approach with ease of accessibility to non-economists. The report has drawn several policy implications and key messages that can encourage policy makers, programmers,

investors and development partners to renew their commitment to a broader micro- and macroeconomic agenda, including a coherent population and urbanization strategy, transformation of productive sectors of the economy as well as domestic resource mobilization the details of which can be read in the document.

EEA very much hopes that this report would be useful to all categories of readers, particularly to policy makers who have key roles in guiding the economic and social activities.

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

Tadele Ferede (PhD)
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Ethiopian Economics Association

CHAPTER ONE

Linkages among Economic Development, Urbanization, Population Dynamics and Urban Welfare in Ethiopia

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1. Linkages among Economic Development, Urbanization, Population Dynamics and Urban Welfare in Ethiopia

1.1. Introduction

This chapter of State of the Ethiopian Economy 2020 presents important core concepts - urbanization, population dynamics, and urban welfare - and their roles in macroeconomic development, and vice versa. Ethiopia faces massive developmental opportunities and challenges. It has very young and dynamic segment of its population; untapped potential to double, triple even quadruple production and productivity of the agricultural and manufacturing sectors. At the same time, underemployment, unemployment, reliance on traditional methods of production, and very low rate of transformation processes bedevils the quest for growth. The underlying question for development practitioners and policymakers is what triggers rapid, sustained and inclusive development, and how the specific sectoral policies and programs influence other sectors.

State of the Ethiopian Economy 2020 (SEE) is a flagship project of the EEA which will be issued every year and it is a major departure from the former Annual Report. The SEE is conceived at a time Ethiopia is developing a ten-year development plan, which strives to bring about inclusive development and prosperity; increased income per capita, meet basic needs of the population, and utilize national potential. The plan has ten pillars of development (Ten Year Development Plan, 2020: 71):

- Ensure quality economic development and collective prosperity;

- Economic productivity and competitiveness;
- Ensure sustainable development finance;
- Ensure private sector lead in the economy;
- Inclusive development and participation;
- Peace, inclusive regional economic cooperation;
- Justice for all, and good governance;
- Ensure structural transformation;
- Develop strong green economy; and
- Build technological and digital capacity.

The SEE is conceived as a dynamic and living document which examines not only the current and the past economic performance but also assesses the future opportunities of social and economic agenda. It is an expression of EEA's responsiveness to the changing demands for rigorous and informed policy options, and a realization of change with the time thereby offering realistic and informative social, economic and policy analyses. It aims to contribute to a deeper understanding of social and economic issues and inform policymaking, contributes to the design of operational programs, investment options, and initiates further research and debate, and serves as an important reference document.

To an extent data permits, the ambitions of the study is to trace back 10 years and look 10 years into the future and beyond. Again, contingent on data availability, spatial and gender dimensions including urban/rural dynamics, and pull-push factors are incorporated into the study. The report keeps in mind policymakers, program planners, investors, development partners, and researchers/scholars. In keeping with demands of EEA readers, the report blends robust conceptual and methodological approach with ease of accessibility to non-economists. This

chapter, therefore, explores the conceptual and policy interlinkages among economic development, population dynamics (fertility and mortality, urbanization, migration), and welfare.

1.2. Conceptualizing Population, Economic Development and Welfare Outcome

While the themes of the present study contain four sectoral areas, however, the SEE is a single, interlinked and holistic study bringing salient features of economic development, population (migration, urbanization) and welfare. For this reason, inter-sectoral coordination in terms of conceptual, methodological and analytical coherence; avoiding redundancies; and supporting cross-reference are taken into account throughout the analysis and write-up of the book and the chapters.

1.2.1. Developmental Discourse

The three interlinked themes discussed in the proceeding four chapters are the study of the interrelationships among population (rural and urban migration) on the one hand, the national economy, and overall welfare outcomes for Ethiopians on the other.

Typically, most research undertaking in Ethiopia appears to have focused on a single sector analysis without seeking for how a particular sector interfaces with other sectors. Similarly, most policy issues are excessively focused on the macroeconomy, an aggregate national output, the national ‘the pie’. Contrastingly, very little efforts have been exerted to understand how population has evolved overtime, spread geographically and how population is organized in rural and urban spaces, and extent of migration and urbanization processes. Population in all its spatial manifestation

is the ‘denominator’, the divisor of the economic pie. Welfare then is the measure of the national economic pie and its population. It is not just the population size that must be studied, but also the urbanization processes that is as equally relevant factor. Urbanization offers an opportunity for a concentrated service delivery of education, health, roads, and basic utilities. For this reason, urban population demands for and often forces politicians to pay attention at the expense of the remote and sparsely populated rural population. Furthermore, when/if population growth and urbanization are not coherently and strategically managed, it can lead to urban sprawling, and unbalanced national development discourse.

The study recognizes three interlocked themes: economic development, population (including urbanization, migration), and welfare (see Figure 1.1). They are inextricably linked both as concept and program of action. The interaction of population and economic development would have direct implications on welfare status of the country. Neither of them functions well without the other - national economic development is unlikely to be effective without equitable access; nor is welfare achieved without functional and inclusive economic development.

There is a strong and persistent relationship between population and economic growth. For example, urbanization can, in most of the cases, be considered as an outcome of economic growth and at the same time, when properly managed, urbanization can fuel further growth, innovation and enterprise. Rapid urbanization and growing urban poverty remain critical and are closely linked to socio-economic change especially in developing countries. Indeed, it is hard to find any country or region of the world where sustained economic growth has occurred without urbanization (Tacoli, 2017).

Although urbanization generally contributes to economic development and hence to urban capacities, growing towns and cities in low-income countries often face severe urban housing, infrastructure and service deficiencies as well as various forms of urban congestion adversely contributing to development, if not properly managed (Owusu, 2018). During periods of rapid urbanization, it is easy to blame these shortfalls on migration. When net migration is adding one or two percentage points to the growth in the number of people and households living in an urban center, this can double the demand for new housing and infrastructure (Tacoli et al., 2014). This in turn affects urban welfare (employment, urban poverty levels, among others).

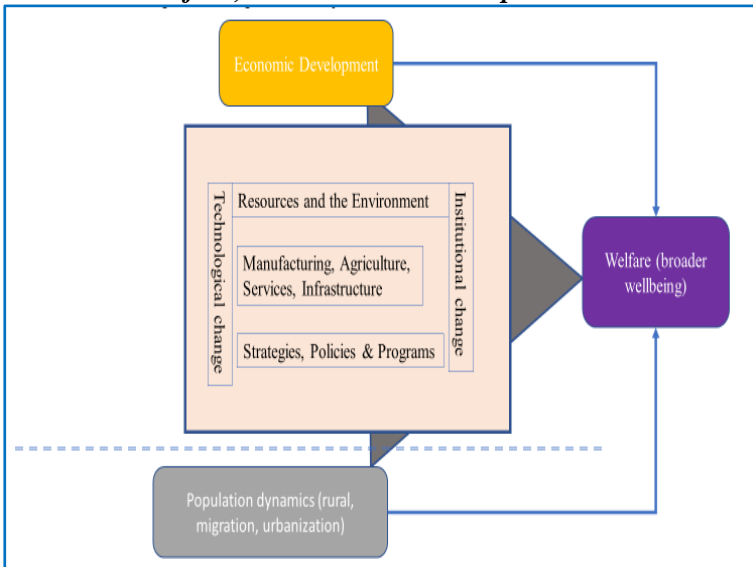
It is argued that despite the developmental challenges associated with migration, it also contributes to socio-economic development. It is important to fully appreciate the ‘push’ and the ‘pull’ factors in migration. Many governments now recognize the potential for migration to contribute to socio-economic development, for example, rural to urban migration, in the case of Ethiopia eases pressure on the land and offers opportunity for land consolidation. On the other hand, international migration, which is not the core element in this study, requires governments to leverage remittances from international migrants to development sectors and to facilitate skill transfer programs in order to maximize development benefits of migration.

Poverty can force or prevent migration, but most often it limits the types of migration and destinations open to poor people, and determines the conditions under which they migrate as a livelihood strategy. In return, migration is one of the key contributing factors to urbanization, although natural increase and the reclassification of settlements are major contributing factors (Awumbila, 2014). If rural-urban migration and the forces of

urbanization, for example, are not managed properly, growth of informal settlements can overwhelm city growth and exacerbate urban poverty. This means, poverty also urbanizes with growth and urbanization (Singru, 2015).

Interrelationship among migration, urbanization and poverty are therefore complex and highly context-specific social processes and phenomena. There are numerous multidirectional and multidimensional linkages between urbanization, migration and poverty; each can act to drive or prevent the others, and each can influence the outcomes of the others (Awumbila, 2014). A simplified schematic presentation of the interrelationships among urbanization, migration, urban welfare, and economic development is depicted in Figure 1.1.

Figure 1.1: Interrelationships among population dynamics, welfare, and economic development



Source: authors

As Todaro and Smith (2015: 164) pointed out, ‘many newer theories of economic development that became influential in the 1990s and the early years of the twenty-first century have emphasized complementarities between several conditions necessary for successful development. These theories often highlight the problem that several things must work well enough, at the same time, to get sustainable development under way. They also stress that in many important situations, investments must be undertaken by many agents in order for the results to be profitable for any individual agent. Generally, when complementarities are present, an action taken by one firm, or organization increases the incentives for other agents to take similar actions.’

Furthermore, there are three overarching conceptual underpinnings that help clarify the relationships among population, the economy and welfare. First, the most enduring theory was advanced by Thomas Malthus (1798) postulating that population grows geometrically, while food supply only increases arithmetically. If left unchecked, this causes the population to outstrip food supply, which leads to a ‘Malthusian catastrophe’. The resulting policy proposition has been to keep the population growth in line with food supply, either by placing limit on the growth of the population (for example, by lowering the birth rate which is preventive checks), or a natural restriction that limits the growth of the population by increasing the death rate (positive checks). The underlying assumption that population continues to grow indefinitely, and food production would not keep pace with population growth has not come to be true in more general sense. Production continues to expand beyond the Malthusian imagination benefiting from successive technological changes over the past century, and still there are a constant quest for expanding the frontier of production.

On the population side, despite population boom benefiting from health sector improvements, fertility rate as well as population growth rates have declined among populations in advanced economies. In fact, natural increase in population is below a natural replacement rate (that is birth rate is lower than death rates) thereby leading to declining population. In some developed economies (such as Japan, Italy, Germany, etc.) birth rates are below the natural replacement rate. Also, more globally, advances in agricultural technologies have made it possible to substantially increase production. While it took a century to arrive at the present state of population transition in developed economies, however, the case of developing countries is somewhat different. In most developing economies, growth in population exceeds that of growth in food production; this is not because of limiting natural resources, but because of the way developing countries have approached changes in technology, and the resulting fear of creative destruction.

As readers may notice from Chapter 4, early pattern of population transition appears to be emerging in Ethiopia, although inconclusive, that total fertility rate (being the number of babies born to females during their productive age) has declined from 7.1 in the 1990s to 5.2 in 2020 in rural area; whereas it has declined from 6.6 to 4.6 in urban areas during the same time. Historically, Ethiopia's population growth rate was 1.87% in 1950s, 2.73% in 1970s, 3.66% in 1990s and 2.57% in 2020. While the long-term population growth rate shows a slight decline compared to past decades, it remains one of the highest. At this point, it is not sufficiently clear whether or not 'demographic transition' is taking place in Ethiopia.

On the other side, agricultural production and productivity have continued to grow close to and/or below population growth

rate and expanded demands for food supplies. Ethiopia is lagging entry into the full-scale modernization of agricultural and allied sector technologies. As such, the Malthusian bomb cannot be ruled out unless Ethiopia earnestly works in multiple fronts of technological change.

The second, and as equally prominent scholarship on population was advanced by Boserup (1965) that stipulates "...human societies have had to face the problem of inter-relationship between population growth and food production. There are two fundamentally different ways of approaching this problem. On the one hand, we may want to know how changes in agricultural conditions affect the demographic transition. And, conversely, one may inquire about the effects of population change upon agriculture." Boserup's theory suggests that population change in primitive societies will lead to agricultural intensification with resulting increase in production. This counters Malthusian hypothesis. While Boserup's model of population pressure offering or leading to increase in agricultural production in the early stages of technological changes in agriculture (what is typically referred to stage I and II of mechanization, i.e. reduction or suspension of fallowing, use of ox plow, soil fertility management, use of irrigation, improved farm management), however, the model also faces severe limitation as the case of Ethiopia presents, that is, population pressure has not yet induced advanced technological adoption, at least for now. In spite of a continued increase in production both from expansion in area cultivated as well as limited use of agricultural inputs smallholder farms are saturated and no longer absorbing new entrants into agriculture (see Diriba, 2018). As the second chapter in this study presented (see Chapter 2), rural to urban migration is taking place on an increasing scale; land carrying capacity and labor

productivity have reached a diminishing return under the prevailing agricultural technologies and practices. The combined effects are that there are numerous rural and urban population who are faced with chronic and transient welfare deficits across range of variables including food, housing, water, fuelwood, and other essential expenditure for life (see Chapter 5 on urban welfare section).

The third framing of population issue is one that is focused on policy prescription and advocating for labor-intensive approach. The labor-intensive prescription is very appealing to politicians and policy planners, especially in economies dominantly rural and agriculture, and where manufacturing is at a low level. Implicit in such a prescription is of the fear of technological change and its consequences of replacing labor-intensive traditional methods of production, hence loss to labor. The key question is what exactly is ‘labor-intensive’ approach? A standard description of labor-intensive is provided as an industry or sector in which goods or services are produced with a large amount of labor, requiring a large number of employees in order to be successful. Labor intensity may be quantified by taking a ratio of the cost of labor (i.e., wages and salaries) as a proportion of the total capital cost of producing the good or service. The higher the ratio, the higher the labor intensity. In their natural state, labor intensive industries include agriculture, mining, and services.

The implication of labor-intensive policy prescription is that it assumes that technologies are labor-saving and will result in surplus labor that cannot be employed elsewhere. This has been a policy prescription throughout successive polities, but more so over the past three-decades policy landscape in Ethiopia. Because of the population increase, combined with insufficient productivity

in the economic sectors, and growing demand for employment outside agriculture by the youthful population, it has become an imperative for politicians to fall back to the default ‘natural state’ which is using one’s labor to produce goods and services as has been throughout the millennia. Furthermore, because of low labor and land productivity in agriculture, food supply falls short of national and household demands, and where supplies are available, it costs very high relative to regional and international border prices.

1.2.2. Population, Urbanization, Migration, and Economic Development

Economic Development

In its standard approach, development could mean achieving sustained rates of growth of income per capita; it is also about ‘human welfare freedom’ (Sen 1999). The most inclusive development is declared in agenda 2030 that commits to end poverty and hunger everywhere; to combat inequalities within and among countries; to build peaceful, just and inclusive societies; to protect human rights and promote gender equality and the empowerment of women and girls; and to ensure the lasting protection of the planet and its natural resources. It also resolves to create conditions for sustainable, inclusive and sustained economic growth, shared prosperity and decent work for all, taking into account different levels of national development and capacities (UN 2015). At the most fundamental level, development is about the ability to meet basic needs, to be a person, freedom from servitude and be able to choose.

Migration reinforcing urbanization

Migration is a significant contributor to urban growth and to the urbanization process (Jedwab and Vollrath, 2015). Although a rapid increase in urban population is also caused by the high rate of natural increase in towns and re-classification of settlements into urban areas, migration accounts for a significant proportion of urbanization in Africa (UN-Habitat, 2014). Internal migration, and net migration to urban areas in particular, drives the urbanization of a country's population. Rapid overall population growth often overlaps with rapid urbanization, creating especially fast urban population growth.

Migration patterns include economic migrants and forced displaced population (due to natural hazards, political pressure, etc.). Whether it is for economic reason or due to forced displacement, migration leads to rapid urbanization in different city sizes, types and their hinterland. This can be noticed in urban sprawling, informal settlements proliferation, infrastructure shortages, land value increase, and growing tensions between migrants and host communities competing for scarce basic urban services (Murillo, 2017). Hence, it can be considered that urbanization is primarily the result of migration, and it is reasonable to treat it as such (Tacoli et al., 2014; Owusu, 2018).

Urbanization reinforcing migration

Urbanization reinforce migration serving as a pull factor. A growing industry around urban areas attract surplus labor from the countryside. This creates a situation in which urban areas require a continuous supply of rural migrants (job opportunity as a pull factor). Furthermore, availability of better educational opportunities, better health care services, better infrastructure, better working conditions, better political stability and security in

urban areas could be among pull factors to rural people to migrate to urban. The fact that rural population growth outpaced urban population growth also ensures inevitability of rural-urban migration.

Understanding what underpins urbanization and migration and how these may change in the future is important to consider the implications of urbanization and migration for sustainable development. The more important policy and operational agenda of the conditions of urbanization and detailed diagnostics of migration is further discussed in chapter three.

Urbanization and welfare

Urbanization generates new opportunities for rural workers, who shift out of agriculture and into more remunerative, non-farm activities in cities (serving as a pull factor). In this way, urbanization directly affects rural poverty as income generated from urban areas may be used to improve livelihoods in the source rural areas. Urbanization also entails indirect positive effects in rural communities. The rapid growth of cities also means an increase in the demand of agricultural goods and other products from rural areas, which fosters economic growth and alleviates poverty in rural areas.

The effects of urbanization on poverty are drastically different. Fast urbanization and unregulated urban growth often go hand in hand with poverty, inequality, disproportionate share of slum dwellers and marginalization which decrease the ability of cities to manage increasing pressures. However, the capacity of urban towns to plan for and cater for the increasing migrants by providing employment, access to land and basic amenities are limited posing added burdens on already overwhelmed cities. As cities develop, dramatic increases in property prices are

commonplace, which often displaces poorer city-dwellers who cannot afford to live in the area anymore. Rapid urbanization may also pose complex management problems in housing, transport, land use, the environment, energy, public services and finance adversely affecting urban welfare. Lack of adequate resources to enhance the quality of urban infrastructure and promote urban dwellers' access to affordable housing, water, electricity, health facilities and other social amenities (Owusu, 2018); and inadequate investments to generate employment opportunities (UN-Habitat, 2018) could be among the major challenges in tackling urban poverty. This means, urbanization may adversely affect the welfare of both migrants and urban host communities.

Generally, urbanization may contribute to poverty reduction, especially in the rural areas, and at the same time it may lead to increased poverty in urban areas, especially when it is not guided properly. Local governments play perhaps the most important role in ensuring that urbanization is inclusive and that its benefits are shared. It is important to keep in mind that the very large proportion of the urban population of low- and middle-income nations that lacks access to adequate housing, basic infrastructure and services is made up of migrants and non-migrants (Tacoli, 2017).

Migration and poverty

The linkages between migration and poverty obviously depends on who migrates. Labor migration is usually by young able-bodied people. While they are often men, the gendered nature of labor markets (both demand and supply) is context- and sector-specific, and changing over time. For example, the expansion of service sectors may lead to larger numbers of female migrants, export-industries may have a preference for (young) women, and

cultural factors may influence the propensity of women to migrate (De Haan and Yacob, 2009).

In terms of general linkages between migration and poverty, migration can both cause and be caused by poverty. Similarly, poverty can be alleviated as well as exacerbated by migration. Poverty can be taken as a cause for migration in relation to the fact that the poor have more propensity to migrate. People from the poorest areas often do not have access to the most rewarding opportunities (de Haan and Yaquub, 2009). Migration is often seen simply as a flight from poverty. If there are no opportunities available locally so people migrate in order to survive. Flight from a devastating famine would appear to be the classic example where migration is caused by poverty. The survival migration of the poorest is likely to be mainly local, or regional at most, and primarily within a country (Skeldon, 1997). The poorest migrate often as an extreme survival strategy. People from the poorest areas often do not have access to the most rewarding opportunities, in urban areas or abroad, though they may migrate to activities nearby, for seasonal agricultural and less rewarding work. As survival strategies, migrants from the poorest households include younger and more vulnerable family members (de Haan and Yacob, 2009).

Migration may also cause poverty in urban areas. Migrants often account for a disproportionate proportion of the urban poor and face specific disadvantages (Tacoli et al., 2014). Migrants' disadvantages in the cities often relate to exclusion from citizenship rights and from social protection programs. Although informal sector jobs are common among the urban poor, migrants are less likely to have access to land and capital, and have higher levels of food insecurity than non-migrants (Crush, 2012). Moreover, migrants are often committed to sending remittances to

home areas to support relatives and also to repay debts, and this can be a major drain on their incomes (Tacoli et al., 2014).

Migration, especially internal migration, helps in alleviating poverty. According to Deshingkar (2006), internal migration has greater potential for poverty reduction and contributing to economic growth in developing countries than does international migration. This is because of four things. First, internal migration stems from a broader base where smaller sums of money are evenly distributed to specific areas and poor families through internal remittances (rather than international remittances, which reach fewer people). Second, it is likely that internal migration will continue to increase at a faster rate than international migration. Third, internal migration involves poorer people from poorer regions and has a strong role to play in achieving poverty reduction goals. Fourth, it is an important driver of growth in many sectors including agriculture, manufacturing, construction, coastal economies and services. Hence, migration can generally be a reaction to severe poverty, or a chosen livelihood strategy to improve upon household wealth (Awumbila, 2014).

Migration may also exacerbate urban poverty and the development of informal settlements. Various factors drive migrants to congregate in particular areas of cities, including social networks, exclusion from housing or employment in indigenous neighborhoods, xenophobia and protection in numbers (Agyei-Mensah and Owusu, 2009). Many of these migrant communities emerge in urban slums as these areas become a primary destination for internal and intraregional migrants, thus feeding into the “urban divide” that characterizes many of Africa’s urban areas. Spatially, the urban divide in Africa is reflected in the high incidence of slums and informal settlements (Awumbila, 2014).

In addition to the poverty levels in the destination urban areas, migration may also aggravate poverty in rural source areas. The general finding of most studies of migration in non-disaster situations is that it is not the poorest who move but those with access to some resources, no matter how meagre these might appear. Because, migration always involves some costs of transportation and the abandonment of many of the few possessions the poor might have. The poorest of the poor cannot afford either risk or movement and the majority starves in situ (Skeldon, 1997). Migrants are often not from the poorest regions, as remoteness may make migration more difficult, and usually not from the poorest households, because the cost of migration may be too high (De Haan and Yacob, 2009). Hence, migrants have to sell their or their family's possessions in order to migrate (especially for international migration) aggravating the poverty situation. This would be worsening the poverty situation at least in the short-run if migrants are successful to improve their lives, and could be for an extended period of time if migrants fall short of their expectations in the destination countries or cities.

There are also ways in which migration may lead directly to an increase in the number of absolute poor. The clearest way is through forced relocation without adequate planning and support. In many cases, the forced relocation is essentially the product of development, mainly through the creation of lakes and reservoirs that are the result of the construction of dams, although displacement for roads and urban expansion is also important (Skeldon, 1997). Relocation that has been happening for the last decade or so following expansion of Addis Ababa can be taken as an example for this. Perhaps the key difference separating forced population displacement due to development policy from other types of migration is that the numbers moving and the timing of

the movements are known. Thus, if poverty is indeed the result of the forced migration it is the fault of inadequate planning rather than of the movement itself. Hence, there is no necessary reason that migration must lead to an extension of poverty although this often appears to be the result (Skeldon, 1997).

1.3. Organization of the Book

This book - State of the Ethiopian Economy 2020 - explores the major concepts briefly discussed under this chapter. The book is organized into six chapters. Chapter one establishes underlying conceptual links among economic development, population and welfare. Chapter two presents macroeconomic outlook, structural change and policy options; chapter three presents urbanization and development; chapter four population dynamics and rural to urban migration; chapter five presents analysis of multi-dimensional poverty and inequality, and prospects; and chapter six discusses conclusions and policy recommendations.

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CHAPTER TWO

Macroeconomic Outlook, Structural Change and Policy Options in Ethiopia: Achievements, Aspirations, and Prospects

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2. Macroeconomic Outlook, Structural Change and Policy Options in Ethiopia: Achievements, Aspirations, and Prospects

2.1. Introduction

2.1.1. *Background and Motivation*

In the last decade and half Ethiopia has registered notable economic growth and considerable poverty reduction. Access to social services such as education and health have shown remarkable progress though quality and equity issues remain. Key issues relating to the sustainability of growth have arisen as the growth has been largely driven by public investment in infrastructure, resulting in government debt and fiscal space concerns. In terms of sectoral contribution to growth, the service sector has been the main driver despite the government's policy of focusing on agriculture and industry (Martins, 2014; Ferede and Kebede, 2015; World Bank, 2016; Office of the Prime Minister, 2019). As a result, despite structural transformation being the focus of government policies over the last decade, as underlined in the first Growth and Transformation Plan (2010–2015) and the second Growth and Transformation Plan (2015–2020), achievements have been less than hoped.

Moreover, as highlighted in the recently crafted Homegrown Economic Reform Agenda document prepared by the government, growth in the last decade came from capital accumulation due to heavy investment rather than total factor productivity gains (Office of the Prime Minister, 2019). This was confirmed by Hailu et al., (2020) who found capital accumulation to be the main drivers of growth in Ethiopia in recent years while

the contribution of overall productivity as measured by the total factor productivity (TFP), had been small. The lack of growth in TFP raises sustainability concerns about the growth performance of the last decade.

Both issues, of overall productivity and structural transformation, are important factors for sustaining growth momentum and the creation of broad-based productive employment. A detailed analysis of the drivers of aggregate productivity and structural transformation is warranted to guide policies that can ensure sustainable growth and poverty reduction.

Productivity is the efficiency with which inputs are converted into output and it provides a key indicator of economic effectiveness. Productivity growth is the basis for improvements in real income and welfare. The measures of the level and growth of productivity, therefore, represent important economic performance indicators.

Several theoretical and empirical studies have shown that productivity differences are at the center of differences in prosperity among countries. Klenow and Rodriguez-Clare (1997) attribute up to 90% of income per capita difference among countries to total factor productivity (TFP) differences. Similarly, Hall and Jones (1999) document that large differences of output per capita among countries are attributable to productivity differences which, in turn, are driven by the quality of institutions and policies. The general consensus among development researchers is that efficiency is at least as important as capital accumulation for economic growth (Caselli, 2005).

A key driver of aggregate total productivity is the way inputs are allocated in such enterprises as manufacturing firms. Hsieh and Klenow (2009) found a larger dispersion of firms' marginal productivities in capital and labor in China and India than

of firms in the US, indicating a misallocation of inputs in China and India. They calculate this resulted in efficiency losses in terms of TFP of 30-50% in China and 40-60% in India. This points up the vital role of firm-level productivity for aggregate productivity and thus of overall economic performance.

Similarly, structural transformation, can be defined as the reallocation of resources among the sectors of the economy (Herrendorf et al., 2014). Duarte and Restuccia (2010) defined structural transformation as the reallocation of labor among economic sectors. Since labor productivity is lower in agriculture, faster and more robust structural change to the manufacturing sector is needed for sustainable and inclusive aggregate productivity growth that can significantly improve living standards and reduce poverty (Gollin et al., 2002; Gollin et al., 2014; Bustos et al., 2016). Manufacturing not only exhibits faster growth in productivity but also a higher potential for absorbing surplus labor from other sectors (Rodrik, 2011). The manufacturing sector is also characterized by economies of scale generated by the accumulation of human capital through on-the-job-training and learning (Lucas, 1988). Additional reasons for structural transformation include the fact that growth in the urban sector, both in manufacturing and service sectors, can boost demand for agricultural and agro-processed goods and positive externalities resulting from the agglomeration effects of urbanization (World Bank, 2016b).

Much of the difference in growth among countries come from labor productivity differences arising from the patterns of structural change rather than from differences within sector productivity (McMillan and Rodrik, 2011). As such, Ethiopia can achieve substantial productivity gains from structural change. Page (2011) demonstrates that if Ethiopia's economic structure

shifted to that of a typical African state middle-income economy, its per capita income would double.

Most studies on structural transformation have focused on the development path of the today's advanced economies (Herrendorf et al., 2014). Emerging economies, such as China, South Korea, and countries in Latin America, have also received modest attention. Dekle and Vandenbroucke (2012) found that sectoral productivity differences and a decline in size of the government triggered structural transformation in China, while studies such as Teignier (2018) found trade to have played a key role in South Korea's structural transformation. Research on structural transformation in Sub Sahara African countries remains limited. Herrendorf et al., (2014) emphasizes the need to conduct more quantitative studies on structural transformation in less advanced countries to understand their development paths.

Rigorous studies on structural transformation in Ethiopia remains limited. Martins (2014), Ferede and Kebede (2015) and Hailu et al., (2020) are the notable examples of studies on structural transformation in Ethiopia. Martins (2014) and Ferede and Kebede (2015) focus on the period before 2013, and while Hailu et al. (2020) uses more recent data, the analysis focus on three major categories of agriculture, service, and industry without further disaggregation.

The current study concentrates on the state of structural transformation in Ethiopia using data from two decades (2000-2019) and detailed sectoral disaggregation. It also addresses the drivers of aggregate productivity by analyzing the relative importance of TFP and capital accumulation over the last two decades. And in addition to a detailed analysis of structural transformation and the drivers of aggregate productivity, it provides an overview of Ethiopia's macroeconomic performance

using updated data. Future research on detailed sector-specific constraints on structural transformation such as challenges of modernizing agriculture, manufacturing, and service sectors is warranted. Such studies will contribute to disentangling the factors for slow structural transformation in the Ethiopian economy.

The recently crafted Homegrown Economic Reform (HGER) agenda aims at addressing some of the sustainability challenges the economy has had to face after more than a decade of double-digit growth. Focusing on three pillars of reform, macroeconomic, sectoral, and structural, the reform agenda aims to make the private sector the driver of economic development. The government of Ethiopia has developed a Ten-year perspective plan to guide development in the country for the period 2020-2030. The plan is centered around creating a stronger forward and backward linkage among the economic sectors; provision of special support to priority sectors based on their potential for high productivity, employment, and their ability to support other sectors; making the private sector is the true engine of economic growth; and strengthening public-private partnerships. The priority sectors identified are modern agriculture, manufacturing, mining, and tourism.

The current study provides some key recommendations that can be implemented as part of the homegrown economic reform agenda and the ten-year perspective plan being implemented by the government.

2.1.2. Research Objectives

The proposed research also aimed to assess and measure the level of achievement in macroeconomic development endeavors, by assessing and updating various economic development indicators and their prospects, to help identify

possible alternative policy options for Ethiopia. The study focuses on examining macroeconomic development over the past decade. The current and future impact of the Covid-19 pandemic on the Ethiopia economy is also addressed through a systematic review of studies.

Specifically, the study addresses the following issues: Measuring the level of macroeconomic development using such indicators as GDP, GDP per capita, GDP growth rates, inequality, and the human development index; assessing achievements based on different macroeconomic indicators; examining the sources of macroeconomic imbalances, if any, in Ethiopia; examining the prospects and challenges of sustaining broad-based economic growth through structural transformation; and identifying feasible macroeconomic policy options for achieving the intended development goals in Ethiopia.

2.1.3. Overview of Scope, Research Methods, and Data

Sources

The main data sources used are the national accounts' data from the Planning and Development Commissions, the National Bank of Ethiopia, Penn Tables (Feenstra et al., 2015), the World Bank's World Development Indicators, the IMF, and the 2015/16 Social Accounting Matrix (SAM) data prepared by the FDRE Policy Studies Institute. The main quantitative methods applied are national accounting and various decomposition methods as well as time-series forecasting tools.

2.2. Trends in Macroeconomic Indicators in Ethiopia

2.2.1. Key Policies and Strategies

Economic policies and strategies in Ethiopia since the 1990s have been prepared against the backdrop of the overarching

Agricultural Development Led Industrialization (ADLI) strategy (FDRE/MoInfo, 2002; Gebreeyesus, 2013). Five-year national development plans were prepared, accompanied by sector development plans for education, health, roads and other areas. During the Sustainable Development and Poverty Reduction Program (SDPRP) of 2002-2005, the agricultural sector was the center element of the program along with social (education and health) and physical infrastructure such as roads (MoFED, 2002). Despite coinciding with the industrial strategy of 2002, it does not identify the industrial sector as a key focus of the program. The Plan for Accelerated and Sustained Development to End Poverty (PASDEP), a five-year development plan for the period 2005–2010 built on the previous SDPRP (MoFED, 2005), but one of its pillars, in relation to entrepreneurship, was the creation of employment opportunities specifically in urban areas, focusing on labor-intensive industries through promotion of Medium and Small Enterprises (MSEs).

While the economy grew on average by 11% during the PASDEP plan period, the structural transformation from agriculture towards industry was not achieved as hoped. During the first Growth and Transformation Plan (GTP) which ran from 2010 to 2015, and the second GTP (2015-2020), the industrial sector received substantial support while still maintaining agriculture as the main source of growth (MoFED, 2010; NPC, 2016). During the two GTPs a more active industrial policy, aiming to transform the structure of the economy from agriculture to industry and a higher value services' sector, was emphasized.

Various support schemes were directed towards selected export-oriented and import-substitution sectors such as textiles, leather goods, cement, and pharmaceuticals. The interventions included direct capacity building support and fiscal incentives

such as tax holidays, reduction of indirect taxes on capital goods and preferential credit to selected sectors. Heavy government investment on infrastructure was also envisaged to enhance the competitiveness of the private sector (Gebreeyesus, 2013). The construction of industrial parks after 2015 is a typical example of the more active industrial policy approach being implemented more recently.

Economic policies and strategies over the last decades have brought fast economic growth accompanied by a substantial reduction in poverty. However, the extent of public investment has been one of the key factors which have led to concerns of debt sustainability, and the private sector has failed to operate as expected, raising sustainability concerns. Key private sector challenges have included supply-side challenges such as logistics, foreign exchange shortages, slow customs clearance, and the poor quality and unavailability of inputs.

In September 2019, the government launched a three-year comprehensive economic reform package, the Homegrown Economic Reform (HGER) Agenda. The HGER envisions promoting a sustainable and inclusive private investment-led growth that creates jobs and reduces poverty. The reform agenda is set against the background of rapid economic growth and poverty reduction for around two decades, but also a series of emerging challenges related to macroeconomic imbalances and structural bottlenecks, which unless addressed, would bring the country's development momentum to a sharp halt. The HGER therefore aims to drive reform on three fronts; macroeconomic, structural and sectoral.

The government of Ethiopia has developed a Ten-year perspective plan to guide development in the country for the period 2020- 2030 (PDC, 2020a). The plan is centered around creating a

stronger forward and backward linkage among the economic sectors; provision of special support to priority sectors based on their potential for high productivity, employment, and their ability to support other sectors; making the private sector is the true engine of economic growth; and strengthening public-private partnerships. The priority sectors identified are modern agriculture, manufacturing, mining, and tourism.

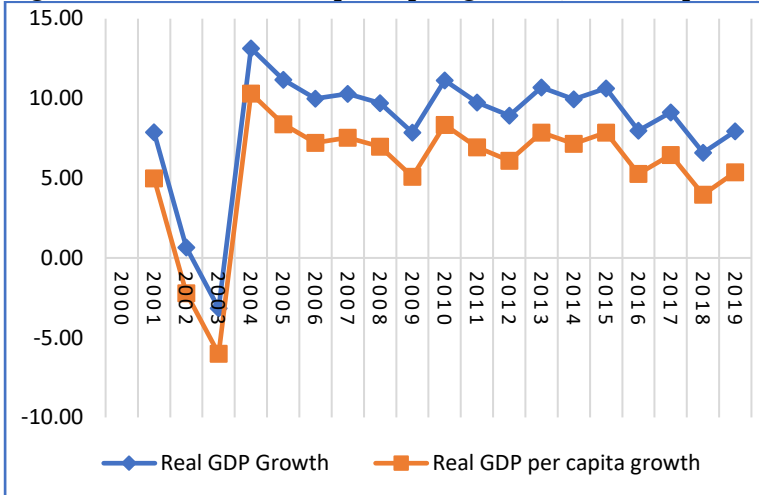
The Ten-year perspective plan aims at building a prosperous country by following a pragmatic market-based economic system; registering a fast and sustainable economic growth by ensuring sustainable macroeconomic environment; brining structural economic transformation by promoting productivity and competitiveness; ensuring access to quality social and physical infrastructure to citizens; and building institutions and systems to promote rule of law and stability in the country.

It has now been one year since the HGER was launched but there hasn't yet been a comprehensive evaluation of its impact and progress. There have also been concerns about the harmonization of the HGRE with the Ten-Year Perspective Plan currently being developed.

2.2.2. Drivers of GDP Growth

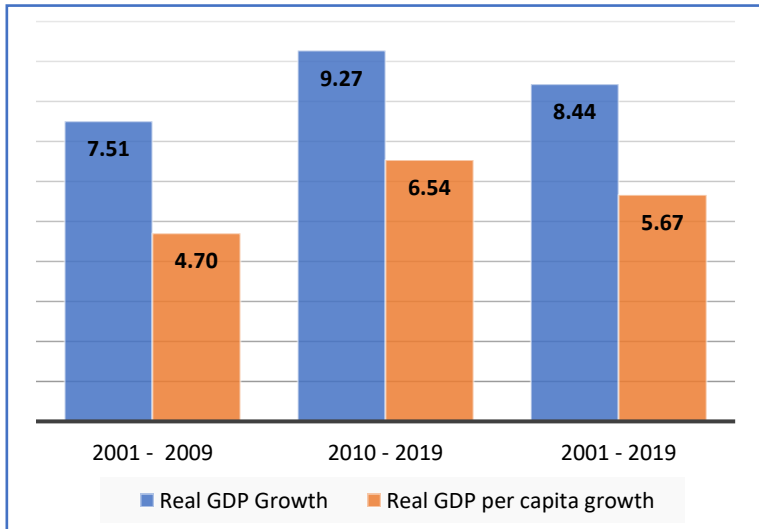
As shown in Figures 2.1 .and 2.2, real GDP growth between 2000 and 2009 averaged 8.44% while real GDP per capita in the same period was about 6%. For the period between 2010 and 2019, real GDP growth and real GDP per capita growth averaged 9.27% and 6.54%, respectively; the corresponding figures for the 2000-2009 period were 7.51% and 4.7%. The just concluded decade showed a slightly higher average growth than the previous one.

Figure 2.1: GDP and GDP per capita growth (at 2015/6 prices)



Source: Author's computation using PDC data

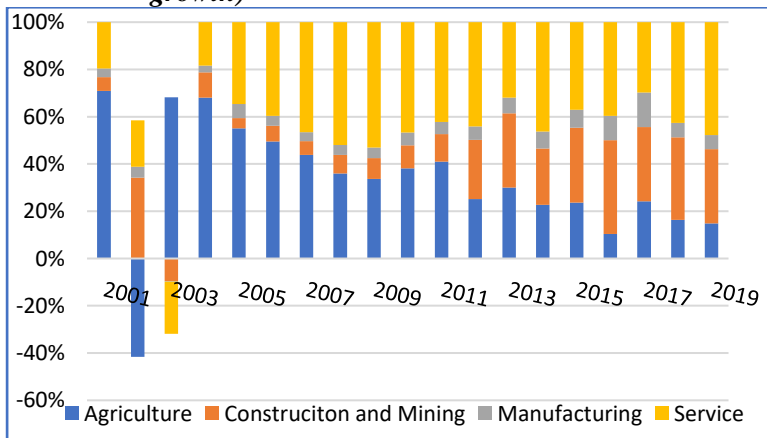
Figure 2.2: GDP and GDP per capita growth for selected periods (2015/6 prices)



Source: Author's computation using PDC data

The growth was largely driven by substantial public investment on infrastructure coupled with a solid performance by the service and construction sectors that benefitted from some modest mobility of labor from the agricultural sector. Figure 2.3 shows that out of the 9.27% average real GDP growth registered between 2010 and 2019, the agricultural sector contributed 2.32 (25%), construction 2.5 (27%), manufacturing 0.65 (7%), and service 3.8 (41%). In recent years, the contribution of the service and the construction sectors to real GDP growth has been increasing. For real GDP growth in 2001, the agricultural sector contributed about 71% while the service sector, construction (including mining), and manufacturing contributed the remaining 19.6%, 5.7%, and 3.7% respectively. In 2019, however, the service sector, the construction (including mining), agriculture, and the manufacturing sectors contributed 47.8%, 31.5%, 14.8%, and 5.9% respectively. In fact, the service and construction sectors have become the dominant drivers of GDP growth in recent years.

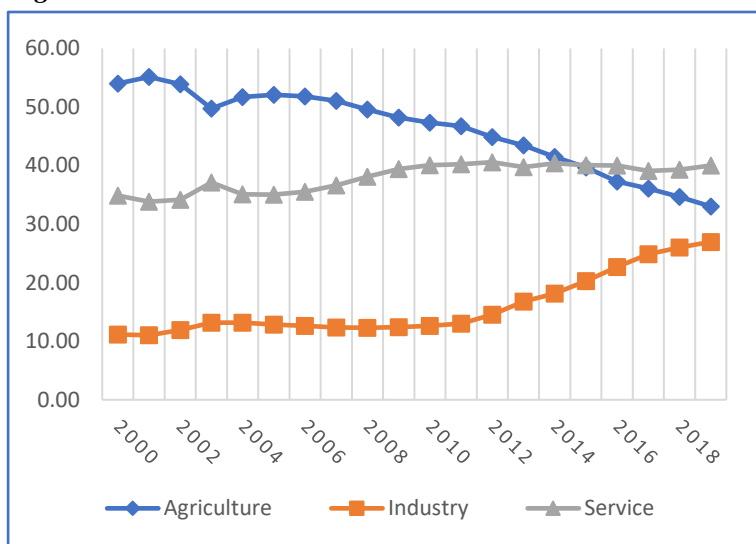
Figure 2.3: Sectoral Drivers of GDP Growth (% contribution to growth)



Source: Author’s computation using PDC data

In terms of sectoral contribution to real GDP, the service sector has overtaken agriculture since 2015 (Figure 2.4). In the year 2000, the share of the agricultural sector to GDP was 54% while the service sector contributed 35%. The remaining 11% came from the industrial sector. In 2019, the service sector contributed 40% of GDP while the agricultural sector contributed 33%. The fast-growing industrial sector contributed 27%.

Figure 2.4: Trends in sectoral shares of GDP

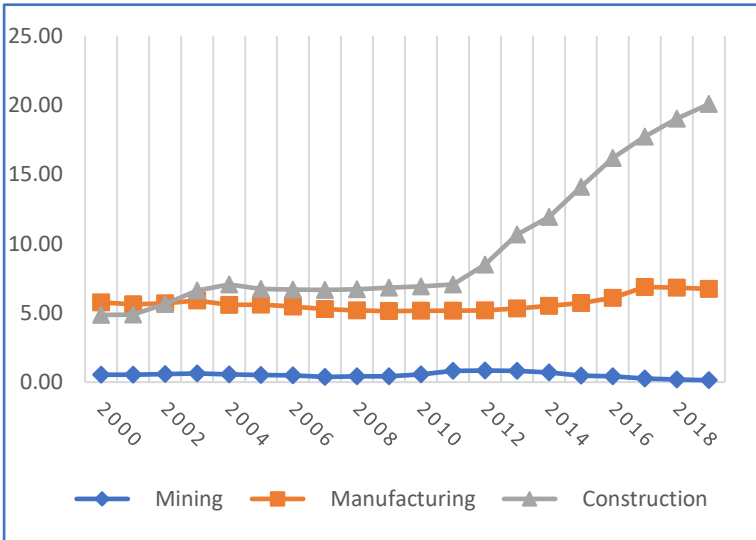


Source: Source: Author’s computation using Planning and Development Commission (PDC), and International Labor Organization (ILO) data

The fast growth in the industrial sector has been largely driven by construction as shown in Figure 2.5. Since 2011, the gap between construction and the manufacturing sector has steadily widened. While the share of the construction sub-sector to GDP was less than 4.9% in 2000, manufacturing was 5.8%. Manufacturing’s share has only increased by less than 1 percentage point in the last two decades, but the share of

construction sector quadrupled between 2000 and 2010. The mining sub-sector has only made a meager contribution to GDP, and this has even declined from 0.54% in 2000 to 0.14% in 2019.

Figure 2.5: Value added shares of the components of the industrial sector

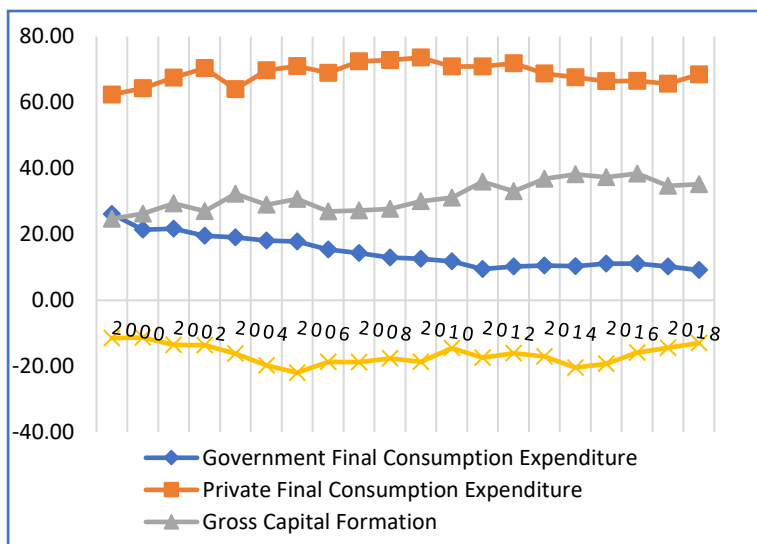


Source: Author’s computation using PDC and ILO data

In terms of the expenditure side of GDP, private consumption has the highest share, hovering around an average of about 69% in the last two decades, followed by gross capital formation (investment) with a share of about 32% as shown in Figure 2.6. Trade balance accounted for -16% while government expenditure covered about 15%. While the overall share of the expenditure components of GDP have not changed significantly in the last two decades, there has been a shift away from government consumption towards gross capital formation (investment). In 2019, government expenditure accounted for 9% of GDP,

compared to about 26% in 2000, while the share of gross capital formation rose to 35% in 2019 from 25% in 2000.

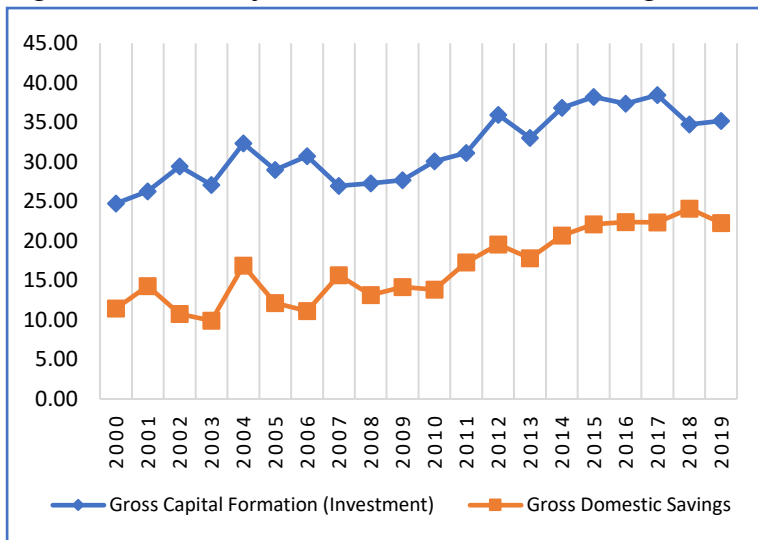
Figure 2.6: Expenditure components of GDP (%)



Source: National Bank of Ethiopia

The increase in the share of capital formation in GDP has been accompanied by an increase in domestic saving as shown in Figure 2.7. This indicates domestic saving may have played a crucial role in boosting GDP growth over the last two decades, but the gap between investment and domestic saving also points to the key role of foreign capital inflows in the form of loans and grants.

Figure 2.7: Shares of Investment and domestic saving in GDP

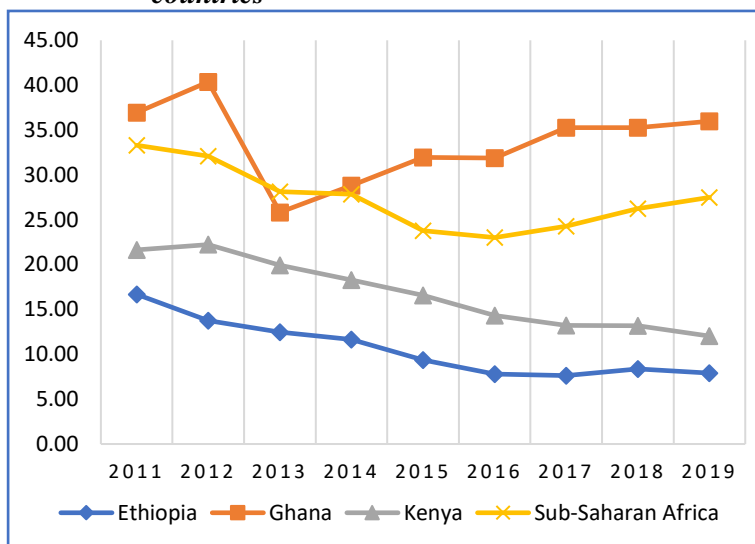


Source: NBE (2020)

2.2.3. Export Trends

Exports as a share of GDP have either been stagnant or in decline in the period after 2011 as shown in Figure 2.8. Its share halved between 2011 and 2019 and it remains one of the lowest even by Sub-Sahara African standards. In 2019, while it was close to 8% (down from about 17% in 2011), the average for sub-Saharan African countries was 27.5%. The agricultural sector remained the top export earner for the country with close to 82% of all exports coming from it as shown in Table 2.1.

Figure 2.8: Export as a percentage of GDP in selected countries



Source: World Development Indicators (WDI), World Bank

Table 2 1: Export shares by sector

Sector	2017		2018		2019	
	Value (Millions ETB)	Share (%)	Value (Millions ETB)	Share (%)	Value (Millions ETB)	Share (%)
Agriculture and related	2228	76.6	2248	79.4	2179.7	81.7
Coffee	883.2	30.4	839	29.6	764.1	28.7
Oilseeds	351	12.1	423.5	14.9	387.8	14.5
Pulses	279.9	9.6	269.5	9.5	272.3	10.2
Fruits & Vegetables	56.1	1.9	61.4	2.2	60.9	2.3
Meat & Meat Products	98.7	3.4	101.7	3.6	88.6	3.3
Live Animals	67.6	2.3	61.1	2.2	45.8	1.7
Flower	218.5	7.5	228.6	8.1	256.6	9.6
Chat	273	9.4	263.2	9.3	303.6	11.4
Industry including mining	322.8	11.1	232.6	8.2	145.3	5.4
Leather and leather products	114	3.9	132.4	4.7	117.4	4.4
Gold	208.8	7.2	100.2	3.5	27.9	1
Others	356.6	12.2	355.5	12.5	341.4	12.8
Electricity	73.4	2.5	80.5	2.8	55.7	2.1
Others	283.2	9.7	275	9.7	285.7	10.7
Total Export	2907.5	100	2836.1	100	2666.5	100

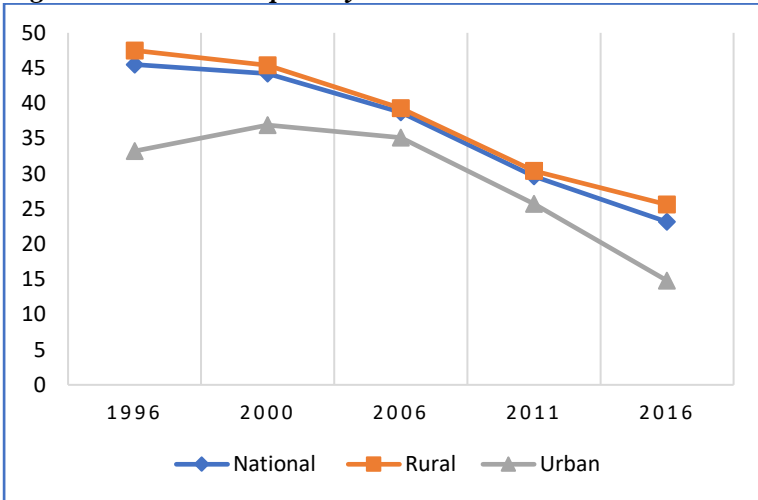
Source: NBE (2020)

2.2.4. Poverty and Inequality

In terms of the ‘war on poverty’, substantial progress has been registered in the last two decades. Extreme poverty (the percentage of the population living below the international poverty line) fell from 55% in 2000 to 23.5% in 2015/6 (Figure 2.9). This was, however, largely achieved by a modest growth in agriculture rather than by any structural transformation (World Bank, 2015). Poverty in rural areas, 26%, remains significantly higher than in urban areas, standing at 15% in 2015/6.

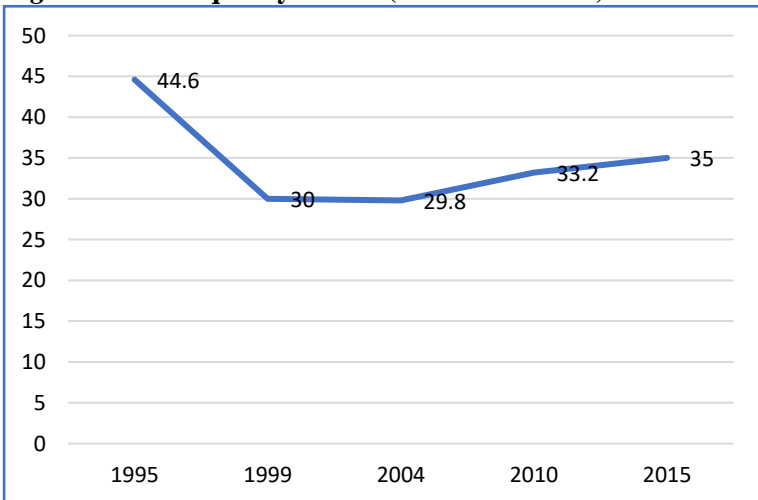
Inequality, measured by the Gini coefficient which stood at 0.35 in 2015/6, remains low by the standard of many developing countries (Figure 2.10). However, the corresponding Gini for urban areas in 2015/6 was 0.38 and 0.28 in rural areas, pointing to higher inequality in urban areas. In addition, the overall low Gini coefficient can be a reflection of a majority of people having a low income. Indeed, the issue of inequality can eventually become a challenge in a growing economy (in line with the well-known Kuznets curve hypothesis) and pose the threat of political instability (Acemoglu and Robinson, 2002). Economic policies need to have provisions to tackle inequality.

Figure 2.9: Trends in poverty headcount ratio



Source: PDC (2017)

Figure 2.10: Inequality trends (Gini Coefficient)



Source: WDI

2.2.5. Human Development

In the past two decades, there has been significant progress in human development, in health service coverage, child mortality, life expectancy at birth, access to clean water, primary school enrolment and literacy. The pre-primary and primary education net enrolment rate has increased over the past decades. Similarly, the health sector has registered substantial progress in improving health outcomes in a number of areas, including under-five mortality rate, primary health coverage, postnatal care coverage and contraceptive use.

Despite the substantial progress made, the country still faces many challenges in human development with much still to do. The gross enrolment rate of secondary education first cycle (grade 9-10) was expected to rise from 39.7% in 2009/10 to 62% by 2014/15; it achieved less than 41%. Dropout rates of primary and secondary schools remain high. Quality of education and training at all levels remains poor resulting in rising educated unemployment (Beyene and Tekleselassie, 2018). Recent data from the Demographic and Health Surveys shows remarkable progress, but maternal mortality remains high, and stunting prevalence is higher than 40% (EPHI, 2019). The report by the Ethiopian Public Health Institute (EPHI) also shows that the coverage of skilled birth attendance remains low despite enormous progress in past years, and there is room for service quality improvement. Moreover, the achievements in improved health outcomes have not been equitable; there have been substantial difference between regions and by socio-economic category. These differences are further compounded by population growth and migration which are further discussed in chapter four, and welfare dimension in chapter five.

The Human Development Index for Ethiopia improved from 0.28 in 2000 to 0.47 in 2018 (Table 2.2). This is substantial progress, but the country remains at the lower end of the spectrum in the world’s human development index. Based on a measure of human development index that accounts for inequality (IHDI), Ethiopia scored 0.34 in 2018 compared to the SSA average of 0.38 and the average for low HDI countries of 0.35 (Table 2.3). There is substantial room for improvement in its human development index placing.

Table 2.2: HDI Trends

	Life expectancy at birth	Expected years of schooling	Mean years of schooling	GNI per capita (2011 PPP\$)	HDI value
1990	47.1	3.1		651	
1995	49.3	2.5		573	
2000	51.9	4.3	1.5	617	0.283
2005	56.2	6.6	1.9	734	0.346
2010	61.6	8.2	2.3	1,071	0.412
2015	65	8.7	2.6	1,512	0.453
2016	65.5	8.7	2.7	1,612	0.46
2017	65.9	8.7	2.8	1,714	0.466
2018	66.2	8.7	2.8	1,782	0.47

Source: UNDP (2019)

Table 2.3: IHDI for 2018 and comparison

	IHDI value	Overall loss (%)	Human inequality coefficient	Inequality in life expectancy	Inequality in education (%)	Inequality in income (%)
Ethiopia	0.337	28.4	27.3	24.9	43.5	13.4
Sub-Saharan Africa	0.376	30.5	30.4	29.7	34	27.6
Low HDI	0.349	31.1	30.9	30.4	37.4	25

Source: UNDP (2019)

2.2.6. Labor Market

The urban labor market in Ethiopia is characterized by high unemployment and underemployment. During the last decade, urban unemployment in Ethiopia stood at about 19% (Table 2.4). More than a quarter of the youth (aged 15 – 29) in Ethiopia are unemployed. Similarly, about a quarter of women are unemployed. Young women face an even higher unemployment rate of 34%. Among those employed, about half are willing to work more indicating a high level of underemployment (CSA, 2018).

Table 2.4: Urban unemployment rates

Year	All ages	Youth (15-29)
2003	26.1	34.3
2006	16.7	22.8
2010	18.9	24.52
2014	17.4	22.84
2018	19.06	25.3

Source: computed using the CSA Urban Employment Unemployment Survey (UEUS)

The urban labor market in Ethiopia is characterized by poor labor market information as reflected in informal labor recruitment systems such as networks and job-referrals (Beyene and Tekleselassie, 2018). This creates particular impediments for young women who are more likely to stay at home in response to cultural practices, negatively affecting their access to signal ability (Beaman et al., 2018). This is confirmed by Beyene and Tekleselassie who find evidence for the difficulty women face in finding jobs unless they are matched or over-educated compared to men.

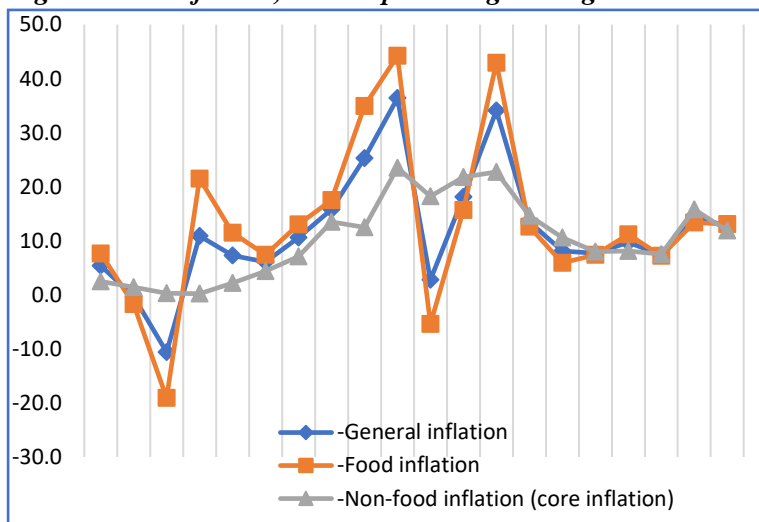
Another important labor market indicator that shows a skewed picture against women is the trend in real wages of workers. Tekleselassie and Weldesilassie (2019) estimated trends in real wages for male and female workers as well as the ratio of wages of male to female workers. They found between 2003 and 2018 that male workers were paid more than women workers with the highest ratio of real wages of men/women reaching 1.78 in 2010. The gap had slightly narrowed by 2018, but men were paid 62% higher than women. Readers may refer to chapter three for the details of labor market issues in relation to migration.

2.2.7. Inflation

Average annual inflation for Ethiopia between 2015 and 2019 was 11.3%; the corresponding figures for low middle-income countries and Sub-Saharan Africa were 3.4% and 4.4% respectively. Similarly, average inflation for 2018 and 2019 was 14%. In a country where a quarter of the population lives under the poverty line, double digit inflation puts significant strain on the livelihood of people, particularly on wage earners and the retired section of the population whose income can rarely cope with

inflation rates. High inflation also raises the real exchange rate, reducing the competitiveness of exports. High inflation has remained a major source of concern in recent years.

Figure 2.11: Inflation, annual percentage change in CPI



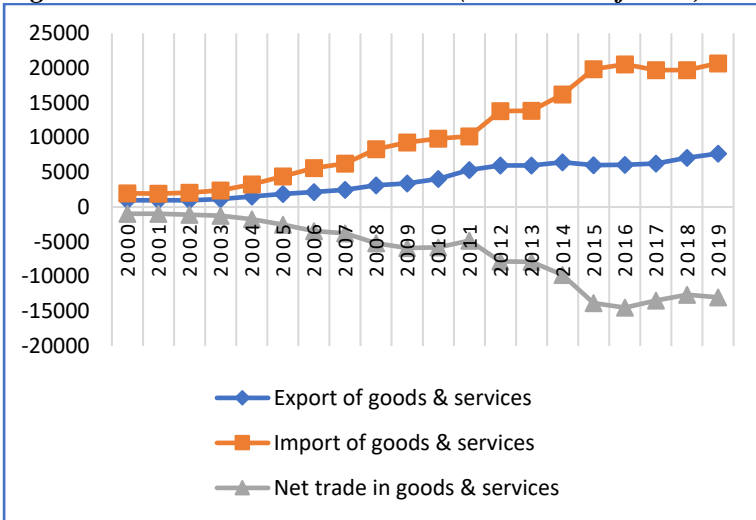
Source: NBE (2020)

2.2.8. Current Account Deficit

Stagnant export revenue and high import bills have resulted in a large trade deficit as shown in Figure 2.12. This has also meant a significant current account deficit. An over-valued exchange rate coupled with several key challenges to exports, especially manufacturing exports, including problems with logistics, power cuts, slow customs clearance and foreign exchange shortages, has led to a widening current account deficit. The shortage of foreign exchange resulting from the current account deficit, in turn, has crippled the manufacturing sector, turning the problem into a vicious circle. As shown in Table 2.5,

the key driver of the current account deficit is the low export performance in the face of high imports.

Figure 2.12: Trends in trade balance (in millions of USD)



NBE (2020)

Table 2.5: Drivers of current account deficit

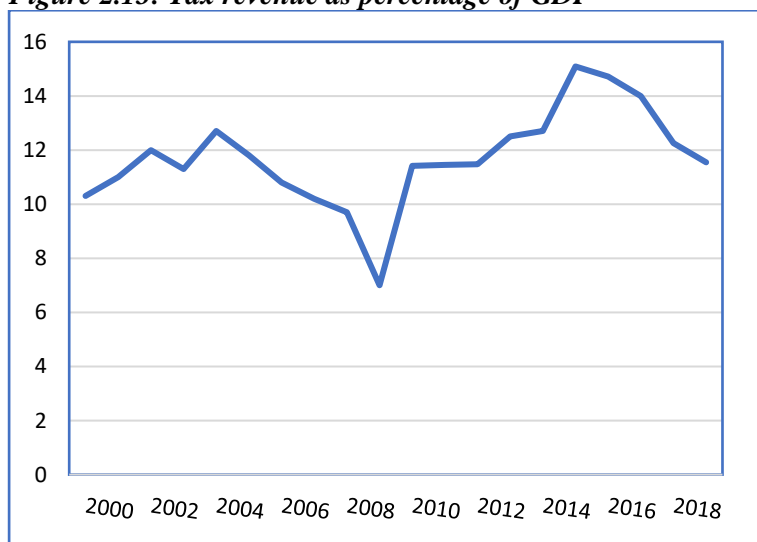
	2017	2018	2019
Exports	3.6	3.4	2.8
Imports	19.3	18.1	15.8
Trade Balance	-15.8	-14.7	-13
Net Services	-0.7	-0.2	-0.6
Net Private Transfers	6.7	7.2	6.7
Current Account Deficit (excluding official transfers)	-9.8	-7.7	-6.9
Current Account Deficit (including official transfers)	-8	-6.3	-4.7

Source: NBE (2020)

2.2.9. Fiscal Trends

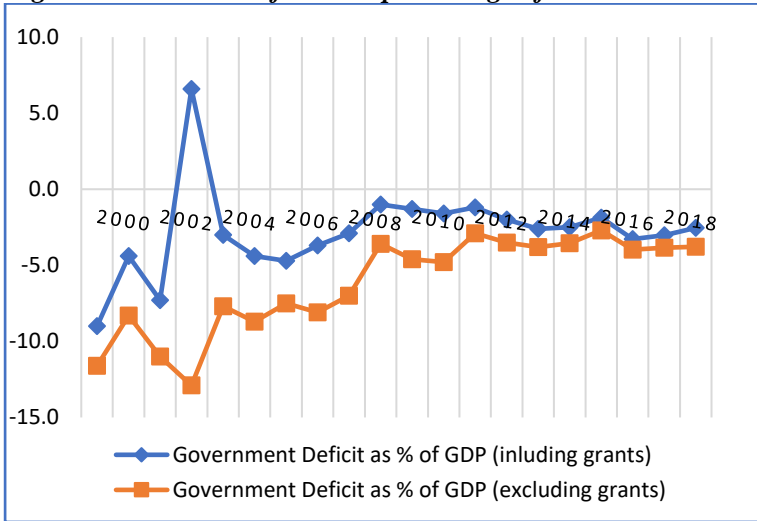
Between 2000 and 2009, the average tax revenue/GDP ratio was close to 11%, increasing to about 13% for the next decade. This is very low compared to other countries. The average tax revenue/GDP ratio for SSA countries in 2019 was about 19%; the corresponding figure for Ethiopia in 2019 was only 11.6%. In the period 2000–2009, the fiscal deficit as a percentage of GDP (excluding grants) was -8.7%. When including grants, the figure falls to -3.4%, underlining the importance of grants. In 2019, the figures were -3.7% and -2.1%, respectively excluding and including grants. The deficit was high before 2003 but narrowed down steadily until 2008, before starting to surge in 2009. The deficit again started to shrink as a percentage of GDP from 2015, but it still remains high and continues to be a source of concern.

Figure 2.13: Tax revenue as percentage of GDP



Source: NBE

Figure 2.14: Fiscal deficit as a percentage of GDP

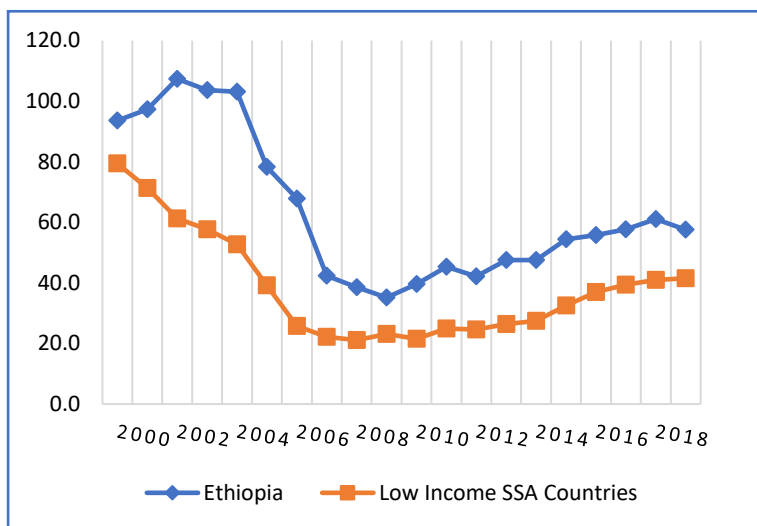


Source: NBE (2020)

2.2.10. Debt Trends

In recent years the public debt/GDP ratio of Ethiopia has been on the rise again after it exhibited a downward trend between 2000 and 2009 (Figure 2.15). Between 2009 and 2019, the ratio rose from 35% to 58%, increasing by 23 percentage points in 10 years. The average debt/GDP ratio for low income SSA countries was 41.5% in 2019. Ethiopia’s debt/GDP ratio is higher than the SSA average, but the main challenge is not the size of the debt/GDP ratio, but the fact that more slightly more than half of it is external debt. Given Ethiopia’s poor export performance and high current account deficit, debt servicing for external debt denominated foreign currencies becomes particularly difficult.

Figure 2.15: Gross debt as a percentage of GDP



Source: IMF (2020)

2.3. Drivers of Productivity and Structural Transformation

To address the issues of structural transformation, we analyze the extent of labor mobility to different sectors at aggregate level in the period 2000-2009, using the shift-share method of decomposing the sources of aggregate labor productivity changes. We also decompose sectoral labor productivity into capital accumulation (capital depending) and total factor productivity.

2.3.1. Aggregate Productivity and Structural Change

Aggregate labor productivity, measured as a ratio of total output (GDP) and the number of labors used or labor hours, is

determined by a number of factors above and beyond the capacity or quality of labor. We used two methods to decompose the drivers of labor productivity change. The first attempts to decompose growth in economy-wide productivity into sector productivity growth (within productivity) and productivity from labor mobility across sectors (structural change). The second method decomposes growth in economy-wide labor productivity into total factor productivity change and capital accumulation using national accounting methods.

Growth in aggregate labor productivity in an economy can be attributed to three key factors. First, labor productivity within sectors can be achieved by capital accumulation, changes in technology, and improved management of resources. Second, aggregate labor productivity in an economy can be enhanced by labor mobility across sectors, notably from low productivity sectors to higher productivity sectors. Third, a combination of within labor productivity and labor mobility can enhance overall labor productivity.

Following Timmer and Szirmai (2000), Mcmillan and Rodrik (2011), Mcmillan et al., (2017), and Hailu et al., (2020), these components of aggregate labor productivity can be decomposed as follows

$$P_t = \sum_{i=1}^n \beta_{i,t} p_{i,t} \quad (1)$$

Where P_t is aggregate labor productivity at year t , $\beta_{i,t}$ refers to the share of total labor engaged in sector i , at time t , and $p_{i,t}$ denotes labor productivity in sector i , at time t . Hence, the change in aggregate labor productivity between year t and $t - k$ (ΔP_t) can be expressed as:

$$\Delta P_t = \sum_{i=1}^n \beta_{i,t-k} \Delta p_{i,t} + \sum_{i=1}^n \Delta \beta_{i,t} p_{i,t-k} + \sum_{i=1}^n \Delta \beta_{i,t} \Delta p_{i,t} \quad (2)$$

Equation (2) provides the various components of the productivity decomposition. The first term on the right-hand side is the ‘*within sector*’ productivity changes which captures the contribution of sectoral labor productivity growth to the economy-wide labor productivity.

The second term captures ‘*between sector*’ productivity changes which indicates the effect of labor mobility across sectors in the economy. The economy-wide labor productivity, for example, can be boosted due to the shift of labor from low labor productivity sectors to higher labor productivity sectors.

The third term denotes ‘*cross-sector*’ (*interaction effect*) productivity changes. This captures changes in both labor share and labor productivity in each sector, reflecting the simultaneous reallocation of labor among sectors.

Mcmillan, et al., (2016) suggest combining the second and third term which can be characterized by the ‘*structural change*’ term. Other authors such as de Vries et al. (2015) estimate the second and third terms separately calling them the static and dynamic components of structural terms. Hailu et al. (2020) also estimated the second and third term separately. However, Mcmillan et al. (2016) argue that structural change is a dynamic concept in itself and that the third term is difficult to interpret in situations where reduction in employment share is accompanied by increase in productivity making the term negative and apparently acting as a halt on productivity when in fact it could be seen as a positive development in sectors such as agriculture.

Hence, following Mcmillan et al., (2016) we combine the second and third term to arrive at

$$\Delta P_t = \sum_{i=n} \beta_{i,t-k} \Delta P_t + \sum_{i=n} p_{i,t} \Delta \beta_{i,t} \quad (3)$$

Table 2.6 provides summary statistics of the thirteen sub-sectors used for decomposition on gross value added by sub-sector, sectoral employment, value-added per workers (productivity) and relative productivity. Between 2000 and 2009, overall labor productivity (value-added per labor) grew from *Birr* 12,720 to 36,460. Most of the sub-sectors showed an increase in labor productivity between 2000 and 2009.

Relative labor productivity (measured as the ratio of the sectors productivity and the average economy-wide productivity) between 2000, 2010 and 2019 is shown in the last three columns of Table 2.6. The relative productivity of the agricultural sector declined from 0.7 in 2000 to 0.5 in 2019, while the relative productivity of the manufacturing sector increased from 0.98 in 2000 to 1.24 in 2019. Similarly, the construction sector exhibited a relative productivity increase from 4.08 in 2000 to 5.6 in 2019. The various components of the service sector have shown varying degrees of productivity change between 2000 and 2019 as shown in the table.

While the aggregate labor productivity of the agricultural sector doubled between 2000 and 2019, its relative productivity in the overall economy declined from 0.7 in 2000 to 0.5 in 2019. In 2019, the productivity of the agricultural sector was half that of the average productivity of labor in the overall economy. Certainly, the development process of countries has shown that agricultural exhibits lower productivity compared to the industrial and service sectors (Gollin, et al., 2002; Gollin et al., 2014; Bustos et al., 2016). Duarte and Restuccia (2010) also find that improvement in the productivity of the manufacturing sector explains up to half of

the overall productivity catch-up among countries.

However, the gap in productivity growth in the last decade between the agricultural sector and the rest of the economy is of concern as improvements in productivity in the agricultural sector not only releases labor to other more productive sectors, but it is also crucial for curbing inflation particularly food inflation. As shown above, inflation has become a source of concern for both consumers and firms. Curbing inflation not enhances the wellbeing of consumers, particularly those in direct wage employment, it also improves the competitiveness of firms as there will less pressure to increase salaries of employees. When inflation is rising, workers demand higher wages for subsistence. Moreover, curbing inflation enhances the competitiveness of the export sector as there will be less pressure on increasing real exchange rates (Geiger and Goh, 2012; Rusu and Roman, 2018).

Table 2.6: Value-added, Employment, Productivity, and Relative Productivity

	Gross Valued-added (Billions) 2015/6 Prices			Employment (Millions)			Value-Added per labor ('000)			Relative Productivity		
	2000	2010	2019	2000	2010	2019	2000	2010	2019	2000	2010	2019
Agriculture	203.65	387.90	626.97	21.08	28.32	34.45	9.66	13.70	18.20	0.70	0.64	0.50
Industry	42.03	103.55	512.09	1.79	2.94	5.01	23.52	35.23	102.31	1.71	1.65	2.81
<i>Mining</i>	2.02	4.65	2.66	0.03	0.16	0.31	75.55	29.95	8.61	5.50	1.40	0.24
<i>Manufacturing</i>	21.71	42.21	127.99	1.43	2.01	2.83	15.15	20.95	45.27	1.10	0.98	1.24
<i>Construction</i>	18.29	56.68	381.44	0.33	0.77	1.87	55.94	73.70	204.11	4.08	3.44	5.60
Service	131.51	328.28	759.84	4.62	7.02	12.64	28.47	46.73	60.12	2.07	2.18	1.65
<i>Utility</i>	3.03	5.77	14.12	0.04	0.12	0.30	77.77	47.00	46.45	5.67	2.20	1.27
<i>Trade</i>	41.69	107.79	268.04	1.81	2.38	3.45	22.98	45.38	77.74	1.67	2.12	2.13
<i>Hotels and Restaurants</i>	3.24	13.42	48.14	1.03	0.67	0.78	3.14	19.91	62.04	0.23	0.93	1.70
<i>Transport. and Communications.</i>	12.12	33.72	104.44	0.16	0.34	0.67	74.78	99.94	155.62	5.45	4.67	4.27
<i>Financial Intermediation</i>	7.23	22.01	57.37	0.03	0.10	0.24	241.96	211.79	240.80	17.63	9.89	6.61
<i>Real Estate and Business</i>	12.76	45.40	79.94	0.05	0.19	0.66	274.45	236.99	121.84	20.00	11.07	3.34
<i>Public Admin and Defense</i>	27.13	40.57	83.66	0.36	0.41	0.40	75.19	98.49	210.60	5.48	4.60	5.78
<i>Social Services</i>	17.66	48.88	86.42	0.46	0.82	1.61	38.22	59.88	53.81	2.78	2.80	1.48
<i>Other Services</i>	6.66	10.71	17.71	0.67	1.99	4.54	9.89	5.38	3.90	0.72	0.25	0.11
Total Economy	377.18	819.72	1,898.89	27.48	38.28	52.09	13.72	21.41	36.46	1.00	1.00	1.00

Source: Author's computations using PDC and ILO data, real values in 2015/6 prices

The results of the decomposition exercise based on Equation 3 is shown in Table 2.7. We present the results for three categories in terms of periods, namely 2000-2009, 2000-2019, and 2010-2019, as the state of structural change can be different through time.

For the period 2000–2009, labor productivity changed by 47.17%. Most of this (37.9% - over 80% of the whole) came from changes in productivity within sectors while 9.27% came as a result of structural change as labor moved from low productivity sectors to higher productivity sectors.

For the whole period under consideration (2000-2019), value-added per labor increased by 165.62%. Out of this, 129.04 (77.92%) came from improvements in sector productivity while the remaining 36.57 (22.08%) came from structural transformation. For the shorter period 2010–2019, aggregate labor productivity changed by 70.26%. Out of this, 50.84 (72.37%) came from improvements within sector productivity while the remaining 19.41 (27.63%) came from structural transformation.

Table 2.7 shows that within sector productivity remains the dominant driver of productivity while the structural transformation has been slow. In the period 2000-2019 only 22% of growth in aggregate labor productivity came from structural transformation while about 78% came from improvements in within productivity. Comparing the two decades 2000-2009 and 2010-2019, the latter showed a slight increase in the proportion of the structural transformation component with close to 28% coming from it. However, it is important to stress that despite efforts to transform the structure of the economy towards more productive sectors in the last decade, achievement has been much below par.

Table 2.7: Structural Transformation: Decomposition by ISIC 4 (13 sectors)

Period	Total Productivity Growth	Sources of Labor Productivity		Contribution Shares of Labor Productivity	
		Sector Productivity (within)	Structural Change	Sector Productivity (within effect) (%)	Structural Change (%)
2000 - 2009	47.17	37.90	9.27	80.35	19.65
2010 - 2019	70.26	50.84	19.41	72.37	27.63
2000 - 2019	165.62	129.04	36.57	77.92	22.08

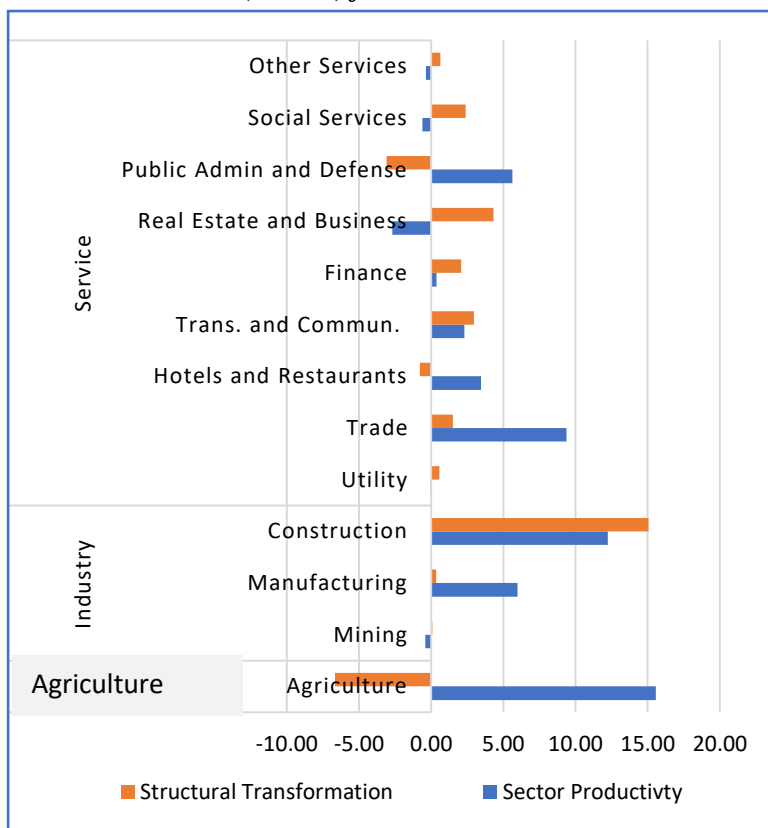
Source: Author’s computations using PDC and ILO data

Figure 2.16 provides the extent of within sector productivity and structural change by sub-sectors for the period 2010-2019. It shows the direction and extent that labor mobility contributed to productivity by sub-sector and the degree of sector labor productivity contribution by sub-sector.

As shown in Figure 2.16, while the agricultural sector exhibited an improvement in within sector productivity, there has also been some movement of labor towards other sectors such as construction which exhibited both within productivity and structural transformation. In addition to construction, sub-sectors that benefited from within sector productivity growth and attracted labor from other sub-sectors included trade, manufacturing (but mostly within productivity), finance (mostly within sector productivity) and transportation and communications. In addition to the agricultural sector, subsectors that showed improvements in within sector productivity but lost labor to other sectors included mining, public administration and defense, and hotels and restaurants.

In summary, within sector productivity gains have been the major drivers of productivity in Ethiopia in the past two decades while structural transformation remained limited. Some sectors such as construction, trade, transport and communication, real estate and business, and social services have attracted labor from agriculture, public administration and defense sectors.

Figure 2.16: Disaggregated decomposition of productivity by sector (ISIC-4) for 2010 and 2019



Source: Author's computations using PDC and ILO data

To achieve an inclusive and sustainable structural transformation it is imperative to address the supply-side constraints in agriculture and manufacturing sectors. For example, Diriba (2020) proposes a quadruple sector approach to agricultural transformation in Ethiopia. These are (1) the centrality of agriculture and rural transformation for the transformation of the other key sectors; (2) the development of rural industrialization and expanded manufacturing capacity initially focusing on agro-processing; (3) decentralized urbanization which fuels rural and agricultural transformation; and (4) the need for social, physical, digital and market infrastructure and services that support structural transformation in the economy (Diriba, 2020).

The binding constraints holding the growth of the manufacturing sector include inadequacy of inputs such as raw materials in quantity and quality, insurmountable logistic costs, inefficient bureaucracy in public services such as customs clearance, shortage of skilled manpower, and limited access to finance (See, for example, World Bank (2015) and Tekleelassie et al. (2018)).

2.3.2. *Driver of Economy-Wide Productivity*

The growth accounting method decomposes growth in labor productivity into *Capital Deepening* and *TFP growth*. The decomposition is derived from a Cobb-Douglas type production function (Solow, 1957).

The growth rate of y (labor productivity) and TFP can be computed as:

$$g_y = \alpha \cdot g_k + g_A \quad (4)$$

$$g_A = g_y - \alpha \cdot g_k \quad (5)$$

where, g_y , g_A , and g_k , refer to growth in output per worker, growth in TFP and growth in capital intensity. α refers to the contribution share of capital in the production function. The details of the derivation of equations 5 and 6 are provided in Appendix A.1.

In order to compute capital intensity (k) and capital intensity growth rate, g_k , we need to estimate capital stock (K) in the equation (5). Replacing g_k , g_y (calculated from values of measured labor productivity) and α (parameter assumed by authors based on literature) to formula (6), we obtain TFP growth rate, g_A .

The determination of capital's share of national income (α) is challenging due to absence of data. Most studies assume a certain share of capital in GDP. Collins et al., (1996) and Thanh et al. 2018, assume, $\alpha = 0.35$ for East Asia and Vietnam respectively. Hailu et al (2020) adopted a capital share, α , of 0.3 based on the 2015/16 Input-Output and Social Accounting Matrix for Ethiopia (Andualem et al., 2018).

Growth rates of GDP, labor productivity, and TFP growth rate in year t , are using the following:

$$\text{Contribution share of capital deepening year } t = \frac{\alpha \cdot g_k^t}{g_y^t} \cdot 100(\%) \quad (7)$$

$$\text{Contribution share of TFP growth in year } t = \frac{g_A^t}{g_y^t} \cdot 100(\%) \quad (8)$$

The data used to compute equations 7 and 8 and the estimated values are provided in Table 2.8. The estimated contribution shares of capital depending and TFP for aggregate

labor productivity are provided in the last two columns of Table 2.8 and Figure 2.17.

The results show that in the period 2001-2011, total factor productivity dominated the source of aggregate labor productivity with a share of about 90% coming from it. In the period 2012-2019, capital accumulation became the major source of aggregate labor productivity with an average share of 68%. This reversal of the relative importance of capital accumulation coincides with the first Growth and Transformation Plan (2010 - 2015) and the advent of a more active industrial policy which among other things led to the construction of industrial parks and large public investment initiatives. Our results are largely consistent with the finding of Haile et al. (2020). While the importance of capital accumulation in the start of industrialization may not be surprising, it is important to ensure the efficiency of the capital being invested. Low TFP in the face of high capital accumulation may indicate waste of resources as is the case in many large public investment undertakings. A report by the World Bank (2016a) indicated low marginal returns to public investment in Ethiopia even by the standard of low-income countries, despite public investment being one of the drivers of recent growth performance. And, the shift towards private-investment led growth has become important for sustaining the current growth momentum.

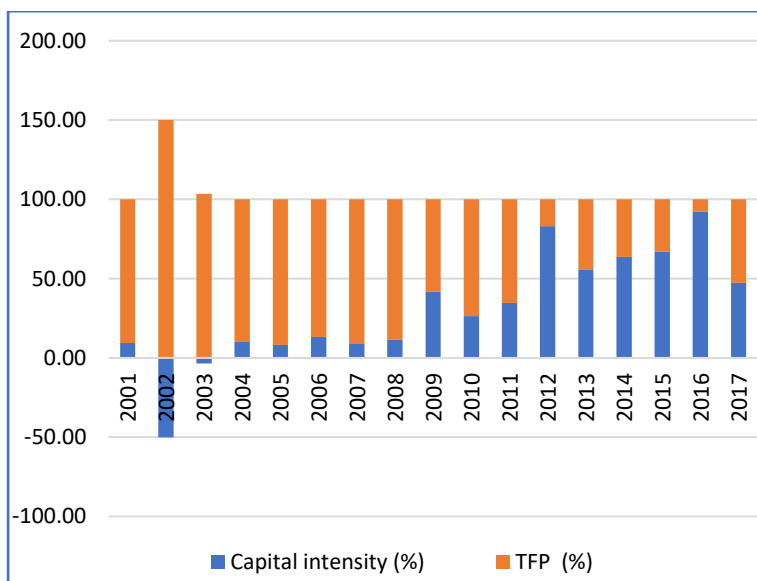
Table 2.8: Variables and estimation results of the growth accounting decomposition

	GDP (Million USD 2011 national prices)	Employment (in Millions)	Real Labor Productivity (Thousand USD per Worker)	Real capital Stock (Million USD)	Capital Intensity (Thousand USD per Worker)	Growth rates (%)			Contribution share to labor productivity growth (%)	
						Labor Productivity	Capital intensity	TFP	Capital intensity	TFP
2000	41567.78	27.78	1.50	109092.70	3.93					
2001	45018.50	28.49	1.58	113834.00	4.00	5.62	1.76	5.09	9.41	90.59
2002	45700.34	29.15	1.57	117989.40	4.05	-0.78	1.31	-1.17	-50.07	150.07
2003	44712.71	29.86	1.50	121491.20	4.07	-4.50	0.51	-4.65	-3.41	103.41
2004	50781.45	30.69	1.65	129242.60	4.21	10.50	3.50	9.45	10.01	89.99
2005	56783.07	31.76	1.79	136718.60	4.31	8.06	2.23	7.39	8.30	91.70
2006	62935.44	32.70	1.92	145496.10	4.45	7.64	3.35	6.63	13.16	86.84
2007	70145.25	33.96	2.07	154484.40	4.55	7.32	2.24	6.65	9.18	90.82
2008	77712.98	35.48	2.19	165149.20	4.65	6.05	2.33	5.35	11.55	88.45
2009	84553.59	36.97	2.29	182642.00	4.94	4.43	6.14	2.58	41.64	58.36

	GDP (Million USD 2011 national prices)	Employment (in Millions)	Real Labor Productivity (Thousand USD per Worker)	Real capital Stock (Million USD)	Capital Intensity (Thousand USD per Worker)	Growth rates (%)			Contribution share to labor productivity growth (%)	
						Labor Productivity	Capital intensity	TFP	Capital intensity	TFP
2010	95165.52	38.57	2.47	203709.80	5.28	7.87	6.90	5.80	26.29	73.71
2011	107684.90	40.23	2.68	233280.60	5.80	8.48	9.78	5.54	34.62	65.38
2012	116997.30	41.50	2.82	276103.00	6.65	5.32	14.73	0.90	83.11	16.89
2013	129378.20	42.87	3.02	322737.50	7.53	7.07	13.18	3.12	55.92	44.08
2014	142657.20	44.10	3.23	382718.30	8.68	7.18	15.27	2.60	63.80	36.20
2015	157473.90	45.35	3.47	458265.20	10.11	7.35	16.45	2.42	67.11	32.89
2016	169381.70	46.50	3.64	540552.90	11.62	4.88	15.02	0.38	92.31	7.69
2017	188206.20	47.92	3.93	625932.80	13.06	7.83	12.38	4.12	47.40	52.60

Source: computed using NPC, ILO, Penn World Tables (capital share is taken from Andualem et al. (2018)).

Figure 2.17:: Contribution shares of capital deepening and TFP for aggregate labor productivity



Source: computed using Penn World Tables

2.4. Prospects of the Ethiopian Economy

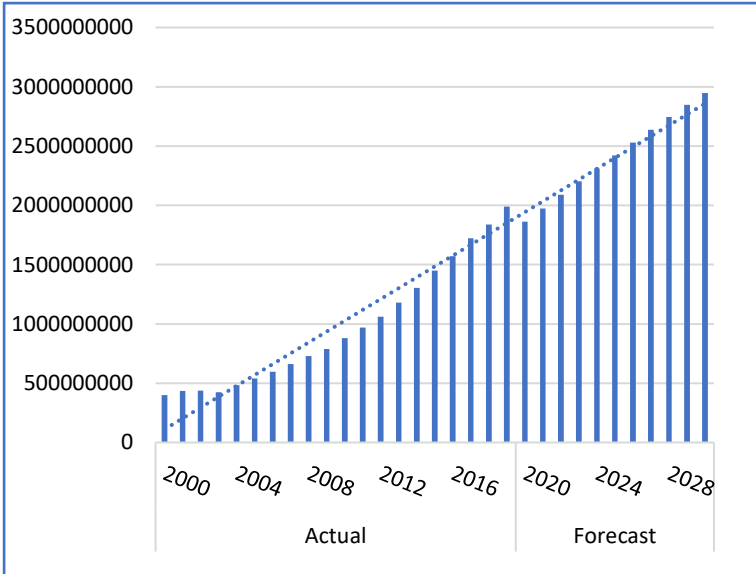
The prospects of the Ethiopia economy depend on several domestic and external social, economic, political, and environmental factors. Domestically, whether new policies and strategies are implemented will have a significant impact on the economy. Internal political stability will also have an important bearing on the economy. Internationally, the global markets for inputs and products also have a direct impact. Global shocks such as the Covid-19 pandemic and the containment measures put in place will have varying impact on the macroeconomic outcomes of Ethiopia. This section considers potential challenges and

options and their bearing on the prospects of the Ethiopian economy.

2.4.1. Macroeconomic Prospects

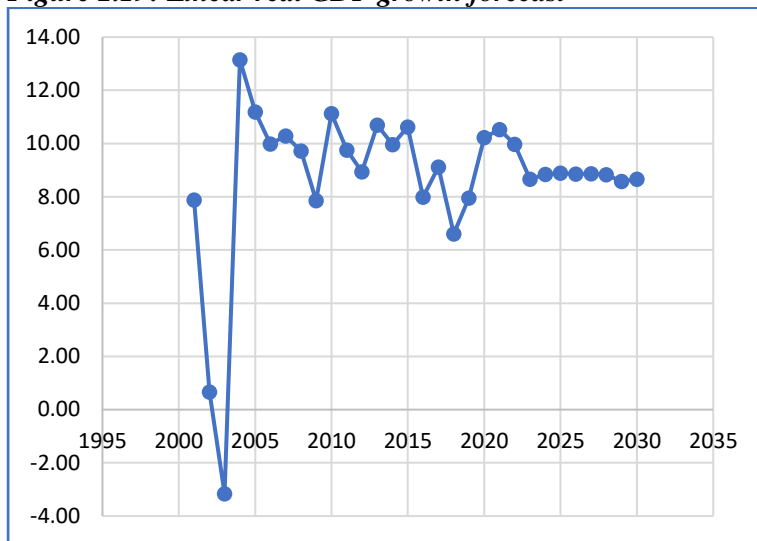
Assuming current policies remain intact and the current growth momentum continues, average annual real GDP growth can be expected to be about 9% in the period 2020-2030 as shown in Figures 2.18 and 2.19. Our forecast is in line with the country’s Ten-year Perspective plan GDP annual growth target of 10% on average (PDC, 2020a). If this materializes, it will be a significant achievement for the Ethiopian economy.

Figure 2.18: Real GDP trends: linear forecast (millions of ETB)



Source: computed using data from PDC

Figure 2.19: Linear real GDP growth forecast

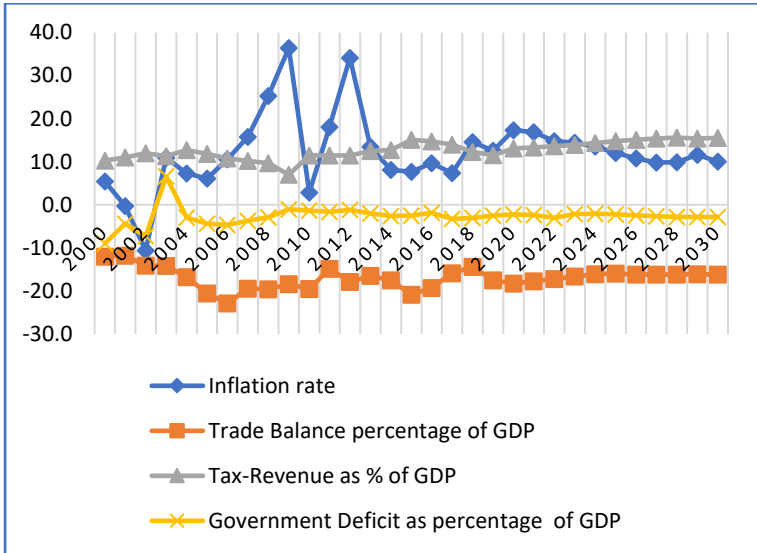


Source: computed using data from PDC

However, challenges abound from the global Corona pandemic to internal macroeconomic imbalances including inflation, and unsustainable current account deficit and public debt. These will put substantial pressure on the economy and the growth momentum can come to a halt. Figure 2.20 provides linear forecasts of measures of selected macroeconomic imbalances.

Equally, prudent reforms as part of the Homegrown Economic Reform Agenda, aiming at correcting macroeconomic imbalances, easing structural bottlenecks, and addressing sector specific challenges, can have a positive impact to unlock to county’s potential to sustain the growth momentum and enhancing competitiveness thereby creating decent jobs.

Figure 2.20: Linear forecasts for selected macroeconomic variables



Source: computed using data from PDC

Our analysis has shown that the rate of structural transformation has been slow and that recent growth was largely driven by capital accumulation mainly from the public sector rather than by total factor productivity improvements. This points to a need to rebalance growth towards private sector and away from the public sector. This is especially important given concerns over increasing debt sustainability and the inefficiency of the management of large government programs (World Bank, 2016a). Moreover, while growth in investment has become an important driver of GDP growth, private consumption has been the main element. Interventions aiming at the efficiency of private investment will play an important role in sustaining the current growth momentum.

Moreover, growth has been propelled by the service and construction sectors. Performance in the manufacturing sector has been insufficient. As the manufacturing sector is characterized by higher risks and stiff competition from imports, there is a need to put in place differential support programs that depend on need rather than the one-fits-all approach that has been the case over the last two decades. This led to a concentration of investment in certain sectors such as real estate and construction and away from manufacturing.

The creation of acceptable and productive employment will be one of the major challenges for the next decade. With high urban unemployment and under-employment and the low wages of the employed in both rural and urban (working poverty) areas, as well as a growing number of people particularly youth joining the labor market, it is important to continue to support labor-intensive industries to absorb job-seekers. In relation to this, the skills mismatch in the labor market is another key challenge that requires intervention. Not only is there poor quality training and education; but the skills being produced are not the skills required by industries. A skills-anticipation system is required to ensure alignment of skills supplied and those required by industry.

Rising rural-urban migration and rapid urbanization, as demonstrated in chapter three, also underline the need for thriving industrial and service sectors. Enhancing productivity and structural transformation towards more productive sectors needs to be at the center of policy in the next decade.

Another key area that requires critical intervention is inflation. The current high inflation is not only harming consumers; it also affects firms as it pressures them to increase salaries which affects their competitiveness. A high and rising inflation also implies an increasing real exchange rate which will

affect the competitiveness of the export sector. So, resolution of the issue of inflation, particularly food inflation, should be seen as a direct end in itself as it affects consumers, as well as indirectly affecting the costs of firms and their ability to employ people.

Political instability and ethnic tensions are another crucial issue that can have a negative impact on the Ethiopian economy by restricting the flow of foreign direct investment and trade within Ethiopia. Hence, maintaining political stability and ensuring the rule of law needs to be among the key priorities of the government of Ethiopia in the coming decade.

The ongoing demonetization of the Ethiopian currency will have a positive effect in curbing inflation to some degree as it will increase the amount of currency circulating through official channels, helping the National Bank of Ethiopia to estimate money supply more accurately and conduct monetary policy accordingly. Similarly, the daily cash withdrawal limit introduced in early 2020 and further tightened along with the demonetization, can be expected to increase the currency circulating through official channels and have similar effect in improving the effectiveness of monetary policy. However, the absence of a fast banking service and the necessary associated bureaucracy to speed up the transfer of money from bank to bank may discourage enterprises, particularly Micro- and Small-Enterprises, and those in rural areas, from depositing money in banks. The NBE should monitor the effect of daily cash withdrawals and adjust its regulation when necessary.

Global drivers of change, such as advances in technology, climate change, globalization, and demographic transitions (although Ethiopia has not entered the transition stage), are among the major factors that will shape the future of work and industries in the period 2020-2030 (Frey and Osborne, 2015; Chang and Phu,

2016; ILO, 2018). Robotics and automation will start to threaten labor in conventional labor-intensive industries such as textiles and garments. While full automation is unlikely to replace labor in Ethiopia in the coming ten years, semi-automation such as the use of computer-assisted designing (CAD) is inevitable. There is already a need to incorporate courses on relevant software in the Technical and Vocational Education and Training (TVET), and University systems in Ethiopia to produce a workforce that can operate semi-automation or automation.

Climate change will pose a critical challenge to agriculture-based raw materials such as cotton and other key inputs for agro-processing, and investment in irrigation will be crucial to address potential water shortage or irregularities.

Globalization will also continue to create opportunities and threats to enterprises in Ethiopia. While technology transfer and global markets can be seen as opportunities, relentless competition from abroad will be a challenge for the manufacturing sector in particular. Improving the ease of doing business will be critical to attract investment from abroad. A productive workforce will also continue to be crucial for coping with stiff competition from abroad.

In summary, how to refocus the drivers of growth away from government-led to private sector-led growth, enhancing the productivity and competitiveness of the private sector in a globalized world, creating productive employment opportunities particularly for the youth, and curbing inflation, will all be key issues in the upcoming decade. Rising migration, internal and external, rapid technological change and increasing environmental and social compliance requirements will also offer both opportunities and challenges for the Ethiopian economy in the next decade.

2.4.2. The Impact of the Covid-19 Pandemic on the Ethiopian Economy

The COVID-19 pandemic has been ravaging the world since February 2020. While countries in Africa in general and Ethiopia in particular haven't been affected as seriously as some of the countries in Europe in terms of cases and deaths, they have not been spared. According to WHO's situation report, by the first week of September 2020, there had been a total 27.5 million positive cases of COVID-19, 18.5 million of whom recovered, with a total death toll of about 900,000 people. In Africa, there had been close to 110,000 positive cases and about 230,000 deaths. The corresponding figures for Ethiopia were 61,000 total positive cases and close to 1000 deaths due to COVID-19. However, as Adam et al. (2020) underlined, public policy responses have been largely similar with most countries in Africa also going into costly lockdown or partial lockdown.

The COVID-19 pandemic has hit both the demand and the supply side of the economy. Production was negatively affected as supply chain disruption hit and economic activities slowed down as people stayed at home. A slowdown in activities also meant a slowdown in productivity. While health expenditure increased as a response to the pandemic, government revenue declined as economic activities slowed down. Even if the pandemic wasn't so serious in terms of cases and deaths, the containment efforts did have significant economic costs. Countries in Africa, including Ethiopia, have no more than a constrained fiscal space to mobilize revenue to deal with the pandemic and provide support for the enterprises and households affected. So many did not resort to a complete lockdown, but rather used containment measures, best characterized as 'partial lockdowns'.

A number of studies have been conducted since March 2020 to estimate the potential impact of the pandemic on the Ethiopian economy. The Jobs Creation Commission (JCC) released an estimate of the impact of COVID-19 on the labor market focusing on employment in Ethiopia (JCC, 2020). The study assessed the effect on employment resulting from medical and health shocks, the impact of containment measures such as social distancing, and the global demand shocks. The result indicates up to 727,000, 1.41 million or 2.5 million jobs would be threatened under low, medium and high impact scenarios respectively.

CEPHEUS Capital conducted the potential impact of the COVID-19 on the Ethiopian economy assuming a ‘limited virus spread scenario’ (severe disruptions to four economic sub- sectors for the next three months followed by six months of a slow domestic/global recovery). It found that growth would fall to 5%; a loss of close to \$1.5bn in foreign exchange; between 750,000 and 1.5mn jobs potentially affected; fiscal resources of up to *Birr* 90bn (2.3% GDP) be needed for comprehensive public assistance packages; and that central bank liquidity interventions on the order of *Birr* 47 Billion (1.3% GDP) might be required (CEPHEUS Capital, 2020).

The FDRE Planning and Development Commission (PDC, 2020) estimated the impact of the COVID-19 pandemic on economic growth and urban labor market using a SAM multiplier analysis and system dynamics for two scenarios (moderate and severe). They show that 705,000 or 1.57 million jobs would be threatened in the moderate and worst-case scenarios respectively. Economic growth would decline from the baseline level by 2.81 (2.6) and 3.80 (3.1) respectively in the moderate and worst case in the short-term (long-term).

The Ethiopian Economic Association conducted a study on the impact of the COVID-19 pandemic on the Ethiopian economy focusing on the economy-wide effects, the length of time for the economy to recover, and the adequacy of current levels of rescue and stimulus for recovery (Beyene et al., 2020). They estimated the impact using a Computable General Equilibrium (CGE) model calibrated with 2010/11 data. It should be noted, however, that the use of old Social Accounting Matrix data might not reflect the immediate pre-COVID-19 structure of the Ethiopian economy. The paper models the short-term (FY 2019/20 and 2020/21) and long-term (up to FY 2029/30) impacts of the pandemic on economic growth, private investment, private consumption, public finance (the fiscal balance, government revenue and debt), and sectors of production and employment on the basis of three scenarios, ‘base-case’, “mild” and “severe”. The study found that GDP could decline by 2.2%-3.6% based on a 3-month mild scenario or 6-month severe scenario which is equivalent to a 2.4% and 3.9% percentage point reduction in GDP growth. Under the mild scenario, it estimated that government revenues might decline by 2.5 percent in FY 2019/20 and by 3.3 percent in FY 2020/21.

Hirvonen (2020) reviewed studies on the impact of the COVID-19 pandemic on various socio-economic dimensions based on phone surveys. Hirvonen (2020) emphasizes the existence of significant uncertainty about its impact on income, poverty, and food security due to the limited coverage of data (phone surveys focus on cities) and the subjective nature of the questions.

The major studies looking at the impact of the COVID-19 on the Ethiopia economy have shown non-trivial loss for various dimensions of the economy. Given the uncertainty surrounding the

nature of the disease and the prospect of a vaccine and paucity of data these studies can only be taken as indicative not definitive. Careful planning of the recovery processes will be crucial, and mobilization of funding from development partners to tackle the impact of the pandemic and assist recovery will also be necessary.

2.5. Conclusions and Policy Implications

The current study has assessed the level of achievement in macroeconomic development efforts in Ethiopia, evaluating and updating various economic development indicators and their prospects to help identify possible alternative policy options for Ethiopia. The study has critically assessed the state of structural transformation and drivers of aggregate productivity in the country, using analysis of data trends and macroeconomic decomposition methods as its main methods.

2.5.1. Key Findings

- As in other similar studies, our findings indicate that Ethiopia has registered notable economic growth with service and construction sectors being the key drivers. Between 2010 and 2019, real GDP and real GDP per capita grew, on average, 9.27% and 6.54% respectively. This growth was largely driven by substantial public investment on infrastructure coupled with a solid performance of the service and construction sectors that benefitted from a shift of labor from the agricultural sector. Out of the 9.27% average real GDP growth registered between 2010 and 2019, the agricultural sector contributed 2.32 (25%), construction 2.5 (27%), manufacturing 0.65 (7%), and service 3.8 (41%).

- In terms of sectoral distribution, the service sector had the highest share of gross value added with 40% in 2019 with the agriculture sector contributing 33%. Construction constituted 20.09% while the manufacturing sector had a share of 6.74% in the same year. In terms of employment, the agriculture sector remains the major contributor with 66% followed by the service sector employing 24.26% of the total workforce in 2019. In the same year, the manufacturing sector, construction, and mining covered the remaining 5.43%, 3.59% and 0.59% of employment in the that shown by GDP distribution. Exports continued to be dominated by the agricultural sector.
- High inflation, high urban unemployment, high underemployment, and low wages characterize the Ethiopian economy raising wellbeing concerns. High inflation not only affects consumers but also the competitiveness of enterprises as they are forced to increase salaries. The high level of unemployment and under-employment in the face of high investment on education results in loss of skill.
- High fiscal deficit, low share of tax revenue, and large external debt (with low export revenue) continues to be key issues that require further attention. Unless addressed these issues will create problems of sustainability in financing in the economy.
- Our decomposition analysis showed sector productivity gains are the major drivers of aggregate labor productivity in Ethiopia. There have been recent gains from structural transformation as sectors such as construction, trade, transport and communication, real estate and business, and social services attracted labor from agriculture and public administration and defense.
- National accounting decomposition showed that in the period 2001-2011, total factor productivity was by far the largest

contributor to aggregate labor productivity with a share of about 90%. In the period 2012-2019, capital accumulation became the major source of aggregate labor productivity with an average share of 68%. While the importance of capital accumulation at the start of industrialization may not be surprising, it is important to ensure efficiency of the capital being invested. Low TFP with high capital accumulation may indicate inefficiency of large public investments and points to the importance of shifting to private-led investment to sustain the recent growth momentum.

- In terms of expenditure (demand) side of GDP, with about 69% of GDP in 2019, private consumption played a key role followed by gross capital formation (investment) with about 35%. Government expenditure accounted for about 9% and trade balance for -13%. Between 2000 and 2019, the share of gross capital formation increased by about 10 percentage points while that of government consumption decreases by 15 percentage points signifying the increasing role of investment to growth.
- Studies conducted on the impact of the COVID-19 pandemic on the Ethiopian economy show non-trivial loss on various dimensions of the economy. Typically, a study by the EEA found GDP growth could decline by 2.4% - 3.9% percentage points due to the pandemic based on mild and severe scenarios. Carefully planning the recovery processes will be crucial.

2.5.2. Policy Implications

- **Design a differential support system for enterprises based on the level of competition they face and their strategic importance:** To enhance structural transformation, there is a need for a special support scheme aimed at boosting the

productivity and competitiveness of the sector. The current support system for enterprises in Ethiopia is uniform without any consideration of the specific risks and competitions an enterprise face. Manufacturing industries face stiff competition from imports and because they continue to be import-intensive are prone to suffer from expensive logistics. There is, therefore, the need to design a differentiated support system for different elements within the sector based on the particular challenges these faces. This would increase the share of the manufacturing sector in employment, GDP and exports.

- **Address supply-side constraints and implement a system of sectoral linkage:** The structural transformation of the economy from agriculture and construction towards manufacturing is empathized in the Ten-Year Perspective Plan. However, to achieve an inclusive and sustainable structural transformation it is imperative to address the supply-side constraints in agriculture and manufacturing. Without addressing the sector-based constraints, structural transformation will not be sustainable and poverty-reducing. Without transforming agriculture and preparing the ground for a competitive and vibrant manufacturing sectors, the simple exodus of labor out of agriculture to other sectors will result in uncontrolled urban sprawl and inflation. Hence, the transformation of agriculture is a crucial precondition for overall structural transformation in the economy. A system of backward and forward linkages among the various sectors in the economy notably agriculture and manufacturing will be important for structural transformation. While linkage is emphasized in policy documents in Ethiopia in the last two decades, implementation has been poor as there is no system

for it in place. For example, there is no incentive system for firms that sources inputs locally from other enterprise. Hence, it is important to have a system of linkages in place based on experiences of successful industries in the country that takes local context into account.

- **Encourage the shift towards private sector-led development by addressing the financial repression of the private sector:** Low TFP with high capital accumulation appears to indicate the inefficiency of large public investments and points to the importance of shifting to private-led investment to sustain recent growth momentum. While the government has reiterated its commitment to make the private sector an engine of growth, in practice there has been little change in recent years. Public investment continues to dominate, crowding out credit and foreign exchange access to the private sector. Unless the financial repression of the private sector is addressed, sustainability of the growth momentum will continue to be in question.
- **Design a national and sector-based skills anticipation system:** The creation of a structure for expanded and productive employment is one of the daunting challenges facing the government in the coming decade. There is high urban unemployment and under-employment and low wages for the employed in both rural and urban (working poverty) areas, and a growing number of people, youth in particular, are joining the labor market every year. The serious skills mismatch in the labor market is also a key challenge that requires intervention as industries continue to struggle to find appropriately skilled workforce despite large number of graduates from higher education and TVET systems. Not only is there poor quality of training and education, the skills being

produced are not the skills required by industry. A skills anticipation system is required to ensure alignment of skills with those required by industry. This can be done by the Jobs Creation Commission or another body dedicated to anticipating skills' needs of the economy and able to keep prospective graduates and the education and training institutions informed.

- **Conduct diagnostic research on the drivers of inflation in Ethiopia:** Another key area that requires critical intervention is inflation. The current high inflation rate is not only harming consumers, but also firms as they are forced to increase salaries affecting their competitiveness. Inflation also affects the competitiveness of exporting firms by raising the real exchange rate. The issues of inflation, particularly of food inflation, should be seen as a distinct end in itself as it affects consumers as well as indirectly affecting the costs of firms and their ability to employ people. A prudent monetary policy could play a key role in curbing inflation. There is also a need to check on large and inefficient government investments which fuel inflation without offering any real gain for the economy. A related key area of possible intervention is agricultural productivity as it is directly related to the prospect of food inflation. A first step, however, would be to conduct a diagnostic study of the drivers of inflation. There is currently no rigorous research on inflation publicly available.
- **Design a monitoring and evaluation system for the Homegrown Economic Reform Agenda and harmonize it with the ongoing Ten-Year perspective plan:** The recently crafted Homegrown Economic Reform Agenda aims to address some of the sustainability challenges the economy has to face after more than a decade of double-digit growth.

Focusing on the three pillars of reform, macroeconomic, sectoral, and structural, the reform agenda aims to make the private sector the driver of economic development. While the reform agenda has clearly conveyed the situation on the ground, identified the challenges, and defined the objectives, there is a need for a broader action plan with clear timeline and responsible body to ensure implementation. There is also a need for a monitoring and evaluation system to track the impact and progress of interventions. This in turn will help successful implementation of the Ten-Year Perspective plan. It is crucial to ensure alignment and harmonization of the reform agenda and the perspective plan.

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Appendix

Appendix 1: Derivation of the growth accounting method of decomposing aggregate labor productivity⁴

The growth accounting method decomposes growth in labor productivity into *capital deepening* and *TFP growth*. The decomposition is derived from a Cobb-Douglas type production function⁵.

$$Y = A \cdot K^\alpha \cdot L^\beta \quad (1)$$

Where, Y, K, L, A are output, capital, labor, and TFP, respectively.

Assuming a constant return to scale, $\alpha + \beta = 1$, dividing both side of (1) by L

$$\frac{Y}{L} = \frac{A \cdot K^\alpha \cdot L^\beta}{L^{\alpha+\beta}} = A \cdot \left(\frac{K}{L}\right)^\alpha \quad (2)$$

Defining $y = \frac{Y}{L}$ and $k = \frac{K}{L}$, then y and k are labor productivity and capital/labor ratio (capital per unit labor). Equation (2) becomes:

$$y = A \cdot k^\alpha \quad (3)$$

⁴ This is based on Hailu et al. (2020) of which I am a co-author

⁵ Thanh et al. 2018 and Hailu et al. (2020) apply the same procedure for Viet Nam and Ethiopia respectively.

Applying natural logs and differentiating both side of equation (3),

$$\begin{aligned} \ln y &= \alpha \ln k + \ln A \\ \Delta \ln y &= \alpha \Delta \ln k + \Delta \ln A \end{aligned} \quad (4)$$

Equation (4) indicates that *growth in labor productivity* can be decomposed into *capital intensity growth* ($\alpha \Delta \ln k$) and *TFP growth* ($\Delta \ln A$). By providing more amount of capital to work with, capital intensity makes labor more productive through the contribution share of capital in the production function (α). TFP growth enhances labor productivity growth.

The growth rate of y (labor productivity) and TFP can be computed as:

$$g_y = \alpha \cdot g_k + g_A \quad (5)$$

$$g_A = g_y - \alpha \cdot g_k \quad (6)$$

CHAPTER THREE

Urbanization and Development in Ethiopia: Policy Issues, Trends and Prospects

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3. Urbanization and Development in Ethiopia: Policy Issues, Trends, and Prospects

3.1. Introduction

The world has undergone unparalleled levels of urbanization over the last half century, with the highest urban growth rates taking place in developing countries. The notion of urbanization involves major structural, socio-economic transformations including land-use (Surjan et al., 2016). Consistent to this theory, empirical findings show that the relative importance of agriculture declines as the country's level of urbanization increases (Davis and Henderson, 2003; Ellis and Roberts, 2015). Urbanization is also crucial to development and both are closely intertwined; indeed, sustained economic development cannot be achieved without urbanization (Henderson, 2010). Yet, in the context of developing countries, little is understood as to how rapid urbanization processes affect development.

A well-managed urbanization certainly facilitates growth and development. The conventional theory and historical experience from developed countries shows that cities are more efficient and contributed to structural changes in the economy. During such process, either technological change or productivity differential leads to a shift of resources from agriculture to the urban sector (Fujita et al., 1999). This shows a strong positive association between urbanization and per capita income growth (Jedwab et al., 2017) suggesting that urbanization boosts economic growth (Buckley and Simet, 2015).

Africa's urban transition has proved different from the conventional perception of urbanization where the drivers, patterns and outcomes are not uniform and do not follow past processes (OCDE/SWAC, 2020). Recent studies in Africa revealed that poverty is being urbanized (Ravallion et al, 2007) and hence becoming an urban phenomenon (Dorosh and Thurlow, 2014). Many scholars argue that the rapid urbanization in Africa is happening without the required structural transformation (Jedwab and Vollrath, 2015; Gollin et al., 2016). This is often associated with unplanned urbanization (Ravallion et al, 2007; Elhadary and Samat, 2012) leading to expansion of consumption cities financed by surpluses generated from natural resources extraction and agriculture (Jedwab, 2012). Furthermore, in developing countries, the discerning role of governments in the urbanization process has resulted in a consistent bias giving favored cities and regions a cost advantage (Henderson, 2010).

Consumption cities are often deficient in creating agglomeration externalities and bringing positive effects on job creation and productive investments (Jedwab, 2012). These disadvantages can lead to surges of income inequality in urban centers (World Bank, 2013), rampant youth unemployment (African Development Bank, 2011), and over-strained public services and social discontent (UN-Habitat, 2014). This is reflected partly by the fact that 55% of urban residents in Africa are living in slums¹ coupled with high and rising levels of youth unemployment (World Bank, 2013). Urban development programs in Ethiopia share most of the problems found in other African urban centers.

¹ Source: <http://www.data.worldbank.org/indicators> , retrieved on 25/06/2020.

Ethiopia is the least urbanized country compared to most African countries, with 21.2% of the people living in urban centers in 2019, though this is expected to rise to 40% by 2050 (United Nations, 2019). The current low level of urbanization puts Ethiopia in a unique position to promote inclusive growth and guide its urbanization process in a sustainable manner. Most of the existing urban centers are concentrated at the lower end of the urban hierarchy (Ermias et al., 2019) which provides an opportunity to minimize and protect congestion externalities. The country is also entering to a demographic transition with an increasing youth labor force (Assefa and Gurum, 2017). With 53.2 million of working-age group in 2019² expected to reach 91 million by 2037 (CSA, 2013), job creation and growth of productive service and industry sectors are crucial for Ethiopia to be able to exploit the demographic dividend and harness development.

Historically, agriculture has been the main driver of Ethiopia's economy and it is still the largest employer in 2019 – with 69% employed in agriculture followed by 21% in services and 10% in industry³. The Ethiopian government has taken cognizance of these figures in giving attention to the existing urbanization process (FDRE, 2016). Monitoring urban expansion trends has been incorporated in the recent Growth and Transformation Plan (GTP)-II (2015/16 – 2019/20) which explicitly recognized the importance of urbanization in enhancing productivity and unlocking the country's economic growth potential. Equally important is that cities need to be managed and governed effectively and efficiently to promote a sustainable and

² Source: International Labor Organization, ILOSTAT database. Retrieved from <http://www.data.worldbank.org> on August 08, 2019.

³ Source: <http://www.data.worldbank.org> retrieved on August 08, 2019.

conducive environment for living and working (Jusoh and Rashid, 2008).

This chapter explores the urbanization process in Ethiopia and its relation to development with an emphasis on the urban economy. An overview of literature on urbanization and development is provided first and followed by the presentation of data and empirical models used to examine city-size distribution and inequality. Existing policies, strategies, and institutions are examined first before analyzing the dynamics of city-size inequality. The drivers, trends, and patterns of Ethiopia's urbanization are also explored. The relationship between urbanization and socio-economic developments, particularly the urban economy, is considered before reflecting on possible policy implications that help to harness and direct the process of rapid urbanization process.

3.2. Urbanization and Development: Theoretical Overview

Urbanization is the process of growth in a country's urban population accompanied with an increasing importance of the cities relative to rural areas across the economic, political, and cultural aspects. The process comprises aspects of urbanization itself and urban concentration or the degree of urban resource concentration in one or two cities (Davis and Henderson, 2003). Urbanization and development are clearly related but there are different views over which comes first.

“The first argument is “urbanization is an inevitable outcome of economic development”. This notion asserts that industrialization and economic growth generally tends to attract rural-urban migration. The second view states “no

nation in modern history has managed to sustain per capita income growth without massive transfer of people from land to the city". This statement suggests that urbanization causes economic development. But urban areas are endowed with better public services and infrastructures compared to rural areas. These services and infrastructures in turn attract industries and firms" (Njoh, 2003).

The direct bi-causal relations show that urbanization and development are positively associated. The conventional wisdom is that cities do function as powerful engines of national economic development (World Bank, 2009; UN-Habitat, 2012). If urbanization leads to growth and development, then this has profound implications for countries struggling with growing urban population. But the link between economic growth and urbanization is nonlinear and may depend on different factors.

One hypothesis indicates spatial concentration promotes growth most at the early stages of development (Williamson, 1965). When transport and communication infrastructures are limited and capital markets are non-existent, production efficiency can be gained by concentrating on space. Later, when the capital market and availability of infrastructures improves, congestion externalities may favor dispersed economic activities. This is consistent with the urbanization and growth model of Bertinelli and Black (2004). Cities with initial high concentration of population may become congested and ultimately limit the efficiency of both consumers and producers. In fact, urban concentrations initially increase and then decrease as income per capita increases (Davis and Henderson, 2003). The largest cities grow slowly while the medium and large sized cities continue to grow at an increasing rate (World Bank, 2000).

A second hypothesis argues that political institutions and policies may encourage over-concentration (Ades and Glaeser, 1995; Davis and Henderson, 2003). In many countries, national governments favor capital cities or the seat of the national elites leading to under-investment in inter-regional transport, communication, and public services. Favoritism involves restrictions on capital markets and licensing in favor of firms interested to invest in national capital, allowing central government bureaucrats to extract rents without competitions from lower-level officials in other locations (Henderson, 2003). Similarly, urban bias theoretics contend that government policies can systematically channel valuable resources to the capital city which may result in short-term economic growth (Njoh, 2003) and disproportionately attract migrants to the capital (Henderson, 2003).

Agglomeration, however, matters more in closed economies because transactions can be cheaper over shorter distances (Krugman and Elizondo, 1996). Empirical evidence shows a negative correlation between openness and urban concentration though direct causal links are uncertain (Ades and Glaeser, 1995). Urbanization processes often involve large public and private investments and are generally associated with economic development. Hence, the government's role in the urbanization process over the years can result in a consistent bias giving favored cities and regions a cost advantage (Henderson, 2010).

Urbanization is generally considered as crucial for developing countries to reduce poverty and cities seen as the primary sources of economic growth in the global south (Glaeser and Sims, 2015). However, the process and development of urbanization differ widely. In the context of developed countries,

urbanization has a strong positive association with economic development due to structural transformation and industrialization (Jedwab, 2011; Henderson et al., 2013). Conversely, many argue that Africa has been urbanized without economic growth over some decades (Fay and Opal, 2000; Henderson, 2003) and is urbanizing without the standard structural transformations (Jedwab and Vollrath, 2015; Gollin et al., 2016). Consequently, rapid urban growth is already outpacing the capacity of many local governments to provide basic services and infrastructures (Zeng et al., 2016) resulting in traffic congestion, overstrained public services, slum surges and social discontent (UN-Habitat, 2014). These problems are more visible in sub-Saharan Africa because urbanization is happening unplanned (Ravallion et al., 2007; Elhadary and Samat, 2012) and at much lower level of per capita GDP growth than has occurred elsewhere (Jedwab et al., 2017).

With rapid urbanization in Africa lacking the required levels of structural and political transformations (Jedwab et al., 2017), the result is propagation of urban slums and informal sectors. This is reflected by the increasing urban poverty (Dorosh and Thurlow, 2014) and the fact that 55% of urban residents in sub-Saharan Africa were living in slum settlements in 2014⁴. To accommodate the rising urban population and increasing land demand for urban use, cities grow outward encroaching on farmlands (Cohen, 2004) producing urban sprawl (Ginsburg et al., 1991) and leading to problems of transport (Yeh, 2002). Other studies emphasize that urban poverty and youth unemployment are the major challenges of urban Africa (African Development Bank, 2011) suggesting the urbanization of poverty (Ravallion et al.,

⁴ Source: <http://www.data.worldbank.org/indicators> , accessed on 25/06/2020

2007) as the rural poor migrate to big cities (Christiaensen et al., 2013).

Much of the prior discussions seem to suggest the possibility of an optimal level of urban concentration to promote economic growth and/or economic development. Urban primacy or urban concentration measure helps to indicate the relative distribution of national urban resources between big and small cities (Henderson, 2003). Productivity growth is strongly affected by the degree of urban concentration (Henderson, 2003) and agglomeration boosts GDP growth up to certain levels of economic development (Brulhart and Sbergami, 2008). Nonetheless, the relationship between urban primacy and productivity is non-linear (Duranton and Puga, 2001; Brulhart and Sbergami, 2008).

The standard growth models assert that urbanization is associated with moving out of agriculture and the advance of productive service and manufacturing sectors. Urbanization is positively associated with income (Henderson, 2010) and the world is becoming more urbanized (Gleaser, 2013). The historical experience of developed countries shows that labor moves out from agriculture to more productive non-farm sectors as economic growth increases. This may hold for many Asian countries in their early urbanization stage. But urbanization in Africa, the second fastest urbanizing continent (United Nations, 2019), has happened without economic growth (Fay and Opal, 2000; Henderson, 2003) which makes quantification of the relationship difficult.

In developing countries context, national government policies such development strategies and political ideologies have a role in controlling resources that are motivated to direct urbanization (Henderson, 2010) and urban primacy is directly affected by policies and politics (Davis and Henderson, 2003).

This is partly explained by the pace of urbanization that happened in developing countries over 50 years as opposed to pace of urbanization in developed countries that happened over 100 years (Jedwab et al., 2016). Urbanization has increased substantially in many developing countries even with persistent poverty and inadequate state capacity. This relationship is observed in Sub-Saharan African countries where changes in income are weakly correlated or uncorrelated with urbanization (Jedwab and Vollrath, 2015). This suggests that policy and political institutions may be important drivers of urbanization in Africa.

The rapid growth of cities brings changes in the urban landscape, shelter, society, environment, economy, governance, and infrastructure (Singh, 2014). Invariably, rapid urbanization requires massive local and inter-city investments to replace traditional institutions and social structures within short time spans (Henderson, 2010). But most cities in developing countries suffer from insufficient open spaces and poor infrastructures and congestion externalities including substantial pollution, pervasive traffic congestion, and inefficient migration (Bertinelli and Black, 2004). To realize sustainable cities, therefore, it is imperative that urban development policies should consider the economic, environmental, and social aspects in a holistic manner.

3.3. Data Sources and Empirical Framework

The previous discussions indicate that the relationship between urbanization and development depends on the context. But it is also clear that urbanization is closely associated with the dynamics of economic development including the causes of economic growth, the pace of structural transformations, and the nature of the physical environment in which growth occurs.

To understand the relationship between urbanization and development in Ethiopia, three interrelated areas have been investigated using datasets from different sources. The first is examining urban policies, strategies, and institutions in view of promoting urbanization for development. This was mainly done by reviewing the documents issued by the Ministry of Urban Development⁵, different proclamations enacted for urban governance both at regional and national level, the GTP-I and GTP-II and other relevant policy documents. The second issue is analyzing drivers, patterns, and trends of urbanization and finally analyzing the association of urbanization with development within the urban economy.

3.3.1. Data Sources

The 1984 - 2007 census and the 2013 projection data from CSA, though it lacks regular census data, are appropriate datasets to examine the evolution and distribution of Ethiopian cities because they contain disaggregated city-level population data. City-size classifications of the Ethiopian Ministry of Urban Development and Construction (MoUDC) were also adopted to understand the changes and distributions of city-size over time. The MoUDC (2012) classified urban settlements into five discrete city-size groups - the smallest is below 20,000 inhabitants and the largest is with one million and above. The five clusters are: ‘small towns’ (2,000 to 20,000); ‘medium towns’ (20,001 to 50,000);

⁵ As the policy and strategy documents indicate, the ministry has gone through several changes of name. The Ministry of Urban Development and Construction in 2005, then Ministry of Urban Development, Housing and Construction and most recently Ministry of Urban Development and Housing. For simplicity, we used the term Ministry of Urban Development to represent the different names.

‘large towns’ (50,001 to 100,000); ‘cities’ (100,000 to 1,000,000); and ‘metropolis’ (more than 1,000,000). Characterizing the nature of urban growth dynamics and processes helps to understand the level of urban concentration which in turn shows the relative distribution of national urban resources. The MoUD’s classification is pertinent to explore city-size evolution in the urban system.

The CSA population projection data has limitation in considering the effects of policy interventions implemented after 2013 although these play a profound role in increasing urbanization. A probable result is low estimates of the urban population. But a downward bias in urban statistics can be addressed by constructing an objective and continuous indicator of urbanization. One approach is to consider the night-time light (NTL), often applied as alternative reliable marker of urbanization for many developing countries (Henderson et al., 2003; Michalopoulos and Papaioannous; 2018) and addresses the administrative urban-rural boundary rigidities. However, the satellite resolution that collects NTL time series data changed from DMSP-OLS Version 4 to VIIRS Version 1 in 2013. The VIIRS has a superior and higher resolution than the old DMSP-OLS inhibiting any direct comparison of NTL data before and after 2013. Our analysis extends from 1984 to 2037 which makes it difficult to apply the NTL data. Another possible mechanism would be the application of remote sensing data to map development of urban centers but less flexible for tracking changes over time and is beyond the scope of this study.

For the sake of consistency, the CSA data was used, while acknowledging the limitations, to observe urbanization dynamics over 50 years covering the period from 1984 to 2037. The CSA (2013) does not have population projections for every urban

center. To fill the gap, we calculated the respective regional states' urban growth rate used in the CSA to compute the population projection data for each urban center included in its 2007 report. Here, it is important to note that applying the same growth rate to all urban centers in the regional state is limited to capture growth rate differentials arising from agglomeration economies. For the years succeeding the 2007 census, analysis of urban systems evolution and city-size distributions is limited to the urban areas included in the 2007 census. Urban centers created after 2007 are excluded from the analysis by default.

Timeseries data was compiled from the World Bank database to investigate relationships between urbanization and structural transformations. The database has comprehensive macro development indicators from which we extracted annual data since 1990 for macro indicators such as sector contribution to GDP, sector employment proportion to total employment, and percentage of urban population. This data was used to examine whether urbanization was accompanied with the required structural transformation of the economy.

Another focus of this chapter is to investigate the trends in urban labour market as urbanization proceeds. The CSA Urban Employment Unemployment Surveys (UEUS) data was used to examine the dynamics of urban labor market. The UEUS has been conducted annually to collect annual data from the urban centers since 2003. The dataset draws employment samples from all urban centers up to 2006 and after 2006 only cities with threshold of 100,000 inhabitants were considered for the survey. We chose this dataset to provide data that enabled us to rigorously evaluate employment trends and wage distributions limiting our analysis to adults of 18 years and above though the surveys collect data from the age of 10.

The monthly payment and weekly working hours were extracted from the UEUS dataset to explore distribution of wage across time and space. The corresponding consumer price indexes (CPI) from CSA were also used to account for the spatial differences in cost of living. The earning variable is wage per hour, which was calculated by dividing cost of living adjusted to monthly payment using weekly working hours⁶. This is a good proxy for an hourly wage assuming all workers work for same number of hours every week (Baum-Snow and Pavan, 2013; Chen et al., 2017). Studies indicate that wage inequalities are disproportionately located in the larger cities (Juhn et al, 1993; Baum-Snow and Pavan, 2013). City level data is limited in the dataset and generally in Ethiopia which should be considered in the future. Despite this, we expect the regional states with more large cities to exhibit higher wage inequalities.

The UEUS has clear identification of the regional states which helped in decomposing wage distribution by regional states. Gini coefficients was used to decompose wage inequality. We acknowledge that our results are coarse since the drivers of wage inequality may differ between larger and smaller cities within the regional state.

3.3.2. Empirical Framework

There are often two types of dynamics in the evolution of urban systems. The first issue is at macro level and characterizes evolution of city-size distributions which in turn helps to understand the level of urban concentration. The second is at micro level that examines the dynamics of individual cities and variations

⁶ This is because neither monthly working hours nor weekly payments are available in the dataset.

of city population over short time intervals. The urban primacy, or urban concentration, measure indicates the relative distribution of the national urban resources between large and small cities (Henderson, 2003).

The three methods often applied to measure urban concentration are Hirschman-Herfindal index, Pareto Parameter, and Urban Primacy. The Hirschman-Herfindal index of concentration is computed as the sum of the squares of each city's proportion of the national urban population (Henderson, 2000). The Pareto Parameter, also known as Zipf's law or rank-size rule, indicates how fast city-size decreases as one moves from the largest to the smallest in size distribution (Rosen and Resnick, 1980). The third option is Urban Primacy which is measured as the share of the largest city population to the national urban population (Ades and Glaeser, 1995). Applying the Pareto Parameter to characterize the evolution of city-size distribution has two advantages. It helps in the analysis of urban concentration while also enabling the observation of the evenness of city-size distribution. It also has the flexibility to use sub-samples, which is important when regular censuses are absent as is the case for this study.

The Zipf's law or rank-size rule is often applied to explore the evolution of city-size distribution and provides simple descriptions of the urban system hierarchy. The law is associated with stages of urbanization and is used to inform policymakers as they make decisions on investment in and management of urban infrastructures. Studying the rank-size distribution of Ethiopian cities can also contribute to testing the empirical regularity of the Zipf's law. The rank-size rule begins with ranking the cities by population size in descending order, with the largest city numbered 1 and the smallest city rank equal to the total number of cities, to

obtain rank $R(m)$ for city-size m . Zipf's law states that the distribution of cities should follow a Pareto distribution, with $R(m) = Am^{-\alpha}$. Many studies apply the following log-linear model to test rank-size rule for city i at time t

$$\ln R(m_{it}) = \ln A_t - \alpha_t \ln m_{it} + \varepsilon_{it} \quad (1)$$

where α_t is the Pareto coefficient. The rank-size rule holds when $\alpha_t = 1$, which means $R(m_i) * m_i$ has the same value for every city. This means the second largest city has about half of the size of the largest, the third largest city has one third of the population of the largest and so on. When the coefficient is greater than 1, the cities are evenly distributed or the size difference between small and large cities is minor; $\alpha_t < 1$ indicates that the cities are more unequal.

The estimate of α_t , the Zipf's value, is often sensitive to sample selection where estimates tend to be larger when studies consider the upper tail distribution of city-size (Black and Henderson, 1999). The Zipf's value sensitivity to minimum cut-off of city-size suggests the rank-size relationship in equation (1) is different from log-linear. To test the sensitivity and examine the non-linear relationship of rank-size, equation (1) is usually reformulated by adding the quadratic term of population and is given as:

$$\ln R(m_{it}) = \ln A_t - \alpha_t \ln m_{it} + \beta_t (\ln m_{it})^2 + \varepsilon_{it} \quad (2)$$

The rank variable is only valid for each individual year because the number of urban centers in the sample vary every year. Hence, repeated cross-section regression is applied to estimate both equation (1) and equation (2). The Pareto distribution of city-

size is estimated for each year using census data of 1984, 1994 and 2007 and the projection data of the years 2017 and 2021.

3.4. Policies, Strategies, and Institutions of Urbanization in Ethiopia

Albeit low level of urbanization at the present, Ethiopia is the fastest urbanizing country in sub-Saharan Africa, and this trend is expected to continue in the coming decades (United Nations, 2019). The fast urban growth that started from a low base provides a unique opportunity to proactively manage and regulate urban development programs to ensure inclusive growth and opportunities. However, it appears the functional linkages between big cities and small urban centers are weak since each city mostly performs similar activities. The government's primary concern is, therefore, to manage urbanization to harness opportunities and capitalize on the complex forces of urbanization to create resilient and dynamic urban economy.

The Ethiopian government is fully aware of the importance of cities in economic growth. This was noted by the National Urban Policy issued in 2005, the first initiative that recognized urban perspectives in the overall national development (FDRE, 2005). The national policy was developed to interlink urban centers and make them globally competitive by ensuring efficient service delivery and improving suitability for living. The policy document includes a set of principles, namely, strengthening of rural to urban and urban to urban linkages; ensuring balanced development of urban centers; reducing urban poverty; increasing community participation in urban development; creating partnership with private sector; and creating decentralized urban governance. These principles also encompass

issues of poverty reduction, job creation, equity, and governance of the cities.

In addition to the urban policy document, urban plan regulations have been issued asserting the need to regulate and guide urban centers, Proc No. 574/2008 (FDRE, 2008). Different urban strategies and urban development implementation packages have also been issued to deal with housing supply, land development and management, integrated infrastructure supply, plan preparation and implementation, governance, environmental resilience, and recently, in 2018, urban regeneration and expansion. These strategies have outlined a series of ambitious objectives, though the institutions required to implement them are usually missing or not equipped with the right level of human and financial capacity. This phenomenon is demonstrated by the wide gap between urban policy and functional realities. For instance, most big urban centers, including Addis Ababa, are exposed to: serious environmental problems (UN-Habitat, 2017), an increasing number of slum dwellers (UN-Habitat, 2016), frequent power outages (Abdisa, 2018), and inequality in accessing primary health care (Woldemicael et al., 2019).

The current urban institutional structures emanate from the decentralized system of the 1995 Constitution. The Constitution empowers regional states to establish lower-level administrations and provide them with adequate power and responsibility to mobilize citizens for regional and local developments. Accordingly, many regional governments endorsed the Urban Local Government Proclamations to provide a legal basis for their cities (Gebre-Egziabher and Yemeru, 2019).

The Ministry of Urban Development and Construction (MoUDC) is the lead institution responsible for urban development initiatives and for preparing sector plans including

aligning urban issues with PASDEP (2005-2010) and GTP programs. The urban focused plans of GTP II identified strategic growth sectors and infrastructures to enable the country to achieve the MDGs and reach lower middle-income status by 2025. But the GDP per capita of Ethiopia was only US\$857 in 2019, far below the Sub-Saharan Africa average, excluding high income countries, of US\$1573 GDP per capita.

Urban centers are expected to provide services and logistics that enable connection to international markets, boost industrial development and export activities, and facilitate the success of GTP II and beyond. However, the current highly unequal urban system – with Addis Ababa 11 times larger than the second largest city in 2013 (MoUDHC, 2015) and being the location for about 64% of Ethiopian firms (Oqubay, 2019) – can do little to provide efficient services and infrastructures that create healthy urban market systems. The government is promoting proactive national development plans to moderate the current unbalanced urban system and facilitate the development of a modern industrial economy. The government has also been implementing different initiatives such as creating growth poles, development corridors and city clusters (MoUDHC, 2015) to achieve a balanced development and urban growth.

The regional states cascade the MoUHDHC plans and programs while preparing their local plans to generate resources for cities and implement programs. Many partners work in urban development initiatives including the World Bank, GIZ, Cities Alliance, UNDP, UNIDO and DIFID. The programs and projects mainly focus on poverty reduction, creating employment opportunities, access to basic services, capacity building on urban governance, and providing decentralized service delivery. Proactive planning is crucial to ensure the long-term effects of

interventions in terms of providing cost efficient, effective, environmentally friendly, and sustainable services. However, it is questionable whether the current institutional systems can enable effective delivery of services and programs to meet these challenges given the constraints in capacity and resources of urban centers. In the face of rapid urbanization, however, providing effective and efficient public goods and services is becoming increasingly difficult.

The extent to which the regional states can nurture urban development and facilitate mitigation of urban challenges is uncertain. Like the capital city Addis Ababa, the regional capital cities are likely to suffer from overcrowding; often leading to significant proportion of their population living in informal housing units with limited access to basic services including water and electricity. The rise of slums and overcrowding in the absence of large-scale industrialization leads to proliferation of informal sectors which are difficult to monitor and/or regulate. Furthermore, the inability to tax the informal sectors diminishes the local government's revenue and in turn limits its capacity to finance public services.

3.5. Drivers, Trends and Patterns of Urbanization in Ethiopia

Ethiopia is the second most populous country in Africa, with a total population of 112 million and a 2.4% growth rate in 2019 (United Nations, 2019). Although modern urbanization started in the nineteenth century (Pankhurst, 1985), Ethiopia's level of urbanization was only 21.2% in 2019. Nonetheless, the annual urban growth rate of 4.5% is faster than Sub-Saharan Africa

average of 4% (World Bank, 2014) and expected to continue at faster rate of 5.4% (World Bank, 2015).

The urban population increased from 4.5 million in 1984 to 11.86 million in 2007 (CSA, 2007) and about 42.4 million people are expected to live in urban areas by 2037 (CSA, 2013). The main drivers of this rapid urbanization include natural growth, rural to urban migration and reclassification of rural settlements. Prior to 2018, natural growth was the highest contributor (40%) to the growth of the urban population followed by rural-urban migration (33%) and reclassification of rural villages to urban centers (24%) (World Bank Group, 2015). Rural to urban migration, however, is expected to outpace the natural growth for two reasons (see Chapter 4 regarding population dynamics in Ethiopia). The first reason is restrictions that were imposed on rural land redistribution as part of the economic reforms in the 1990s. These restrictions limit access to farmland for the increasing youth population, generating landless farm households, which in turn accelerates rural to urban migration decisions. Migration to mega-projects of irrigation and sugar processing plants is also expected to provide a significant boost to the creation of new urban centers. This is reflected by the fact that the proportion of urban residents who migrated from rural to urban increased from 25% in 1996 to 33% in 2013 (MoUDC, 2014) and expected to reach 47% by 2037 (World Bank Group, 2015).

The emerging rapid urbanization can bring inclusive opportunities and benefits if managed properly. Decision makers and urban planners alike are looking for different scenarios. Debates on whether city-size matters to reduce poverty and generate employment have continued (World Bank, 2016). Since large and small cities grow differently due to the agglomeration externalities affecting evolution of city-size distribution, the

government needs to design specific city-size or cluster-based policy and intervention modalities. Hence, understanding city-size distribution has an important contribution to policy discourse in terms of poverty reduction and creating inclusive opportunities. This argument presumes the notion of city-sizes and their industrial compositions which arises from aspects of urban hierarchy (Black and Henderson, 1999). However, before examining the recent trends of urbanization in Ethiopia, we need to present how Ethiopia defines urban areas.

3.5.1. Measuring Urbanization

The Central Statistics Authority (CSA) uses a flexible approach, of either political status or presence of urban services and activities, to define a locality as urban area (CSA,2004)⁷. But it uses the term town (locally known as *Ketema*) for all urban settlements and has no criteria to group the urban centers into clusters, for example using population size. This makes it problematic to understand the level of socio-economic activity or to develop criteria for allocation of resources. Another concern is the bureaucratic procedures associated with drawing boundaries as the urban centres expand into rural areas around their periphery. The practice is for local governments to agree and report the changes of urban boundary to their respective council (FDRE, 2008) and then disclose these changes for public consideration.

⁷ CSA (2004) considers a locality as urban area if it satisfies either of the following criteria: i) all Regional, Zonal and *wereda* capitals which serve as administrative centers; ii) all localities with urban dwellers' associations (*kebele*) not included in (i); and iii) all localities not included in (i) and (ii) but with 2000 or more inhabitants primarily engaged in non-agricultural activities.

This procedure often results in delays and can even bring the required adjustments to a halt.

Studies concerned with issues of urban Ethiopia often face predicaments in finding comprehensive and coherent measure of urban population. In addition to the poor data system of the CSA, difficulties can arise from the frequent changes in the delimitations of urban areas and the naming of previously enumerated urban centers. In some instances, the CSA also acknowledges a settlement as urban for political reasons even though the population may be below 2000, a minimum threshold under normal situations. This definition is also problematic as small towns can be easily reclassified as rural following changes in economic or political factors. For instance, many urban centers enumerated in the 1994 census were not included in the 2007 census even though total urban population and the number of urban centers had increased tremendously.

The CSA uses binary urban rural administrative classifications which do not recognize peri-urbanization and the dynamics of peri-urban areas. This likely under counts Ethiopia's urban statistics and brings measurement challenges. With the rapid urban growth since early 2000s, new construction and urban sprawl are the main feature of all urban centers including Addis Ababa. Although these are the most striking features of Ethiopia's spatial development (Dadi et al., 2016), tracing urban development is difficult in the absence of a regular census. While acknowledging these limitations, we have carried out the simpler task of observing urbanization dynamics over the period of 1984 to 2037 using the CSA data on census and population projections.

Using the CSA data, a considerable increase in the number of urban centers has been observed. The urban centers have expanded substantially both in surface areas and number of

inhabitants. The number of cities with population of more than 20,000 has risen from 22 in 1984 to 85 in 2007 and expected to reach over 440 by 2037 (Table 3.1). A caveat is that the CSA urban population projection data often depends on pre-existing demographic factors which may not capture the effects of industrial parks and other development interventions after 2013.

It is important to note that the data for the years 2017 to 2037 is based on CSA (2013) projections. This may be limited in reflecting the effects of the GTPII policies, mainly the establishment of Economic Zones and Industrial Parks as well as the continuous displacement of settlements due to social unrests in many parts of the Oromia, SNNP and Somali regional states after the 2015 election.

3.5.2. Urban Systems 1984-2021

The Ethiopian urban system has changed significantly in city-size and distribution over the last 37 years. During the 1984-2021 period, the total population increased by 158%, from 39.4 to 103 million. This was accompanied by rapid urbanization with the urban population increasing by 414% from 4.45 to 22.88 million. There was, however, a significant change in 1991 in both administrative and economic systems. The economic system changed from a communist to a market-led economy while the administrative systems transformed from unitary to federal system. As a result, the urban evolution and ecosystem are different before and after 1991.

The evolution of city-size clusters is presented in Table 3.1. In 1984, there were 22 cities with the threshold of 20,000 inhabitants. This increased to 85 cities in 2007 (nearly four-fold increase in 23 years); and it is expected to reach 442 in 2037. Since 1991, Ethiopia has followed a decentralized federal administration

system consisting of nine regional states and two city administrations (FDRE, 1995). Furthermore, as part of the unconditional right of self-determination in the 1995 Constitution, the Sidama Regional State was established in 2020 creating the tenth regional state. The decentralized government system resulted in rapid economic growth accompanied with significant expansion and formation of urban units across the country. The number of urban centers with a threshold of 20,000 inhabitants had immensely increased by 218% between 1994 and 2017. The regional states' capitals are the fastest growing cities likely benefiting from infrastructures of the political and administrative units.

Table 3.1: Evolution of city-size group by year, 1984-2037

City-size group	1984 (1)	1994 (2)	2007 (3)	2017* (4)	2027* (5)	2037* (6)
Metropolis	1	1	1	1	1	1
Cities	0	3	10	21	38	65
Large Towns	10	9	13	29	55	89
Medium towns	11	38	61	108	190	287
Small towns	799	871	912			
Total urban centers	821	921	997			
	Percentage Change					
	(2)-(1)	(3)-(2)	(4)-(3)	(5)-(4)	(6)-(5)	
Metropolis		0	0	0	0	
Cities		233.3	110.0	81.0	71.1	
Large Towns	-10.0	44.4	123.1	89.7	61.8	
Medium	245.5	60.5	77.0	75.9	51.1	
Small towns	638.1	4.7				

Source: author computation based on CSA (1984, 1994, 2007, 2013).

Note: * indicates projection data based on CSA (2013).

The Ethiopian urban system can be grouped into three levels using administrative hierarchy. The highest status is a city administration followed by cities with the status of a zone, most of which were provincial capitals during the unitary system prior to 1991, and the lowest level is cities with wereda (district) status. There are also two charter cities, Addis Ababa and Dire Dawa, with the status of city administration and directly accountable to the Prime Minister. Cities with the status of a zone are often the capitals of regional states and benefit from being the center of administrative and commercial infrastructures of the regional government. Cities with status of zone and wereda are administered by their respective regional states.

3.5.3. Urban Growth and City-Size Distribution between 1984 and 2021

The introduction of economic reforms and the change from a command to a market-led economy in 1991 can be used as a base for comparative analysis of the urbanization and urban growth of Ethiopia. Evolution of the urban population is presented in Table 3.2. In the pre-reform period, in 1984, the urban population was 4.45 million. Of the total urban population, 32% were living in Addis Ababa and about 22% in the largest 22 towns with threshold of 20,000 inhabitants. In the post-reform period, the urban population increased to 11.84 million by 2007 with annual growth rate of 4.8% due to natural growth and rural to urban migration. Concurrent to this trend, the number of urban centers with threshold of 20,000 inhabitants increased to 85, with about three small towns being transformed to medium-size towns annually.

By the end of 2007, about 40% of the total urban population were dispersed in 912 small towns with a size of less

than 20,000 residents. The rest of the population was distributed in 85 cities with an average of 84,100 inhabitants (Addis Ababa included) or 51,900 inhabitants (Addis Ababa excluded). Addis Ababa comprised 38% of the 85 cities' total population and was at the top of the urban hierarchy.

In 2021, based on the CSA (2013) projection, the total urban population is expected to reach 22.88 million in 200 cities with the threshold of 20,000 inhabitants. In both pre- and post-reform periods, Addis Ababa was the only urban center with millions of inhabitants and remained firmly at the top of the urban hierarchy. It will continue to do so until 2037 and probably beyond. Addis Ababa is 11 times larger than the second largest city in 2014 (MoUDHC, 2015). The excessive primacy causes an overstretched provision of public services and make the city deficient to serve the labor market. This is partly exhibited by the fact that residents seeking employment and services are caught up by a weak public transport system, congested traffic, poor sewer systems and waste disposal management.

However, many private investors have preferred to invest in or around Addis Ababa due to the relatively better quality of service and infrastructure. In fact, about 64% of the firms in Ethiopia are based in and around Addis Ababa (Oqubay, 2019) suggesting the political favoritism has been giving Addis Ababa a cost advantage. This suggests that Addis Ababa will certainly continue to dominate the other urban centers and be the hub of economic and political decisions of the country for the foreseeable future. Strong metropolitan primacy in many cases is the spatial equivalent of inequality of power, wealth, and status.

Using the MoUDC (2012) city-size classification, urban areas are categorized into five groups. In terms of urban population distribution, there were 799 small towns comprising 46% of the

total urban population and one metropolis representing 32% of the total urban population in 1984. In 2007, there were 912 small towns accommodating 40% of the urban population and the number of medium and large city-size groups reached 74 from 21 in 1984, comprising 23% of the urban population. These results show a significant change in city-size distribution.

Comparison of the pre- and post- 1991 periods reveal distinct urban evolution trends. In both periods, people living in small towns dominated the urban population. The smallest city-size group increased rapidly with 5.14 new settlements entering the urban system annually, a process that led to an increase in the number of dwellers in small towns. The number of medium size towns also increased rapidly with 8.2% annual growth. Cities were created after 1991 and expected to increase in the foreseeable future – there were 10 cities with more than 100,000 inhabitants in 2007 but none in 1984. The creation of cities can be attributed to the growth of pre-existing medium and large sized towns due to natural growth and the incorporation of peri-urban/suburban districts into the respective towns.

In the EPRDF government period (after 1991), Ethiopia has been recording rapid economic growth rate of 10% and urban growth of 4.8%. Compared to the base year 1984, urban population and urban units have been growing continuously. This urban growth is attributed to both intensive and extensive changes in the urban population. The extensive margin is arising from increases in the number of urban administrative units while the intensive margin referring to increases in number of people living within the administrative units.

Table 3.2: Evolution of urban population and projected rates, 1984-2037

	Population(million)				Percentage change			
	1984 (7)	1994 (8)	2007 (9)	2017 *	(8)-(7)	(9)-(8)	(10)-(9)	
Metrop	1.423	2.084	2.740	3.435	46.47	31.42	25.38	
Cities		0.413	1.657	4.150		300.95	150.45	
Large	0.681	0.716	0.923	2.084	5.13	28.96	125.65	
Mediu	0.310	1.082	1.831	3.169	248.38	69.24	73.08	
Small	2.039	3.089	4.708		51.51	52.41		
			1984	1994	2007	2017*	2027*	2037*
Urbanization rate (%)			11.17	13.81	16.67	20.4	25.4	31.1
Urban Population (million)			4.45	7.38	11.84	19.16	29.31	42.39
Rural Population (million)				46.09	62.08	76.3	86.64	94.40

Source: Author computation based on CSA (1984, 1994, 2007, 2013).

Note: * indicates projection data based on CSA (2013).

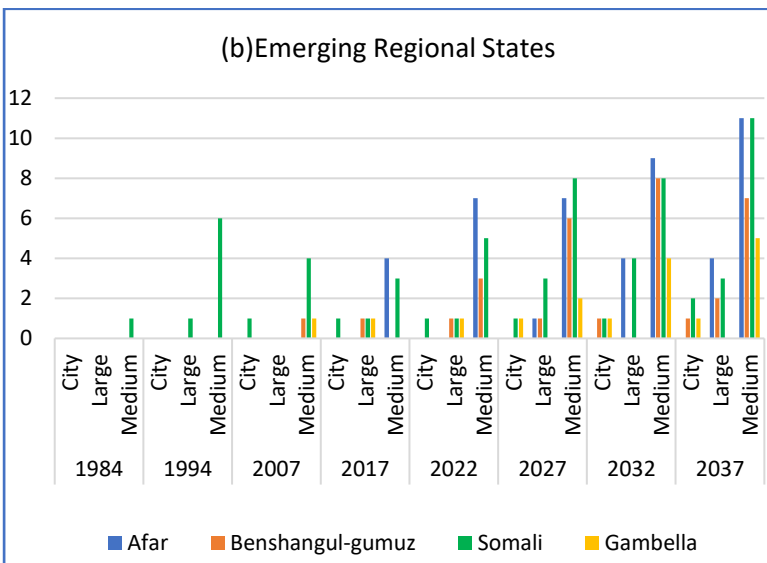
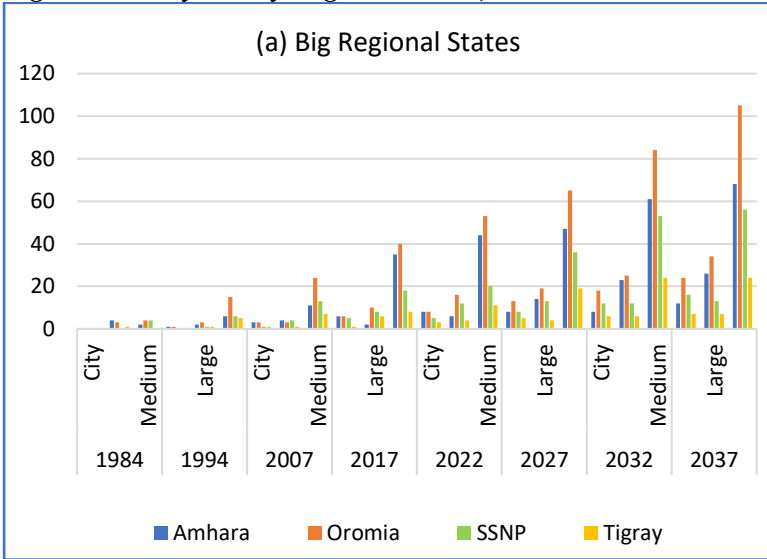
Between 1984 and 2007, the number of urban administrative units increased substantially from 821 to 997. During this period, not only the number of urban centers but also the number of residents in pre-existing urban centers increased tremendously. Compared to the base year 1984, the number of cities in all the size group levels, except metropolis, increased as the population of pre-existing cities grew. The medium and large size towns expanded the most and ascended to respective higher city-size groups. All the large towns in 1984 transformed to cities by 2007 and all the medium towns as well as few small towns in 1984 upgraded to large towns in 2007.

The city-size distribution shapes evolution of urban systems. Understanding city-size distribution also helps to characterize the nature of urban growth dynamics and processes (Xu and Zhu, 2009). The analysis shows that most medium-size towns are in Oromia and Amhara and many more are expected to be created in Oromia, followed by the Amhara, SNNP and Tigray regional states (Figure 3.1). Figure 3.1(a) shows that urban centers in Oromia have been the fastest growing cities compared to the other regional states. Among the emerging regional states, almost all medium-sized towns were in Somali region until the 2007 but after 2007, Afar regional state outpaces the Somali region (Figure 3.1(b)).

In both pre- and post- 1991 periods, the increase in the number of towns and the expansion of towns/cities are the main sources of urban growth. The growth of the average city-size might be due to changes in local knowledge accumulation, technology or accentuating the scale of externalities of cities (Black and Henderson, 1999). But studies indicate that the urban system in Ethiopia has been increasingly subject to political systems and policy issues (Ermias et al., 2019). The current federal administration system grants fiscal decentralization and political autonomy to regional states. This likely gives regional cities the opportunity to expand and compete with the primary city (Ades and Gleaser, 1995).

The establishment of industrial parks, universities and the construction of stadiums are among the core economic activities implemented based on political decisions. It is, therefore, of interest to scrutinize if specific types of cities grow more rapidly than others. In other words, it is important to examine whether similar shocks affect cities differently and to measure the urban concentration index.

Figure 3.1: City-size by Regional States, 1984-2037



Source: Author based on CSA data

3.5.4. Urban Primacy or Urban Concentration

The rapid urban growth in Ethiopia has been accompanied with continuous new construction and urban sprawl. It is, therefore, important to examine the dynamics of urban concentration to understand city-size distribution⁸ evolution over time. We examined the evolution of city-size distribution over time using parametric estimation methods. Estimation results of the Pareto distribution, equation (1), of Ethiopian cities for the years 1984, 1994 and 2007 and projection data of 2017 and 2021 are presented in Table 3.3. The top panel of Table 3.3 column (a) presents estimates for a full sample of both census years 1994 and 2007, except for 1984 as data is not available for some cities. The estimation results show that Pareto estimate is less than 1 but showing an increasing trend over time. The results suggest that the urban centers were unequal indicating the presence of urban concentration. The increasing trend of the Zipf's value over time indicates the city distribution is evolving from less even to more even meaning differences in city-sizes was declining. This might be because small and medium city- sizes grow faster than the largest cities, that supports the results in Table 3.2.

To test sample selection sensitivity of α_t or the Zipf's value, we consider a sample of cities with a minimum cut-off 20,000 inhabitants. Most of the cities in this group are either regional state capitals or have relatively long history of human and

⁸ The issue of urban concentration is related to urban primacy measure but not necessarily mean measuring optimal city-size. Optimal city-size is better examined using individual city data that includes the local industrial-service composition and effective level of technology (Au and Henderson, 2002).

economic agglomerations⁹. The regional capital cities have received a relatively more favorable policies in term of economic or urban development including establishment of universities. As a result, the regional capitals have grown from cities with average size ranging from 30 to 70 thousand inhabitants to more than 200 thousand inhabitants. Consequently, we would expect size distribution of the sub-sample to be more equal compared to the whole sample.

We re-estimated the rank-size relationship using sample of cities with a threshold of 20,000 inhabitants and results are presented in Part II, column (a) of Table 3.3. The results show α_t estimates get larger over time starting with less than 1 in 1984 and exceeding 1 in 2021. For this group of cities, the rise in α_t shows a declining trend of urban concentration over time suggesting a typical evolution of Zipf's law. The evolution of city-size distribution in cities with the status of zone and wereda becomes uniform over time and shows comparatively stable city-size distribution.

⁹ Most of the cities were awraja capitals before 1991, subsequently have become zonal capitals or cities with the status of wereda.

Table 3.3: Estimation of rank-size parameters

Part I: full sample						
Year	Obs	(a) Rank size equation		(b) Quadratic rank size equation		
		α_t	R^2	α_t	β_t	R^2
1994	921	-0.797 (0.00914)	0.892	1.010 (0.0356)	-0.110 (0.00215)	0.972
2007	997	-0.889 (0.00908)	0.913	1.091 (0.0499)	-0.111 (0.00278)	0.969
2017*	997	-0.889 (0.00907)	0.916	1.372 (0.0506)	-0.120 (0.00266)	0.974
2021*	997	-0.894 (0.00909)	0.914	1.519 (0.0493)	-0.125 (0.00255)	0.977

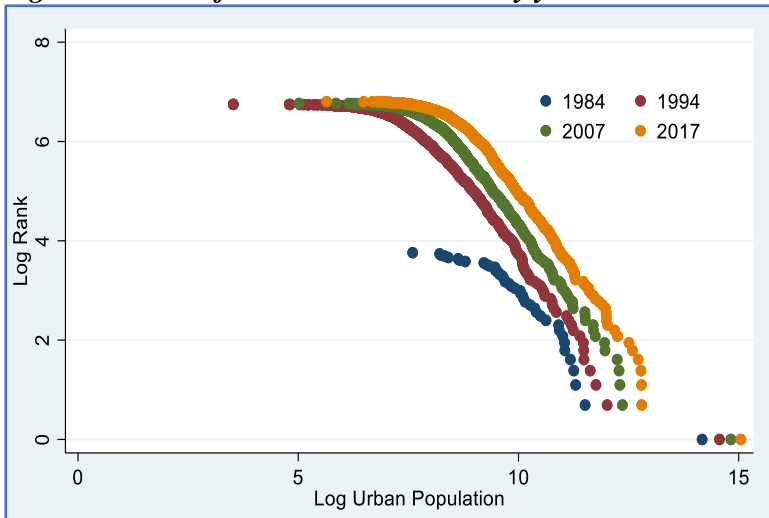
Part II: Sample of cities with a threshold of 20000						
		(a) Rank-size equation		(b) Quadratic rank-size equation		
	Obs	α_t	R^2	α_t	β_t	R^2
1984	21	-0.822 (0.081)	0.836	-4.760 (0.873)	0.166 (0.0367)	0.919
1994	51	-1.049 (0.0467)	0.91	-4.710 (0.331)	0.158 (0.0142)	0.974
2007	85	-1.144 (0.0267)	0.956	-3.806 (0.22)	0.115 (0.00948)	0.984
2017*	159	-1.214 (0.0135)	0.981	-2.615 (0.166)	0.0611 (0.00721)	0.987
2021*	204	-1.223 (0.00975)	0.987	-2.131 (0.136)	0.0397 (0.00593)	0.990

Note: standard errors in parentheses.

* indicates estimated city size based on CSA (2013) projections where the projection data do not include new urban centers created after 2007 by default.

The fact that the Pareto coefficient gets larger when we limit the sample to a minimum cut-off of 20,000 inhabitant suggests that the rank-size relationship in equation (1) is different from log-linear. As observed in Figure 3.2, which plots the log of city rank against the log of city population, the rank-size relationship is not linear rather the quadratic relationship is evident. Estimation results of the quadratic relationship (equation 2) are presented in column (b) of Table 3.3. The results confirm the non-linearity of the rank size relationships. When we use full sample and sub-sample for the estimations, the value of β_t changes from negative to positive. The positive values correspond to the downward concavity of the plots in Figure 3.2 suggesting an increasing concentration of the urban population in the largest cities. This indicates the emergence of unbalanced urban systems in the regional states which might be attributed to the establishment of industrial parks and public universities.

Figure 3.2: Plot of rank-size distribution by years



Source: Author based on CSA data 1984, 1994, 2007 and 2013.

In the next section, we look at the mobility of cities between different size groups using Markov transition matrix.

3.5.5. City-Size Mobility

Drawing from Dobkins and Ioannides (2000), we assume that the city distribution will evolve according to a homogenous first order Markov process. This implies every city will occupy each cell in the distribution at some point. We use the MoUDC (2012) city-size group classification to put the cities into five discrete cells at a point in time. This procedure helps to understand the mobility of cities from one cluster to the other¹. We applied transition probabilities to understand the change of cities in size group and to test whether the relative size distribution of cities remained stable over time. We excluded the 1984 data due to incompleteness. We present the maximum likelihood estimates of the transition probabilities, P_{mn} , which represents the total number of cities moving from cell m to n over the years divided by the total number of cities starting in cell m in the year (Table 3.4).

The transition matrix has special features where probabilities only in the diagonals and immediately off-diagonal are important. Cities often move up or down one cell between the years. The results show that values in the diagonal, probabilities of staying in the starting state, are much higher compared to the values in other cells. The probability of moving to a bigger size group up to state 1 is very high. However, moving to the smaller city-size is negligible – moving from state 4 to state 5 is about one percent – indicating deurbanization is not happening. The highest

¹ It is important to note that the gap between the census and projection is not uniform, it ranges from 10 to 13 years. We excluded 1984 due to incomplete data, and 2021 because of the short time scale.

probability (40%) is observed in city mobility from state 3 to state 2 indicating formations of more cities with thresholds of 100 thousand inhabitants. The values in cells below the diagonals are larger compared to upper cells. This pattern is driven by the presence of ongoing entrants’ push, creating chain reaction as some cities push themselves to the next higher size level. The results suggest that almost all urban centers are expanding over time. This supports the rapid urbanization rates discussed in previous sections.

Table 3.4: Change of city-size group over the years (1994, 2007 and 2017)

		Passage Size Group				
		1	2	3	4	5
Starting Size Group	1	100	0	0	0	0
	2	0	100	0	0	0
	3	0	39.6	60.3	0	0
	4	0	0	28.2	70.7	0.98
	5	0	0	0	6.82	93.1

Note: 1 is the largest size group and 5 is the smallest size group.

3.6. Associations of Urbanization with Ethiopia’s Urban Economy

3.6.1. Urbanization and Economic Growth Links

Over the last four decades, real GDP per capita of Ethiopia has increased from 228 USD in 1981 to 600 USD in 2019 while the level of urbanization increased from 10.6% to 21.2%². These figures are consistent with recent studies that show urbanization

² Source: <http://www.data.worldbank.org/indicators>

rates are positively associated with per capita income (Dorosh and Thurlow, 2014; Henderson, 2010) and lead to more diversified income portfolios (Mezgebo and Poter, 2019). Furthermore, urbanization also motivates farmers to invest in farm technologies in response to the growth of urban markets, leading to the generation of higher return (Vandercasteelen et al., 2018), which in turn enables farmers to join the middle-income group (Diao et al., 2019).

Models of urbanization and economic growth argue that technological progress leads reallocation of resources from agriculture to non-agricultural activities (see Henderson and Wang, 2005; Henderson et al., 2013). Consistent with this theory is that the contribution of agriculture to GDP in Ethiopia has declined as urbanization increased (Figure 3.3). In Figure 3.3, urbanization is measured by the share of population living in areas officially classified as urban by the government. It is also clear that Ethiopia departs from the conventionally established relationship between urbanization and structural transformations in important ways. The manufacturing sub-sector contribution to GDP has remained persistently very small, between 3% to 6% over the last 30 years, far below the figures for sub-Saharan Africa of 16% to 11%³ in the same period. The observed relationship between urbanization and structural transformation indicates that urbanization in Ethiopia has been limited to generate incentives for capital accumulation and technological transformations.

In addition, the service sector has overtaken the historical dominance of the agriculture sector in terms of its contribution to the GDP though agriculture remains the highest employer. In 2019, about 69% of the total employment was engaged in the

³ Source: <http://www.data.worldbank.org/indicators>

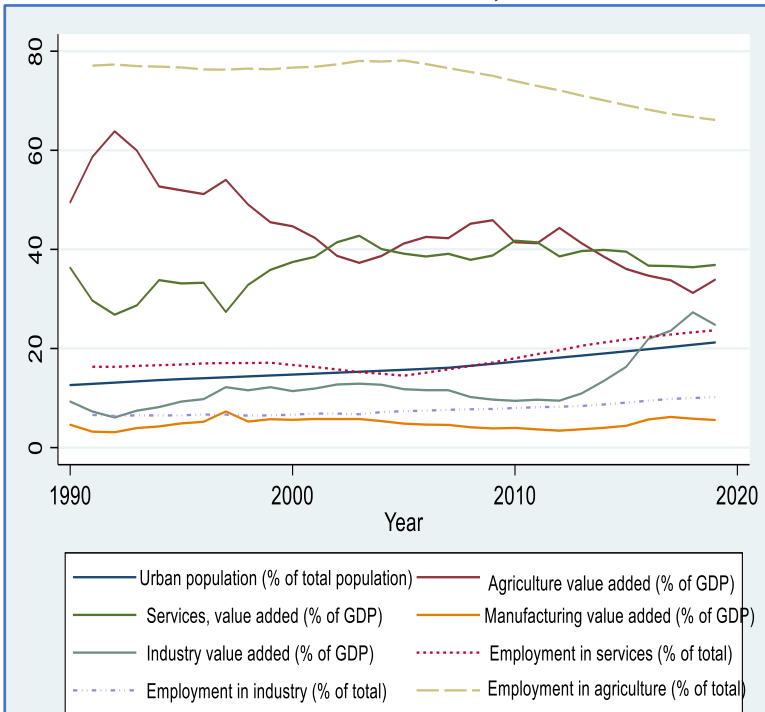
agriculture sector followed by services 21% and industry 10% (see also Chapter 5). The low level of employment in industry sector concurs with Jedwab's (2012) notion of urbanization resulting from the rise of consumption cities. This is often referred to as urbanization without structural transformation (Jedwab and Vollrath, 2015; Gollin et al., 2016).

Against the background of continuing rapid urbanization, the low level of industrialization and an increasing service sector might be the result of food imports instead of domestic production (Dorosh and Thurlow, 2014) as well as the weak participation of the private sector in manufacturing (Gebreyesus, 2019). This suggests that Ethiopian cities are consumption cities financed by surpluses generated from the agriculture sector and have limited agglomeration effect and lower impact on long-term job creation. The limited role in long-term welfare improvements then emanates from lack of the required environment for the industrial sector to play its role in innovation and capital accumulation (Gebre-Egziabher and Yemeru, 2019).

It is safe, therefore, to conclude that the rapid urbanization of Ethiopia is accompanied with slow structural transformations. This is also reflected in recent pieces of evidence demonstrating that urban expansion in Ethiopia may not be improving household welfare (Dorosh and Thurlow, 2014; Mezgebo, 2017), is limited in generating inclusive opportunities to all affected (Broussard and Teklesellasie, 2012; Mezgebo, 2014), and is exacerbating economic inequality within the society (Abay et al, 2020). Furthermore, economic growth has been observed while agricultural productivity has remained steadily low (Barret et al., 2017). This indicates that the agricultural sector is low in terms of the level of technological improvement and has become weaker overtime to absorb productive labor. Low productivity of

agriculture in turn accelerates youth rural to urban migration decisions. In the context of increasing population and scarcity of agricultural land, which is the case in Ethiopia, youth unemployment and migration are eminent. For example, rural to urban migration increased from 26% in 2005 to 31% in 2013 (see Chapter 4). The release of labor from the agriculture sector, therefore, is unlikely to be attracted by the technological advancement in the manufacturing sub-sector.

Figure 3. 3: Distribution of urbanization, employment and sectors contribution to GDP, 1990-2020



Source: Author’s elaboration based on World Bank development indicators data

3.6.2. Urban Employment and Inequality Trends

The previous section shows that Ethiopia's urbanization process lacks structural transformations. In 2019, according to the statistics of the International Labor Organizations (ILO), Ethiopia's urban economy employed one third of the total employed population. But when urbanization happens without industrialization, it leads to expansion of the urban informal (traditional) sector (Yuki, 2007)⁴.

Between 2003 and 2018, the urbanization level of Ethiopia rose from 15.31% to 20.76%, showing a 5% raise. During this period, total employment in the urban economy of the surveyed urban areas has slightly increased until 2009 but remained constant afterwards (Figure 3.4). This suggests that job creation in the urban economy has been stagnant since 2009 while the labor force has been increasing due to the increasing population. Figure 3.4 also demonstrates that the informal sector is the main employer of the labor force though its dominance has declined over time from 90% in 2003 to 60% in 2018. This large share also implies that many immigrants to urban areas may not attain noticeable improvement in their economic situations. Rural migrants do not necessarily enjoy the benefits of the formal sector because rural migrants are less skilled compared to urban residents.

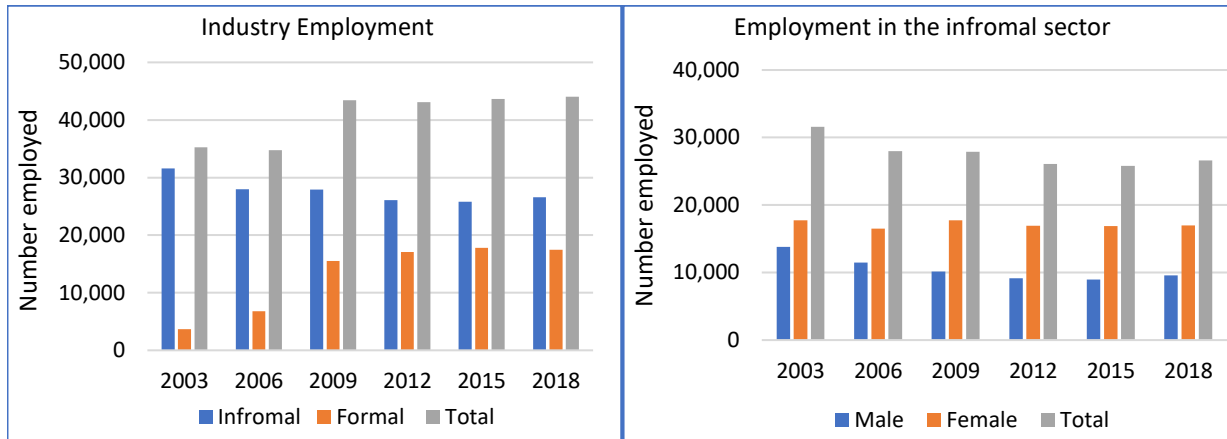
The good news is that the formal sector, expected to provide better incentives and job security, is expanding by 2% annually. It seems that urbanization is associated with an increase in job creation in the formal sector, though the state of urban unemployment remains a serious concern. It is also expected that

⁴ Yuki (2007) explains the informal sector often employs unskilled workers whereas the formal sector employs skilled workers and physical capital.

an additional one million jobs per year will be required until 2035 to reduce unemployment (MoUDHC, 2015). This is a clear indication that the growth of the formal sector is failing to keep up with the growth of the urban population.

A major problem in the urban labor market is the persistent over-representation of female workers in the informal sector. Despite decreases in the size of the informal sector, the proportion of women employed in the sector remains very high, with up to two thirds of those employed in informal employment being women. Studies also show that average wages in the informal sector are lower than the formal sector (Yuki, 2007; Temkin, 2009). This, again, signals that the expanding formal sector is failing to create equal opportunity for men and women. It suggests that women are being marginalized in the labor market as urbanization increases. It also characterizes women as unskilled, forcing them to remain in the informal sector and subjecting them to substantial inequalities. This outcome has important implication for policy makers in terms of the effectiveness of the strategies and programs implemented to empower women over the past two decades.

Figure 3.4: Trends of employment by industry, 2003 – 2018



Source: Author based on CSA Urban Employment Unemployment Survey (UEUS) data.

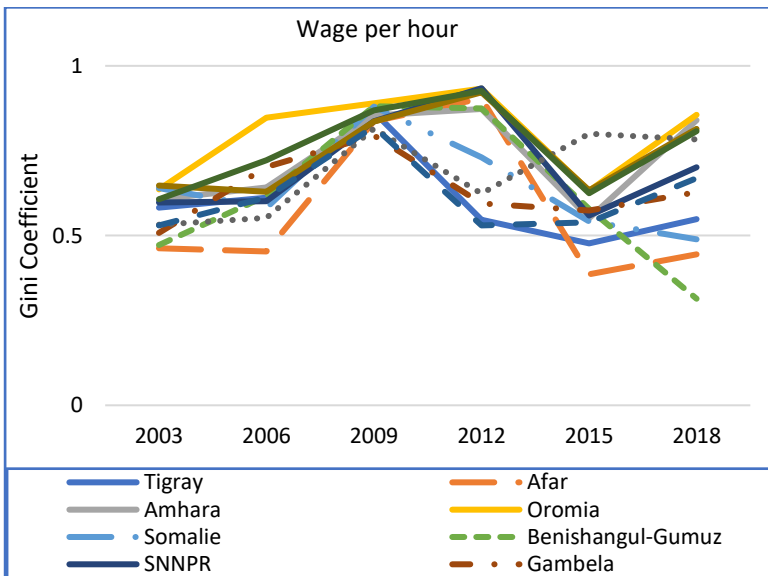
The national trends cannot fully explain what is happening in all cities and regions of a country because the drivers of growth and inequality can vary in each location. City level analysis is difficult due to lack of data, a factor that needs to be considered in the future. But the UEUS has clear identification of the regional states which helps to decompose wage inequality by state. We use Gini coefficients to decompose wage inequality, but the estimates are coarse because the drivers of wage inequality may differ between bigger and smaller cities within any regional state.

The Gini coefficients of the regional states are shown in Figure 3.5. The figure demonstrates that the national wage inequality is mainly driven by Addis Ababa followed by Amhara, Oromia and SNNP regional states. This trend might be attributed to the concentration of wage employments that pay a higher premium in the cities. As noted, Addis Ababa is the primary city and most cities with thresholds of 100,000 inhabitants are in Oromia followed by Amhara and SNNP (see Figure 3.1). Formal wage employment is also higher in Addis Ababa compared to other cities (World Bank Group, 2016), and this is consistent with the fact that about 64% of firms are concentrated in and around Addis Ababa (Oqubay, 2019).

Overall, wage inequality is extremely high which demonstrates the depth of inequality in urban Ethiopia, quite consistent with the country's context. National wage inequality reached an extreme high Gini index of 0.93 in 2012 and reduced to 0.62 in 2015 before it increased to 0.8 in 2018. The uncertainties associated with the 2015 elections might have negatively affected the confidence of foreign investors and firms which then contributed to the relatively lower wage inequality at that time. A similar trend was also observed in Amhara, Oromia and SNNP regional states. The wage inequality in Tigray, however, has been

consistently lower compared to Addis Ababa, Amhara, Oromia and SNNP. Given Ethiopia’s level of development, these results are consistent with contemporary literature on city-size and inequality as well as on inequality at early stage of development.

Figure 3.5: Gini coefficient of wage per hour adjusted for Regional State CPI, 2003 - 2018



Source: Author based on CSA UEUS data

3.6.3. Urbanization, Housing and Basic Services

Ethiopia is urbanizing rapidly and remains among the fastest growing urban populations in the world. In any discussions of urbanization, a vital consideration is the supply of housing and associated basic services required to achieve sustainable urban development. It is therefore important to understand the investments in urban infrastructure that are geared to harness the

opportunities of rapid urbanization. Housing conditions in urban Ethiopia have improved substantially over time, the proportion of urban population living in slum areas decreased from 95.5% in 1990 to 74% in 2014¹. Since then, slum areas might have reduced further due to the continuing construction of condominium and urban regeneration programs (MoUDH, 2018). Nevertheless, a quite significant proportion of the urban population still lives in slum areas and the number of people living in extreme poverty has increased (World Bank, 2016).

The rapidly growing urban centers are struggling and falling short of meeting the increasing demand for housing (World Bank, 2019). An average of 381,000 new housing units are required per year to meet the rising housing demand (World Bank Group, 2015). In addition, the slow pace of redeveloping and upgrading pre-existing slums exacerbates the shortage of formal housing. The combined housing demand, due to new construction and redevelopment, is projected to be about 471,000 housing units per year until 2035 (World Bank, 2019).

The government's policy response to meet the increasing demand for housing has been mass state-build housing program known as the Integrated Housing Development Plan (IHDP). In Addis Ababa, the highest beneficiary of IHDP, the building 175,000 units (Keller and Mukudi-Omwami, 2017) resulted in reducing the proportion of informal houses from 58% in 2006 to 38% in 2016 (Larsen et al., 2019). The private sector, including households and real estates, has played little role in supplying formal housing due to limited access to land. Land is owned by the government and priority has usually been given to government-led programs such as IHDP.

¹ Data source: World Bank, <http://www.data.worldbank.org/indicators>

The shortage of housing in the primary market, mostly due to the limited supply of urban land, has created a strong demand for informal housing units. This is demonstrated by the dynamic rental and secondary markets within the IHDP blocks. Due to limited access to land for development, the private sector has been pushed to secondary markets to seek accommodation in the informal markets. Households are willing to pay over five times the original price of IHDP units in secondary markets (World Bank, 2019) and about 58% of the low-cost housing units in Addis Ababa are rented out (Franklin, 2018). But the fact that many low-income urban residents cannot afford the IHDP units suggests that the supply of government housing is unlikely to realize the intended purposes of providing decent housing for the poor and serve poor households (MoUDHC, 2014).

Rural to urban migration remains extremely high at about 44.4 % (World Bank, 2019) and the migrants often lack the resources for formal houses and hence end up in slums as a temporary, transitory resolution. The local urban governments often refuse to provide legal housing developments for immigrants and are reluctant to provide basic services in immigrant neighborhoods. This situation, combined with substantial shortage of supply of formal houses, has led to increasing incentives for secondary markets for housing and land. The natural consequence of widespread secondary markets is a continuing surge of urban sprawl and proliferation of squatter settlements in the city outskirts. This expansion of secondary markets indicates that the housing market in Ethiopia is lagging when compared to the pace of urban household formation. This in turn results in inflated housing costs which disproportionately harm the low-income groups.

Youth migration, in the absence of a vibrant productive urban sector, is socially and culturally problematic. The youth migrate to cities while the old remain in the rural hinterland. For the migrants, urban poverty may be preferable to rural poverty (Gleaser, 2011) due to the declining nature of rural productivity (Barret et al., 2017). However, rural migrants are less skilled and are often engaged in the informal sector (Shami and Majid, 2014) as daily wage and domestic workers. Rural migrants have been the hardest hit by the COVID-19 pandemic. Aggravated by effects of COVID-19, the intensity of homelessness and street children has become very visible in most cities including Addis Ababa. However, little is said about the nature of poverty in slums and homelessness or how to escape from it. Understanding the welfare consequences of slums and whether households or individuals can exit the slums provides an insight into the micro-dynamics of urbanization and its welfare consequences.

Access to improved sanitation and improved water sources are associated with a broad range of health benefits including less exposure to bacterial infections and drinking uncontaminated water. Provision of public services such as electricity, drinking water, sanitation and health services is relatively better in urban compared to rural areas –water supply is 91.5% in urban compared to 65.8% in rural (FDRE, 2010). Slums, however, are usually devoid of such public services. The perceived transitory nature of slums is often ignored by governments in developing countries (Beall et al., 2010), which often ignore land grabbing and fail to provide basic services resulting in unsanitary living conditions. Many big urban centers, including Addis Ababa, are exposed to serious environmental problems (UN-Habitat, 2017). The sanitation and environment of areas in and around cities is suffering from a low level of awareness, implementation,

monitoring strategies, as well as weak financial support (MoUDHC, 2014).

Overall, the social and economic well-being of urban residents is associated with the provisions of services and infrastructures which play key roles in facilitating economic performance. However, Ethiopian cities continue to face considerable shortages of basic services including drinking water and frequent power outages, negatively affecting productivity and competitiveness. Frequent power outages increased firms' cost of production by 15% between 2011 and 2015 (Abdisa, 2018). The number of slum dwellers increased from 8.5 million in 2000 to 13.5 million in 2014 (UN-Habitat, 2016). This suggests the persistence of weak urban planning systems demonstrated by low municipal revenues and then by failures to finance and provide the basic urban services. The limited supply of urban services including housing and infrastructures in turn increases the incentives for informal settlements in the urban peripheries.

Despite the major gaps in infrastructure and basic services, cities continue to expand and serve as the main drivers of economic growth (see Figure 3.3). The services and industry sectors contributed about 66% of GDP in 2019. This clearly shows the untapped potential of cities that could be unleashed through deliberate planning and effective management of urban systems.

3.7. Conclusions and Policy Implications

Global experience demonstrates urbanization nurtures economic and social advancement and improves quality of life for all. Africa is urbanizing rapidly, but this process differs from the conventional wisdom of urbanization being associated with development. This is because of the lack of institutional and social

infrastructures that create the required structural transformations since rapid urbanization demands massive local and inter-city investments to replace the traditional institutions. Ethiopia is among the least urbanized and fastest urbanizing countries in sub-Saharan Africa but also shares most of the problems of African urban centers. The low level of urbanization puts Ethiopia in a unique position to promote inclusive growth and harness the urbanization process. But little is understood about the rapid urbanization process and its effect on development, particularly on the urban economy.

This chapter has explored the long-term urbanization process in Ethiopia and its association with structural transformations and the urban economy. In doing so, existing policies, strategies and institutions have been assessed and pertinent data was extracted from different data bases. Over 50 years, 1984 - 2037, of urbanization patterns and trends were examined using CSA data while acknowledging its limitations. Census data and the projected populations of each urban area included in the 2007 census were used. The World Bank's 1990-2019 annual data was also used to explore the relationship between urbanization and structural transformations. The dynamics of the urban labour market was examined using the CSA Urban Employment and Unemployment Survey of 2003- 2018.

Our findings show that the rapid urban growth is associated with excessive urban primacy but not supported with the required economic and social structural transformations. Agriculture employs two thirds of the working force, with services employing of 21% and industry employing the remaining 10%. However, the service sector is the highest contributor to GDP, overtaking the historical dominance of agriculture. This results in the expansion of the urban informal sector and extreme wage

inequality. The extreme wage inequality emphasizes the depth of inequality in urban Ethiopia. Women workers are disproportionately represented in the informal economy and are being marginalized from the benefits of urbanization.

The rapidly expanding urban centers are unable to meet the growing demand for housing – about 471,000 housing units are required annually. The serious shortage of formal urban housing results in unplanned urban expansion and proliferation of secondary markets for urban land and housing. The results also show that urban areas are facing shortage of infrastructures and shortage of housing. The findings concur with the MoUDH (2016) report highlighting that urban centers were suffering from deficits in housing, infrastructure, and services; very high unemployment and inequality; and increasing homelessness. These findings suggest that most urban areas are expanding because of policy and political decisions. Government policies could systematically channel resources to cities and provide indirect incentives for the rural to urban migration decisions which fuel urban growth. But the low level of urbanization is an opportunity to change existing trends and harness the potential of urbanization by giving priority to strengthening urban planning, increasing research capacity, and investing in institutional capability.

The urbanization process and development in Ethiopia is an interesting case study for several important reasons. Urban centers in Ethiopia are evolving and expanding at much faster pace than before. Although starting from a low base, this rapid urbanization requires proactive planning and active management of functions to unlock the potential and facilitate inclusive development. Monitoring the current urban expansion would seem to be a top priority for the government as the institutions in charge have been publishing a series of strategy documents and

proclamations. However, most of the policy documents remain less effective and inefficient. Making urbanization work for Ethiopia, therefore, requires addressing a number of key challenges:

Economic and social constraints: Existing government-led investments in industrial parks and economic growth corridors are generating remarkable growth rates in the economy, but structural transformation remains very slow. The service sector, not the industry sector, is leading the economy, productivity increase is not as expected, and the local private sectors crowd-in has been slow. Rapid urbanization with slow structural transformations exacerbates the negative externalities including the poor quality of education and health services, urban poverty, and weak public transport services for those living in urban areas. Most cities in Ethiopia have low density but demonstrate urban sprawl (Gebre-Egziabher and Yemeru, 2019). This leads to inefficient mobility within the cities and affects costs and rents of residential and business properties (World Bank, 2019). Properly planned and managed urbanization plays a crucial role in eradicating poverty and improving the quality of life by providing better education and health services, preventing crime and violence, and improving infrastructures with equitable access to all, while still recognizing culture, diversity, and safety.

Inadequate urban infrastructure and services: Development and equitable distribution of services and infrastructures must take place first to realize the potential of cities. Well-developed infrastructures create conducive environments to accelerate economic development. The cities and/or towns of Ethiopia suffer from poor infrastructure and provision of services particularly in the lower levels of government offices (Ethiopian Civil Service University, 2018). Without improved infrastructure

and service provision, it is hard to imagine attaining sustainability or making the urban environment conducive for living and work. Strengthening local urban governance with the necessary incentives to municipal finance will improve the quality of urban settlements. Hence, priority should be given to strengthening urban local capacity to enable investment and generate finances for infrastructures and services by involving the private sector. An improved recognition and engagement with the private sector in private-public cooperation modalities will enhance planning and delivery of services.

Inadequate planning and land-use policy: Urban planning is poor and inadequate, characterized by inefficient land management and complicated laws and regulations (Gebre-Egziabher and Yemeru, 2019). Poor urban land management and supply is demonstrated by weak compliance with land-use and transport measures,² the expansion of informal markets for land and housing, and urban sprawl. This has a direct effect on the city's municipal revenue, residents' cost of living, mobility in the city, and the values of urban ecosystems and biodiversity. Long term urban territorial and land-use planning, which considers the short-term dynamisms of socio-economic developments and incorporates the modalities of monitoring and evaluating strategies, is required. For instance, realistic maps that forecast urban growth for the next 30 years - as suggested by Lamson-Hall et al. (2019) under the '*Ethiopia Urban Expansion Initiative*' project - should be prepared.

² Source: World Bank, *Impact of Evaluation of the Transport Sector Improvement Project in Addis Ababa.*, project brief document. Accessed on 12/10/2020.

Strengthening data-collection and research capacity:

The rapid urban expansion arises from a complex set of factors which requires comparable high-quality data, indicators and advanced analytical skills and knowledge. Quality data and indicators are essential for effective governance and decision making. With big quality data, city planners and leaders gain detailed and updated information of what is happening within their city. However, the empirical knowledge on urbanization dynamics and economic functions of cities in Ethiopia is inadequate (Abay et al, 2020; Gebre-Egziabher and Yemeru, 2019). The existing main data source for urban Ethiopia, the CSA, has a limited capacity to provide city level, up-to-date and reliable data and has weak collaboration with the MoUDH. Comparative analysis and knowledge sharing can also play a crucial role in providing responses to emerging challenges associated with sustainable planning, resilience, and preparedness (UN-Habitat, 2016). Given the complex nature of urban areas and rapid urbanization, capacity building in data collection, research and policy analysis should be given top priority by government authorities.

It is, therefore, safe to generalize that harnessing the potential of urbanization for development in Ethiopia demands a coherent approach to address the challenges we have noted above. This ultimately depends on the effectiveness of policies and institutions. The approach should recognize that urbanization in its own right can be harnessed by designing evidence-based policy, planning, and regulatory frameworks to establish cities that are productive, resilient, and inclusive.

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CHAPTER FOUR

Population Dynamics and Rural-Urban Migration in Ethiopia: Challenges and Opportunities

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4. Population Dynamics and Rural-Urban Migration in Ethiopia: Challenges and Opportunities

4.1. Introduction

4.1.1. *Background of the Study*

Migration is a movement of a person or group of persons across an international border or within a State away from his/her habitual place of residence, regardless of the person's legal status; whether the movement is voluntary or involuntary; what the causes for the movement are; or what the length of the stay might be (Wilson, 1985). It is one of the three components¹ of population dynamics. Any change in the number and flow of migrants will have an effect on the size, growth, and other characteristics of a population both in the sending and receiving areas. There are two types of migration, internal and international. Internal migration is a change of residence within national boundaries, the movement of a person or group of persons from one geographic area to another area within a country, crossing administrative boundaries for permanent or semi-permanent residence (Rees, 2020). International migration, on the other hand, is the movement of persons away from their place of usual residence and across an international border to a country of which they are not nationals (Wilson, 1985).

Rural-urban migration is a form of internal migration that refers to the movement of people from the countryside into the urban areas within the country. Rural-urban migration has been a major driving force in the urbanization process globally. It played

¹ Fertility, mortality and migration are the three factors that bring change in the size and structure of a country's population

a major role in the urbanization process of developed countries and is playing key role in the urbanization of today's developing countries (Lall, et al., 2006). In Africa, for instance, migration from rural areas accounted for at least half of all urban growth during the 1960s and 1970s and about 25% of urban growth in the 1980s and 1990s (Brockerhoff, 1999).

Today, about 4.4 billion (56.2%) of the world population are living in urban areas. The urban population is estimated to be growing at 1.94% per annum, while total population is projected to be growing at 1% annually. This will result in an urban population of 5 billion, or 61% of the total world population by 2030 (UN World Urbanization Prospects, 2018). Most of the growth in urban population will be in developing countries as developed countries have already been urbanized.

In developed countries, many people prefer to live in the cleaner and quieter environment of the countryside. Employees can commute into cities for work because the necessary requirements, such as public transport or private vehicles, are easily available; though for people who work in a large urban area and have to cope with traffic congestion on a daily basis, commuting between home and work is far from a pleasant experience (Turcotte and Silka (2008)). Cities in developing countries, however, still continue to grow rapidly, at a speed two to five times faster than it was in European countries during the period of their industrialization (Kojima, 1996). For instance, in sub-Saharan Africa, urban population was growing at 4%, 2015-20, and expected to grow at 3.7%, 2025-30, while in Eastern Africa, the figures were 4.5% for 2015-20 and projected to grow at 4.2% for 2025-30 (UN World Urbanization Prospects, 2018). Countries in Eastern Africa in fact are experiencing significantly

higher growth rates of urban population than the African average (UN HABITAT, 2008).

Increasing household size, increasing socio-economic inequality between people and communities, inequality between urban and rural areas, increasing unemployment, unequal land ownership, and the difficulties of rural life in general, and conflict in particular, have raised livelihood vulnerability in many developing countries to a level that forces people to consider rural-urban migration as a survival strategy (Nguyen and Reabe, 2013).

With its share of urban residents only 21.75 of total population, Ethiopia remains one of the least urbanized countries in the world. However, it has the fastest growing urban population in Eastern Africa. Its urban population is growing a little faster (4.6% in 2015-20) than the rest of the region (4.5%). As urban fertility is much lower compared to rural fertility, the major contributing factor to urban population growth and urbanization is rural to urban migration.

Shortage of farmland and fragmentation of land holdings has affected smallholder agriculture and made rural livelihood precarious leading to increasing rural-urban migration (Melesse and Nachimuthu, 2017) and increasing rural-urban migration has created increasing challenges for the welfare situation of urban residents, especially in the provision of housing, employment and public services. Rural-urban migration also affects livelihoods in the source (rural) areas (Feleke, 2005). If migrants have no easy access to urban amenities, as is often the case, this can increase the cost of living both for the migrant and for the sending household. Moreover, if the migrants are of a youthful working age, the elderly who are left behind may not be productive. This can affect agricultural productivity and rural household income.

Harnessing the rural-urban migration for assurance of sustainable development is essentially linked with population dynamics (Kounani, 2019). The issues related to population dynamics are broad and complex. Ongoing demographic changes influence all of the concerns and objectives at the top of national development agendas. Better integration of population dynamics into development planning at national and sub-national levels is relevant to allow a comprehensive reaction to demographic change and its implications (UNECE, 2018). They shape and are shaped by economic development, employment, income distribution, poverty, and social protection, as well as other issues. They affect and are affected by access to health, education, housing, sanitation, water, food and energy; and they influence and are influenced by the sustainability of cities and rural areas, environmental conditions and climate change. These migration dynamics, in fact, have a significant economic, cultural, political and social impact on the lives of not only the migrants but also those at the place of destination (Morrissey, 2015)

While Ethiopia is one of the developing countries in Africa experiencing a high rate of rural-urban migration (UN HABITAT, 2008)), unlike fertility and mortality, migration, and more specifically, rural-urban migration is the least researched and understood component of the country's population dynamics. Most previous studies on population attempted to examine the demographic patterns, trends and main drivers of population changes in Ethiopia, (Assefa, 2019; Assefa, 2016; Assefa and Aynalem, 2011; Astede and Marianne, 2016). There are some other studies that extensively addressed the effect of population dynamics on the environment in Ethiopia (Abayineh and Simane, 2015; Tegegne, 2014; Selome and Assefa, 2010). Some of these studies have underlined the increment of movement of people from

rural to urban areas (Gibson and Gurmu, 2012; Fassil and Mohammed, 2017; Fransen and Kuschminder, 2009).

Many studies have indicated that the main reasons for rural-urban migration include shortage of land, population pressure, drought and war, and regional inequality of development (Betemariam and White, 1999). In addition to these factors, urban amenities such as education, health services, security, better jobs, and advancement opportunities attract rural people to urban centers (Birru, 1997; Befekadu, 1978). Feleke, (2005) also identified better payment, increased construction activity and the demand for urban domestic workers as among the most important pull factors. The presence of relatives and friends as well as the flow of information between origin and destination has been identified as among the most important factors and key influences on the pattern of migration (Bjeren 1985; Worku, 1995).

Studies have indicated the consequences of rural-urban migration on destination. A continued outflow of rural migrants in quest of basic urban facilities creates pressure on socio-economic conditions. The job opportunities are insufficient to absorb the arrival of a large number of people and this puts pressure on facilities like schools, health and housing (Ralph, 2012 and Habtamu, 2015). Studies have also shown that migration and remittances play an important role in supporting rural livelihoods (Beneberu and Mesfin, 2017; Johnson and Stol 2008; Vathi and Black 2007), while Grau and Aide (2007) have showed the negative consequences of the rural youth outflow on the wellbeing of their family and the local economy.

While these studies have assessed the push-and-pull factors of rural-urban migration in different parts of the country, the data they utilized were not nationally representative and the recent trends, causes, challenges and opportunities were not

adequately assessed. Indeed, there have been virtually no specific national representative studies that addressed the challenges and opportunities of population change and rural-urban migration in Ethiopia. This study has, therefore, attempted to assess rural-urban migration and population dynamics, and the effect on development in Ethiopia. It has evaluated the causes and consequences of rural-urban migration as well as push-and-pull factors and emerging challenges. It has tried to fill the knowledge gaps and to consider future policy intervention in terms of the effects of rural-urban migration on future development of the country.

4.1.2. Objectives

The main objective of this study is to explore the causes, consequences and prospects of rural-urban migration and population dynamics in Ethiopia. This has involved estimating and categorizing the effects of rural-urban migration on socio-economic development indicators; identifying and evaluating the underlying pull-and-push factors of rural-urban migration in different social settings; evaluating the effect of population dynamics on major development indicators; and analyzing the socio-economic and demographic characteristics of rural-urban migrants.

4.1.3. Research Questions

The study has attempted to answer the following research questions: (i) why do people migrate from rural to urban areas in Ethiopia? (ii) What are the major causes and consequences of rural-urban migration? (iii) What are the underlying push-pull factors of rural-urban migration? (iv) What is the extent of rural-urban migration in Ethiopia? (v) What is the pattern of population dynamics in Ethiopia? (vi) How does rural-urban migration affect

population dynamics of the country in rural and urban areas? (vii) What are the major resource implications (land and labor) of rural-urban migration in Ethiopia? (viii) How is socio-economic development affected by rural—urban migration? & (ix) What are the possible policy options to optimize rural-urban migration in Ethiopia?

4.2. Methodology, Research Strategy and Design

4.2.1. Data Sources and Assessment of Data Quality

For this study, both descriptive and inferential statistics have been employed. After descriptive statistical analyses were conducted, inferential analysis was used to examine the drivers of population dynamics and rural-urban migration.

Descriptive statistical methods were employed to examine the scale, patterns and trends of rural-urban migration and population dynamics at national and regional level. This method was also used to analyze the socio-economic and demographic characteristics of migrants and reasons for migration. In addition, the descriptive analysis was used to assess the trends in population dynamics and rural-urban migration, while the multivariate logistic regression model was used to estimate the drivers of rural-urban migration and to identify the underlying pull-and-push factors.

A desk review was applied to triangulate with secondary data. The data obtained from this source was also used to classify the effect of population dynamics and rural-urban migration on socio-economic development of the sending and receiving areas. The research findings are presented in the form of charts/graphs and tables.

We used a desk review and an analysis of secondary data. The desk review was used to assess the achievements, gaps and

challenges concerning population dynamics and rural-urban migration. Relevant literature available in scientific journals, books, as well as pertinent policy and strategy documents/reports, were reviewed.

Secondary data from the Ethiopia Population and Housing Census (1984, 1994, and 2007), CSA Population Projections for Ethiopia (2013), and the World Population Prospects 2012 of the United Nations Population Division, were used to examine the changes in population size and structure. To assess the components of population change, including fertility and mortality, the Demographic and Health Surveys (EDHS 2000, EDHS 2005, EDHS 2011 and EDHS 2016) were used. National Surveys, and the CSA National Labor Force Survey (2005 and 2013) were utilized to estimate the drivers and trends of rural-urban migration, and; World Bank data, LSMS 2015/16, was applied to estimate the correlates of rural-urban migration.

The data obtained from the CSA 2013 population projection, was population size by age and sex, urban-rural and region. This information has been used to indicate the trend and levels of population dynamics but it has its own limitations. The data offers no information to disaggregate the urban dimension into small, medium or large town, all of which have different characteristics. Birth history data obtained from the Demographic and Health surveys were used to estimate the components of population change for fertility and mortality. Similarly, CSA data was used to analyze rural-urban migration. CSA National Labor Force data provide information on age, sex, education, employment and other social and economic variables, and were used to disaggregate migrant with demographic and socio-economic situations. As this survey employed strong sample design and included a large sample size it was more valid for the

levels and trends of rural urban migration. In addition, the Ethiopian socio-economic survey data from the World Bank 2015-16 Living Standard Measurement Survey (LSMS) was used to assess the correlates of rural-urban migration. This provided important information including household size, source of information, sector of information and other population information.

Secondary data, obtained from the Central Statistical Agency (CSA), the World Bank and United Nations Population Division, were coded and prepared for analysis. Socio-demographic characteristics of migrants, including age, gender, household size, education, marital status and region of residence, were analyzed using descriptive statistics. A binary logistic regression model was fitted to examine the relationship between the dependent variable and the explanatory variables. The CSA data and the UN data were used for descriptive analyses (Tables and Graphs) while the World Bank data was used for multivariate analysis. For binary responses of no migration versus migration, binary logistic regression model was used.

Explanatory Variables

In the binary response model, categories in the dependent variable are discrete. Thus, a logit model is appropriate (Gujarati, 2003; Greene, 2012). The dependent variable, rural to urban migration, was determined by cross-classifying the migrant's current place of residence and area of enumeration. Then the outcome variable, the dependent variable, was dichotomized in such a way that rural individuals who did not migrate were used as a reference category '0' and those who had migrated to an urban place as category '1'. In this specification, the dependent variable was regressed against independent variables to identify the

determinants of rural to urban migration to explain potential push-or-pull factors.

Although there are a number of socio-economic and demographic variables that can affect rural–urban migration, including age, marital status (married, single, divorced, widowed), land holding size, number of children, and livestock holding, data information meant we could only include six independent variables, in the model. These were age, gender, size of household, source of information, employment sector and major regions in terms of population size. The choice of the explanatory variables was guided largely by the previous study by Atsede and Penke (2016) on the determinants of rural-urban migration in Ethiopia and the availability of data. The demographic variables age and sex were introduced to control the objective of individual characteristics on the decision on migration. To explain the effect of family on the decision of migration, household size was also introduced in the model (Deotti and Estruch, 2016). The decision on where to go and/or how to find work is influenced by the social network (Deotti and Estruch, 2016), and to measure this dimension the variable ‘source of information’ was included. In order to see the main economic activity of the enterprise where the migrant is working or of a migrant’s own business, the variable ‘sector of employment’ was included. As a large proportion of rural to urban migrant happens in four major regions, Tigray, Amhara, Oromia and SNNP, these regions were included in the model and their relative contributions estimated. Detailed classification of the predictor variables is presented in Table 4.1 below.

Table 4.1: Categories of explanatory variables

Variables	Categories
Sex	Male
	Female
Age	<=14
	15-29
	30+
Household Size	1-3
	4-6
	7+
Information provider	Family
	Friends/Neighbors
	Government/Employer
	Self
Employment Sector	Agriculture
	Construction and Manufacturing
	Trade and Services
	Education and Other
Major Regions	Tigray
	Amhara
	Oromia
	SNNP

One popular alternative to the odds ratio, when the dependent variable is binary, is the marginal effect or (partial effects) of an explanatory variable on the probability that dependent variable y_i equals 1 versus 0 (Williams, 2012). This is due to a change in an independent variable on the probability that $y = 1$ is calculated either from the expression for the partial derivative of the logit function or as the discrete change in the

predicted probability when the variable of interest undergoes a discrete change. In this study, the latter discrete method is used to compute the marginal effect for a dummy independent variable. Taking first the derivative approach, the marginal effect of the probability that $y = 1$ is:

$$\frac{\partial E[y|X]}{\partial X_k} = \frac{\partial \Pr [y=1|X]}{\partial X_k} = f(X'\beta),$$

Where $f(X'\beta)$ is the density function associated with the Logit model (standard Logistic).

4.3. Population Dynamics

4.3.1. Introduction

Population dynamics is the study of how and why populations change in size and structure over time and includes consideration of rates of reproduction, death and migration as well as changes in population growth rates, age structures and distribution of people. It is closely linked to national and global challenges of development and their solutions (UNFPA, 2012), and none of our major challenges can be resolved without attention to population dynamics. Here, we present an overview of population dynamics, that is, changes in the size, growth and structure of Ethiopia's population.

With a population of 100.8 million in 2020, Ethiopia is the second most populous country in Africa next to Nigeria and the 12th globally (CSA 2012). It has been experiencing significant demographic changes since the early 1990s (Assefa, 2019). It has observed notable declines in mortality and fertility, and a remarkable increase in life expectancy. Currently, it is undergoing the process of a demographic transition, a shift from high fertility and high mortality to low fertility and low mortality settings. This

section describes the changes that have taken place in the structure and composition of the population during the last two decades or so.

4.3.2. Population Size and Growth

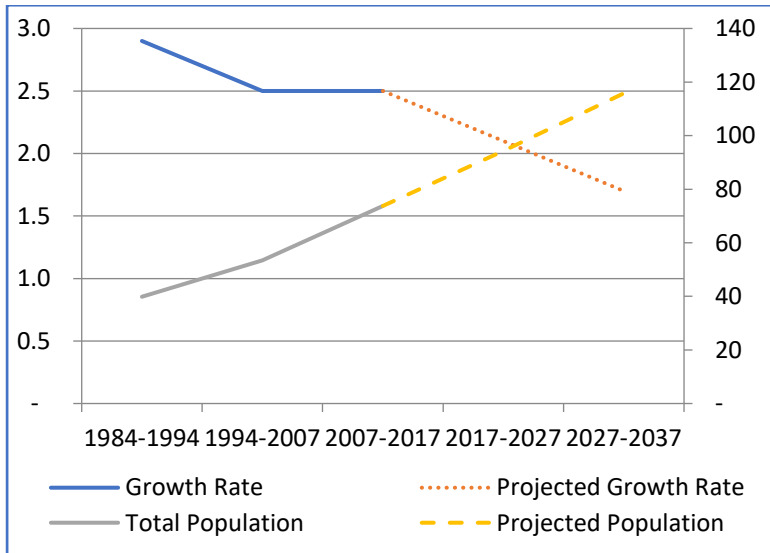
Ethiopia population, rural as well as urban has been increasing rapidly since the 1990s. According to the second Population and Housing Census in 1994, total population was 53.5 million of which 46.2 million was rural and 7.3 million urban. By 2007, the total population had increased to 73.9 million; the urban population had risen to 11.9 million and the rural to 62 million. This was a 38.1% increase in total population and a 63% increase of the urban population just thirteen years. According to the CSA median variant projection (CSA, 2013), the population increased to 94.2 million in 2017, an increase of 20.3 million and was projected to increase to 136 million in 2037 (Figure 4.1; CSA 2012).

In the early 1990s, the average annual growth rate of the population was about 3% (TGE, 1993). Since then, however, the rate has been declining, to 2.9% in the mid-1990s, 2.4% in 2008 and it is currently estimated at 2.3% (Figure 4.2). This still leaves it among countries with a rapid population growth rate. Indeed, at the current rate, the population may double in about 30 years. Equally, population density has also been increasing rapidly, from 66 persons per sq. km in 2000 to 84 in 2020 an increase of 65%, (3.4% per year on average) in less than two decades)². As the country is predominantly rural, with close to 80% of the population living in rural areas, the increase in population density suggests a decline in the size of farmland and increasing rural to urban migration.

² <https://data.worldbank.org/indicator/EN.POP.DNST?locations=ET>

The urban population is also growing rapidly in comparison to other East African countries (Assefa and Aynalem, 2011). Ethiopia’s urban population grew at 3.7% between 1994 and 2007, and reached 4.7% in 2017. It then started to decline and is projected to reach 3.7% in 2037 (CSA, 2013). Nevertheless, the urban and rural populations continue to increase in size. The overall urban population increased from 11.9 million in 2007 to 19 million in 2017, and is projected to increase to 31 million in 2030 (CSA, 2013). The proportion of the urban population also increased from 13.8% in 1994 to 16.1% in 2007 and is expected to rise to 30.6% in 2037 (Figure 4.2) indicating rapid urbanization. Ethiopia will, however, remain primarily rural as close to 70% of its population is projected to be living in rural areas in 2037.

Figure 4.1: Trend in Total Population size and Growth Rate: 2008-2037

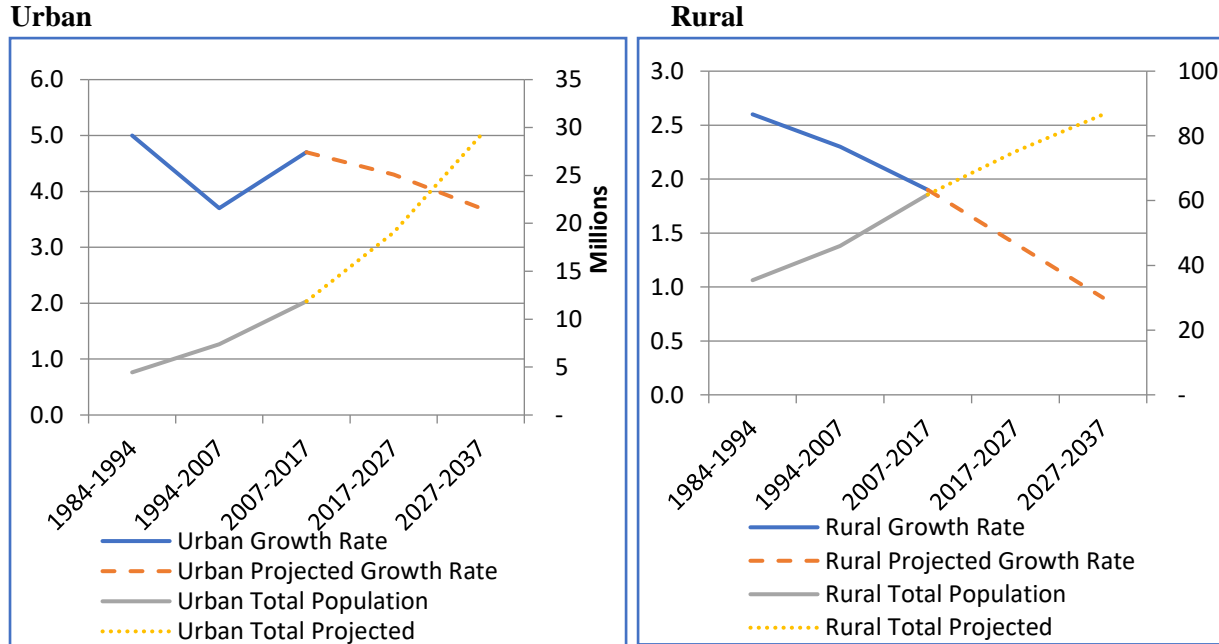


Source: PHCC (1984, 1994, 2007) CSA (2013)

Equally, although the rate of population growth is declining, as Figure 4.1 shows, the total population will continue growing in size. This is because of the effect of what is known as population momentum³.

³ The effect of a large number of women entering childbearing age every year due to past high fertility and continued growth in the number of children in spite of declining fertility.

Figure 4.2: Urban and Rural Population Size and Growth Rate: 2008-2037



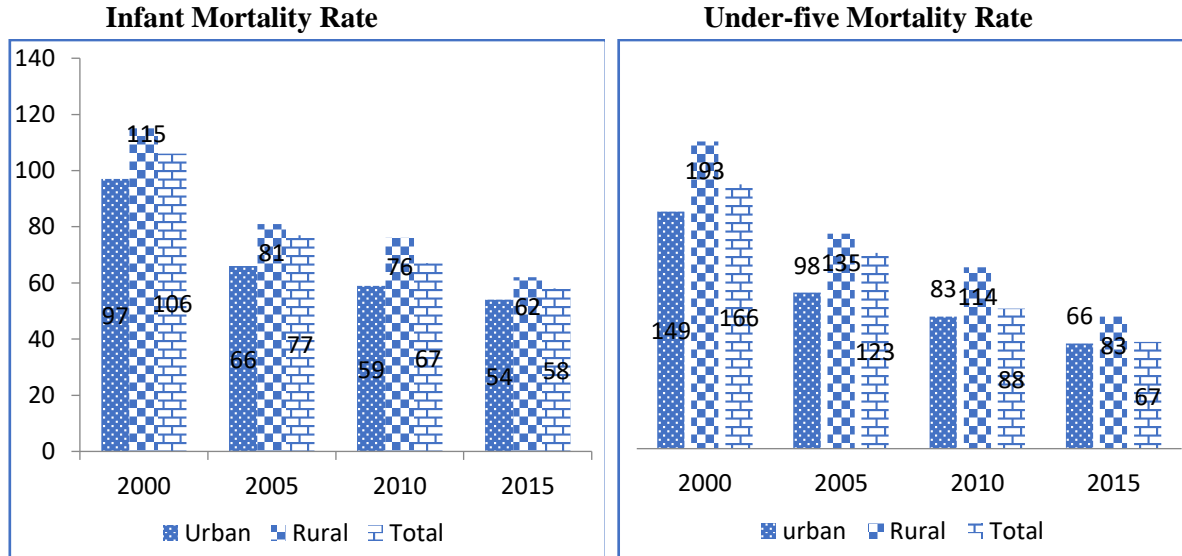
Source: CSA (1984, 1994, 2007, 2013)

Mortality, fertility and migration are the drivers of change in a population's size, structure, and distribution. However, the significance of these factors varies according to the size of the units of analysis. For the world as a whole, the annual increase in population is due to fertility rates that exceed mortality rates. At the global level, and even for large regional aggregates, migration is less relevant. However, when the analysis is done at the country level, migration becomes important, having a big impact on changes in the population size and structure.

Trends in mortality

In Ethiopia, a considerable decline in infant and child mortality levels have occurred over the last two decades. Infant and under-five mortality rates presented in Figures 4.5 and 4.6 show a pattern of steady decline. At country level, the infant mortality rate (IMR) declined from 106 deaths per 1000 live births in 2000 to 58 in 2016, and under-five mortality (U5MR) declined from 166 deaths per 1000 live births in 2000 to 67 in 2016 (Figure 4.3). As Figure 4.3 shows, the decline in IMR and U5MR occurred in both urban and rural areas. Between 2000 and 2015, urban IMR declined from 97 deaths per 1000 live births to 58; U5MR declined from 149 to 66 deaths per 1000 live births. This shows that during the last 15 years since 2000, Ethiopia registered significant declines in both infant and under-five mortality (2.4% and 3.8% per year in IMR and U5MR, respectively).

Figure 4.3: Infant and Under-five Mortality rate



Source: CSA, CSA and ORC Macro 2000, 2005; CSA and ICF International 2011; 2016

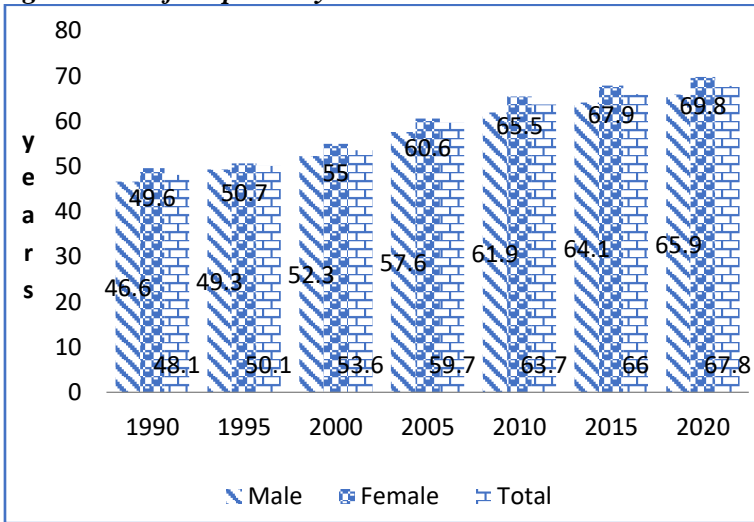
However, the decline in IMR and U5MR has not been uniform across regions. According to the 2016 EDHS, infant mortality was highest in Afar Region with 81 deaths per 1000 live births followed by Amhara, Somali regions and the Dire Dawa City Administration with 67 infant deaths per 1000 live births each, Gambella with 66, SNNPR with 65 and Oromia with 60 deaths per 1000 live births. The highest U5MR was observed in Afar Region with 125 deaths per 1000 live births followed by Benishangul-Gumuz with 96 deaths per 1000 live births, Somali with 94 deaths, Dire Dawa with 93, Gambella and SNNPR with 88 each, Amhara Region with 85 and Oromia with 79 deaths per 1000 live births. In the remaining regions, U5MR ranged between 59 and 72 deaths per 1000 live births (Table 4.2). Addis Ababa City Administration registered the lowest IMR and U5MR (28 in infant mortality rate and 39 in under-five mortality rate per 1000 live births).

Table 4.2: Infant and Under-five Mortality by Region: 2000–2016

Region	Infant Mortality Rate (IMR)				Under-five Mortality Rate (U5MR)			
	2000	2005	2011	2016	2000	2005	2011	2016
Afar	129	61	64	81	229	123	127	125
Amhara	112	94	76	67	183	154	108	85
Dire Dawa	106	71	60	67	176	136	97	91
Somali	99	57	71	67	198	93	122	94
SNNPR	113	85	78	65	192	142	116	88
Tigray	104	67	64	63	169	106	85	59
Benishangul Gumuz	98	84	101	62	198	157	169	94
Oromia	116	76	73	60	194	122	112	79
Harari	118	66	64	57	191	103	94	72
Gambella	118	92	76	56	191	156	125	88
Addis Ababa	81	45	40	28	176	72	53	39
Country	97	80	60	48	166	132	88	67

Source: (CSA and ORC Macro (2000; 2005) CAS and ICF (2011; 2016)

Figure 4.4: Life expectancy at birth: 1990 – 2020



Source: UN (2019)

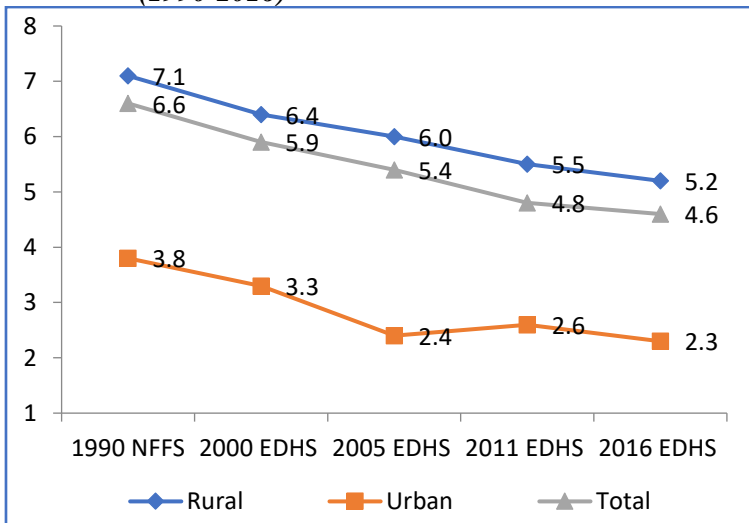
Following the decline in infant and under-five mortality, Ethiopia also registered significant increases in life expectancy. Life expectancy at birth increased from about 48 years in 1990 to 67 years in 2015, with male life expectancy increasing from 46.6 years in 1990 to 66 years in 2015; and female life expectancy from 49 years to 69 years during the same period (Figure 4.4).

Trends in fertility

The most commonly used indicator to analyze changes in population size and growth is the total fertility rate (TFR). This rate is equal to the average number of children that a woman would have by the end of her reproductive period if she had exhibited the age-adjusted fertility rates recorded by the population of interest in a given year. The main feature of fertility in Ethiopia is that it has been historically at a high level, with overall fertility declining

from an average of seven children per woman in the early 1990s to 4.6 in 2016, a 30% decline, as the country registered a significant reduction in its fertility rate. Rural fertility declined from 7.1 children per woman to 5.2, a 26.8% decline, during the same period. Urban fertility, although much lower than that of rural fertility, has also been declining from 3.8 children per woman to 2.3 children per woman (39.5%). during the same period (Figure 4.5). Despite the decline, fertility remains the major contributing factor for rural population growth.

Figure 4.5: Trend in total fertility by Urban-Rural Ethiopia (1990-2016)

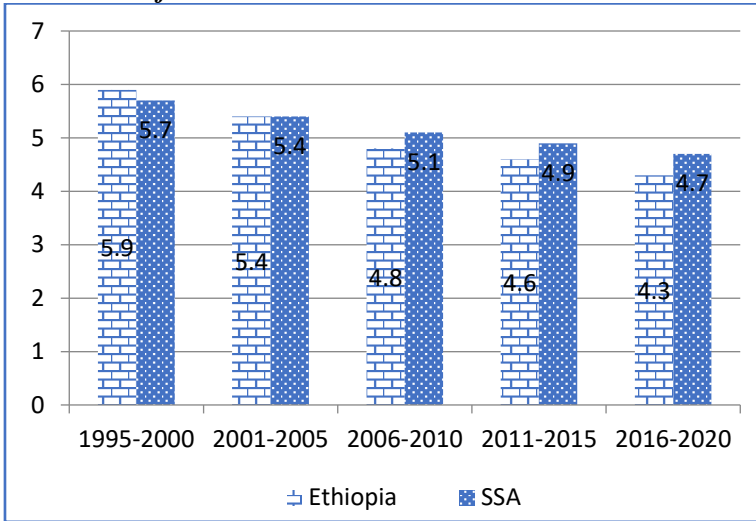


Sources: CSA (1993); CSA and ORC Macro (2000; 2005); CSA and ICF (2011; 2016).

Ethiopia, in fact, has registered faster fertility decline than all countries in sub-Saharan Africa combined. Fertility in Ethiopia was higher than the sub-Saharan Africa average until 2000.

Between 2000 and 2005, the TFR in Ethiopia was the same as the sub-Saharan Africa average but from 2006 onwards, Ethiopia's TFR was lower than the sub-Saharan Africa average (Figure 4.6).

Figure 4.6: Total Fertility Rate: Ethiopia and sub-Saharan Africa



Sources: CSA, 1984, 1994, 2007; UN, 2018.

Though fertility has been declining at the country level during the last two decades, there has been considerable regional variation. It has declined in seven out of the nine regional governments (Table 4.3), with the Amhara Region registering the largest decline in TFR, 37.3% between 2000 and 2016. The SNNPR had a 22.8% decline followed by Gambella with 22.2%, Tigray with 19%, Benishangul-Gumuz with 18.5% and Oromia with 15.6% during the same period. Fertility, however, increased in the Afar and Somali regions. In Somali Region, TFR increased from 5.7 children per woman in 2000 to 7.2 in 2016 and in Afar from 4.9 to 5.5 during

the same period. In Addis Ababa, fertility has been below replacement level since 2000 with a total fertility rate of 1.9 children per woman in 2000, falling to 1.4 in 2005. It started to increase in 2011 and reached 1.8 in 2016. In Dire Dawa, total fertility was 3.6 children per woman in 2000 and 2005 but declined to 3.4 in 2011 and 3.1 in 2016. In Harari, it declined from 4.4 children per woman in 2000 to 4.1 in 2016 (Table 4.3).

Table 4.3: Total fertility rate by region: 2000 – 2016

Region	2000	2005	2011	2016
Somali	5.7	6	7.1	7.2
Afar	4.9	4.9	5	5.5
Oromia	6.4	6.2	5.6	5.4
Tigray	5.8	5.1	4.6	4.7
SNNPR	5.7	5.6	4.9	4.4
Benishangul Gumuz	5.4	5.2	5.2	4.4
Harari	4.4	3.8	3.8	4.1
Amhara	5.9	5.1	4.2	3.7
Gambella	4.5	4	4	3.5
Dire Dawa	3.6	3.6	3.4	3.1
Addis Ababa	1.9	1.4	1.5	1.8
Country level	5.9	5.4	4.8	4.6

Source: CSA & ORC Macro (2000; 2005); CSA and ICF (2011, 2016).

Changing norms and values about children, increasing age at marriage, greater female participation in education and increased use of contraception are among the drivers of fertility decline (Assefa, 2016). At country level, increasing urbanization and modernization, the changing attitudes to the value of children, improving girls' enrolment in primary education and the increase in

the proportion of married women using contraception, have all contributed to reducing fertility¹.

The high fertility rates in Somali and Afar regions are associated with early childbearing and no or little use of contraception. For instance, as per the 2016 EDHS, the percentage of teenage women (aged 15-19) who had given birth or were pregnant with their first child was 23% in Afar and 19% in Somali in 2016, much higher than the national average of 12.5%. With regard to the use of modern methods of contraception, Afar and Somali regions also had the lowest utilization rate, 1% and 12%, respectively, among currently married women; whereas the percentage at country level it was 35%. Similarly, these regions had the lowest level of knowledge of contraceptive methods. The percentage of married women aged 15-49 who had heard of at least one modern method was 78.6% in Somali and 89% in Afar, compared to a national level of at least 97 % percent of married women reported knowledge of at least one method of modern family planning (CSA and ICF, 2016).

4.3.3. Age Structure of the Population

The age structure of a population refers to the distribution of a population by age, either by a single year or age groups. Age structure is a direct product of past and ongoing demographic processes and, as such, reflects the development-related factors that determine mortality, fertility and migration. Broadly speaking, a total population by age group may be divided into young (age 0–

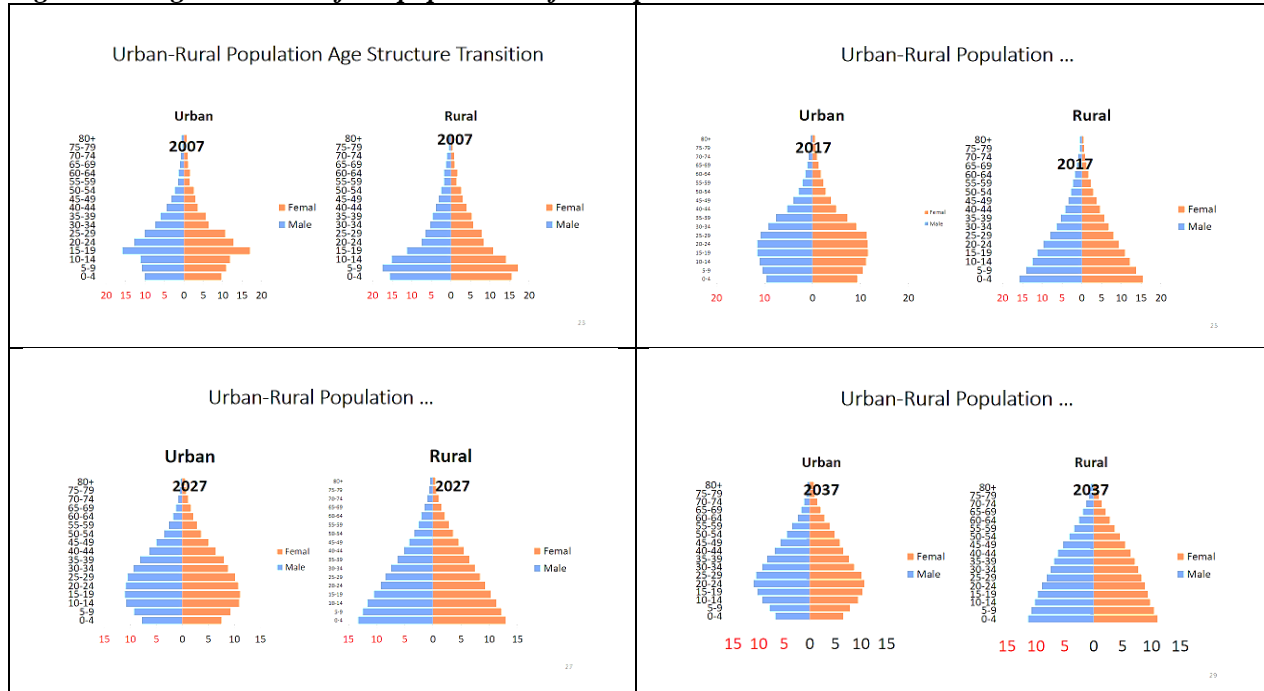
¹The percentage of the population living in urban areas increased from 11% in 1994 to 16% in 2007. Modern contraceptive use among currently married women increased from less than 6% in 2000 to 35% in 2016; the net enrolment of girls in primary school increased from 51% in 2003/04 to 95% in 2016/17.

14 years), working (age 15–59 years) and elderly population (age 60 years and above). Due to the interactive effects of fertility and mortality, the proportions of total population in these age groups may undergo a transition from a higher (lower) share to a lower (higher) or declining (increasing) share over a period of time. According to the experiences of European countries in early 19th century, the transition takes three phases in the absence of excessive migration among any of the age groups.

In the first phase, when mortality falls but fertility remains high, age distribution shifts towards younger ages as the proportion of children increases owing to the greater number of infants and children who survive through early childhood. In the second phase, where fertility begins to decline, the number of children and youth as a proportion of the total population also declines. Meanwhile, the proportion of adults at prime age for work and childbearing in the population begins to rise. During the third phase, if a lower level of fertility and mortality is maintained over many decades, the proportion of children (under 15), and working-age (15-59) as a proportion of the total population, all decline, while the number and the proportion of older persons continues to rise.

The Ethiopian population is characterized by a young age structure with a median age of less than 20 years. This is a feature of rapidly growing populations. However, it is. Figure 4.7 presents the distribution of the rural and urban population by broad age groups based on observed data and projections. It shows the age structure of the population is undergoing a gradual transition, changing in both urban and rural areas, though the change in urban areas is faster.

Figure 4.7: Age structure of the population of Ethiopia in 2007 and 2037



Source: Prepared by Author using CSA 2013projections

The population pyramids presented in Figure 4.7 shows the age-sex distribution of the estimated and projected urban and rural populations for the years 2007 through 2037. They display the percentage of the population in each age cohort and show the trends of the past and how the population age structure will be changing in the future.

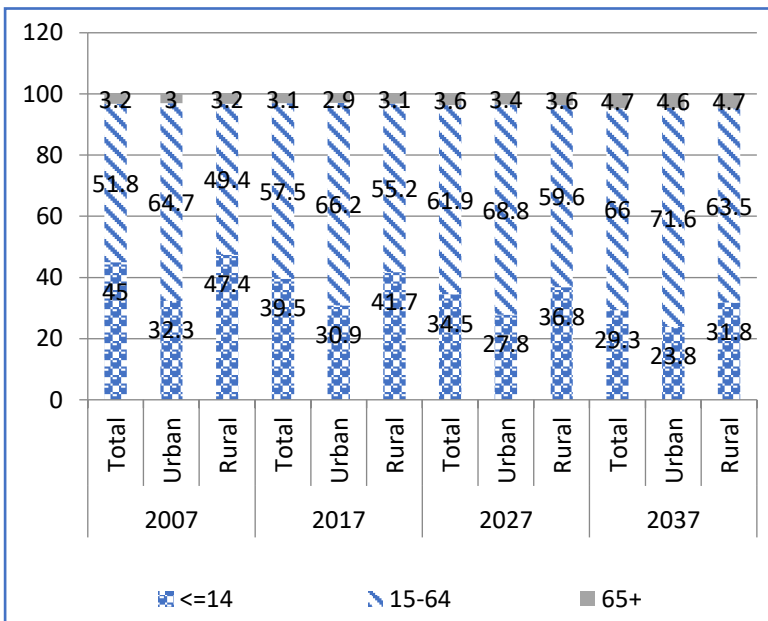
Indicators measuring the share of the total population in the three broad age groups (less than 15, 15 to 64 and 65 and over), the Dependence Ratio (DR) and the Aging Index,¹ constitute a first approach to the study of inter-age relationships seen while the country is undergoing an age structural transition. Figure 4.7 shows that the population distribution is changing mainly because of the shift at the extremes. The change in the age structure is clearly observed in the pyramids with the narrowing of the base (0-14) and the emerging bulge of the working age population (15-64) as we move from 2007 to 2037.

Figure 4.7 also shows the difference in the urban and rural population age structures. The urban pyramids show that the base is getting narrower and the working age bulging faster than the rural population. The proportion of the under 15 declined from 45.7% in rural areas in 2007 to 44.3% in 2017; and in the urban areas, from 44.5% in 2007 to 42.1% in 2017. The projection shows that if fertility decline continues in both urban and rural areas, the proportion of under 15 will further decline to 34.3% in urban areas and to 40.4% in rural areas by 2037. Again, although the proportion of children under 15 years is declining, while those of working age (15-59) is increasing in both urban and rural areas, the decline is

¹The Aging Index refers to the number of elders per 100 persons younger than 15 years old in a specific population. This index increases as the population ages.

faster in urban areas compared to that of rural areas and the increase in the proportion of working age population in rural areas is slower. This is mainly due to the large difference in fertility between urban and rural areas as well as the high rate of youth migration to urban areas (see Section 3.2).

Figure 4.8: Distribution of total, urban and rural population by broad age groups (< 15, 15 – 64 and > 65): 2007 – 2037



Source: CSA (2007, 2013)

The working age population on the other hand, increased from 52.8% in 2007 to 54.7% in 2017 and is expected to increase to 61.8% in 2037 in urban areas and from 51.5% in 2007 to 55.1% in 2037 in rural areas (Figure 4.8). As pointed out above, the gap between urban and rural areas in the broad age group is mainly due

to the differences in fertility and mortality between urban and rural areas.

The proportion of the elderly will increase by about 1.3% during the period 2007 to 2037 in urban areas and by 1.2% in rural areas. It is anticipated that the proportion of children under 15 will continue declining and the proportion of elderly continue increasing as the demographic transition accelerates.

Age dependency ratios

The age dependency ratio is the ratio of dependents, people younger than 15 or older than 64 years of age, to the working-age population, aged 15-64. The dependency ratio can be disaggregated into: a youth dependency ratio, the number of children aged 0-14 per 100 persons aged 15-64, and the old-age dependency ratio, the number of persons aged 65 or over per 100 persons aged 15-64. The dependency ratio, also referred to as a total dependency ratio, is the sum of the youth and old-age dependency ratios. The dependency ratio does not take into account labor force participation rates by age group. Some portion of the population counted as "working age" may actually be unemployed or not in the labor force, whereas some portion of the "dependent" population may be employed and not necessarily economically dependent.

Table 4.4 presents the total, rural and urban dependency ratios from 2015 to 2030. It shows that a large proportion of the population is in the non-working age group. The urban age dependency ratio is much lower than that of the rural mainly because of low fertility in urban areas. However, the existing high dependency ratio continues to pile pressure on the working population.

Table 4.4: Age Dependency and Potential Support Ratios (PSRs)²

Age group	2015			2020			2025			2030		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
< 15	69.9	40.6	78.5	67.1	40.4	76.7	65.6	39.9	76.3	61	38.9	72.2
≥ 65	5.1	3.9	5.4	5.0	3.9	5.4	5.3	3.7	5	5.6	4.6	6.1
Total	75	44.5	83.9	72.1	43.8	82.1	70.9	44.1	81.2	66.6	43.5	78.3
PSR	19.6	25.6	18.5	20.0	25.6	18.5	18.9	27.0	20.0	17.9	21.7	16.4

Source: computed based on CSA (2013)

The youth dependency ratios show a marginal decline for both urban and rural areas between 2015 and 2030; but the old age dependency ratio, on the other hand, shows an increase mainly because of increasing life expectancy, with more and more people among the elderly expecting to survive longer. However, the overall dependency ratio is declining and this is expected to continue. Between 2015 and 2030, it should decline by about 10 points from 75 to 66 dependents per 100 persons of working age. Evidence shows that falling dependency ratios have contributed substantially to economic growth in a number of East Asian countries (Bloom et al., 2003; Higgins and Williamson, 1997).

4.3.4. Implications for Harnessing the Demographic Dividend

Ethiopia has made significant stride in population dynamics and is in the course of changing its demographic image. Fertility, infant and under-five mortality are declining; life

² The number of people age 15-64 per one person age 65 and older.

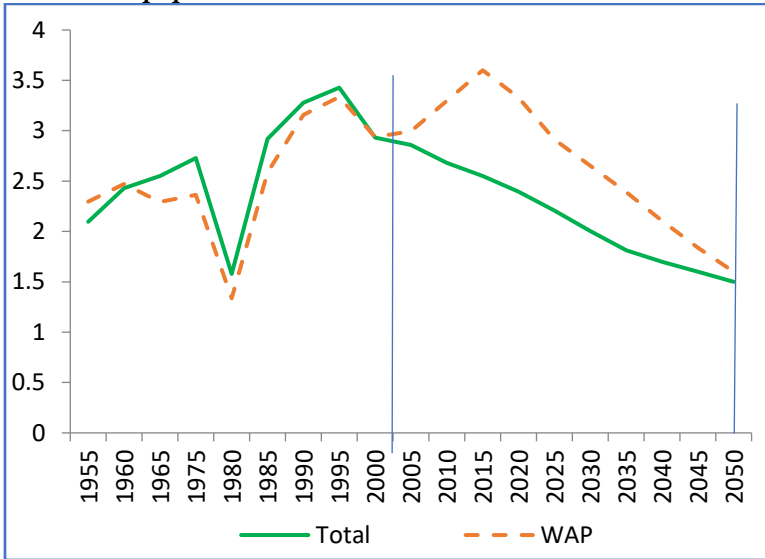
expectancy is increasing, signifying the country is in the middle of a demographic transition.

However, the first effect if a demographic transition is a demographic “burden”. As mortality declines, overall population growth is faster than the growth of the working age population. Later, as fertility decline continues, the number of working age adults becomes larger relative to the dependent population, leading to the opening of the demographic window of opportunity (Ogawa and Chawla, 2009; Navaneetham and Dharmalingam 2012) and can act as a major economic spur if an appropriate policy environment is in place (Bloom, et. al., 2003).

In Ethiopia, from 2000, the working age population has been growing at a faster rate than that of the total population and this is expected to continue (Figure 4.9). Thus, a demographic window of opportunity started to open and will remain open until about 2050-60. As Figure 4.9 demonstrates, this offers the opportunity for harvesting the demographic dividend. However, growth in the working-age population alone is not sufficient for a country to reap a demographic dividend. The extent to which this occurs depends on the socio-economic and policy environment. There must be a demand for an increased supply of labor, and conditions to enable productivity. These require effective policies in key areas, including strong health and educational systems to increase the productivity of potential workers; flexibility and competitiveness in the labor market to absorb the rapidly increasing number of young people entering the job market; and openness to trade to allow growth of productive and rewarding jobs. Other important preconditions include modern infrastructure and technology to reduce transactions costs and enable economic efficiency, good governance, stable macroeconomics, and a sound

financial system to promote savings and investment, as well as low levels of crime and corruption.

Figure 4.9: Growth rate of total population and working age population



Source: UN (2019)

During the last two decades, Ethiopia has not only made momentous progress in population dynamics but also in other social and economic sectors. Key development indicators (education, health and employment) show striking progress (UNDP, 2014, Ministry of Finance and Economic Development, 2010). Considerable improvement is also being made to develop infrastructure (road network, communications, power and energy) as well as markets and financial institutions. However, given that the demographic dividend is a one-time event and its occurrence also depends upon effective policies, a lot more has to be

accomplished in social as well as economic terms in order to create a fully favorable environment for harnessing the dividend sooner rather than later.

In this regard, the fertility decline has not been rapid enough to boost the demographic transition. While child survival has greatly improved, the birth rate, though declining, still remains high, and the pace of decline is slow. The age structure, is changing, but still broad-based and the dependency ratio stands at a high level. There is need to accelerate investment in reproductive health/family planning and maternal and child health services to accelerate the decline in fertility, reduce the incidence of illness and promote preventive health care.

The demographic dividend is driven not only by changes in age structure but also in education which plays a significant role in accelerating the age structural transition and in overall development. In this respect, Ethiopia appears to have good trajectory to enhance productivity and harness the demographic dividend. Though female participation in education remains lower than male participation, the number of students enrolled in primary, secondary and higher education have been steadily increasing (MoE, 2015/16). Net primary education participation has increased from 54% in 2002/03 to 94.3% in 2014/15 (MOE, 2019). The net secondary enrollment ratio also increased from 11% to 30.8% between 1999/00 and 2015/16 (MoE, 2019) need for more investment in education. The quality of education at secondary and post-secondary levels also needs to be improved significantly to increase the number of skilled workers able to adapt to new businesses in a swiftly changing industrial environment.

In terms of the economy, there is a need to boost domestic savings, private sector investment and improve the trade

logistics. The country has to transform itself from an agriculture led economy, to an industry-led economy. In order to benefit from the changing age structure and reap the demographic dividend, it must focus on accelerating the fertility transition, expanding the provision of quality technical and vocational education and developing skills for the increasing number of youth joining the workforce. There is already a very large number of unemployed youth.

Ethiopia has made significant stride in population dynamics and is in the process of a demographic transition. Due to the decline in fertility, the working age population is increasing and the dependent age population decreasing. Ethiopia can reap a demographic dividend³ if policies and investments are properly tailored to utilize the potential for economic growth and development and if areas of existing inequality are addressed, implementing the right policies to ensure empowerment, quality education and employment. The economic returns could be high. However, despite achievements at the national level, similar trends are not consistently reflected at sub-national levels because of the diversity of culture, ecology, and socio-economic conditions. There are vast differences in fertility and other health and education indicators between rural and urban areas and across regional states. It is important to examine the indicators for the regional states in terms of fertility, child mortality, and education to understand where efforts may need to be intensified. Investment

³ This is the economic growth potential that can result from shifts in a population's age structure, mainly when the share of the working-age population (15 to 59) is larger than the non-working-age share of the population (the under 15 and the 60+). In other words, it is a boost in economic productivity that occurs when there are growing numbers of people in the workforce relative to the number of dependents.

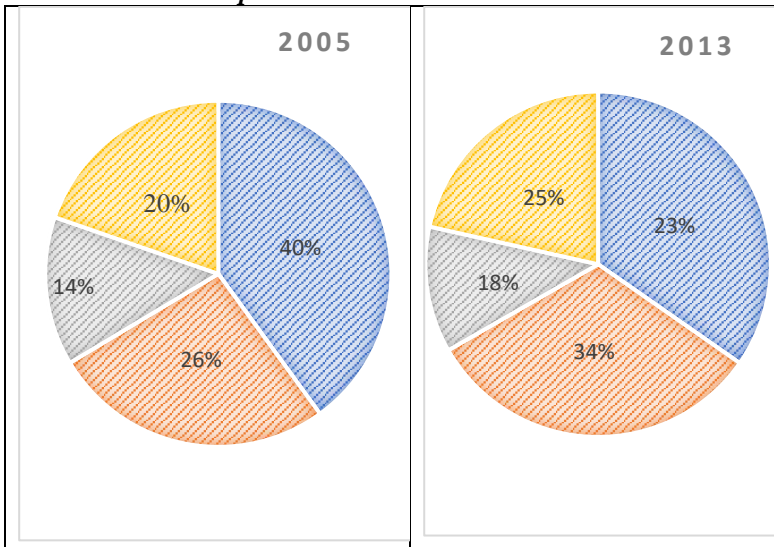
in health care and education, both at the national and sub national levels, will be critical in order to accelerate the demographic transition and to improve Ethiopia's workforce productivity.

4.4. Rural–Urban Migration

Migration is a human phenomenon and one of the components of population dynamics which is affected by socio-economic and demographic changes. It can be international or internal, within the boundaries of a country, when it has different forms (“rural to rural”, and “rural to urban”, “urban to urban” and “urban to rural”). This section examines rural to urban migration in Ethiopia. Based on data from the 2005 and 2013 National Labor Force Survey (NLFS), (CSA 2005; 2013). The section assesses the magnitude and trends of rural-urban migration; the characteristics of migrants, and the pull-and-push factors that force people to leave their place of origin or attract them towards the place of destination (Fransen and Kuschminder, 2009). This section also examines the consequences of rural to urban migration.

Rural-rural migration is the most extensive form of mobility, 40% in 2005 and 35% in 2013, followed by rural-urban migration with 26% and 34% of all migrants in 2005 and 2013, respectively. Urban–urban and urban-rural migration are in third and fourth place (Figure 4.10). While rural–rural migration decreased by 17%, rural-urban migration increased by 8% between 2005 and 2013, from 26.1% in 2005 to 34% in 2013—an increase of 30.3%

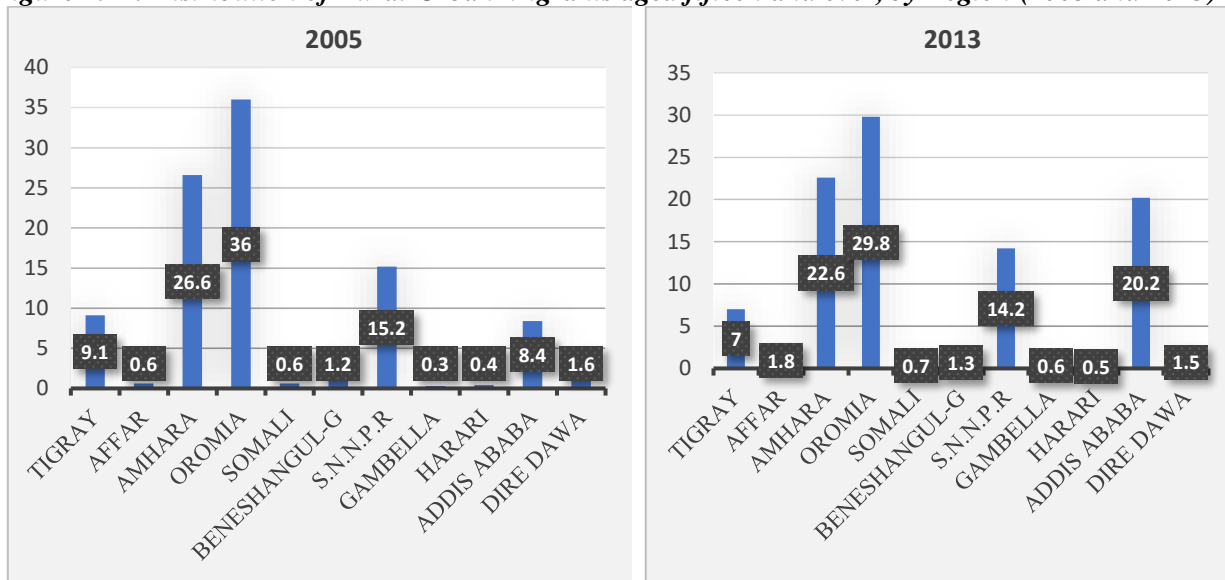
Figure 4.10: Type and Distribution of Internal Migration in Ethiopia



Source: Prepared using CSA (2005; 2013)

There is considerable regional variation in the level of rural-urban migration (Figure 4.11). In both 2005 and 2013, there were greatest numbers of migrants in Oromia followed by Amhara and SNNPR. However, the pattern also shows a declining trend, decreases of 17.2%, 15.0% and 15.2% (2.1%, 1.9% and 1.9% per year), respectively. Rural to urban migration remained small and there was little/no change between the two surveys in other regions.

Figure 4.11: Distribution of Rural-Urban Migrants aged fifteen and over, by Region (2005 and 2013)



Source: CSA, 2005 and 2013

4.4.1. Characteristics of Rural–Urban Migrants

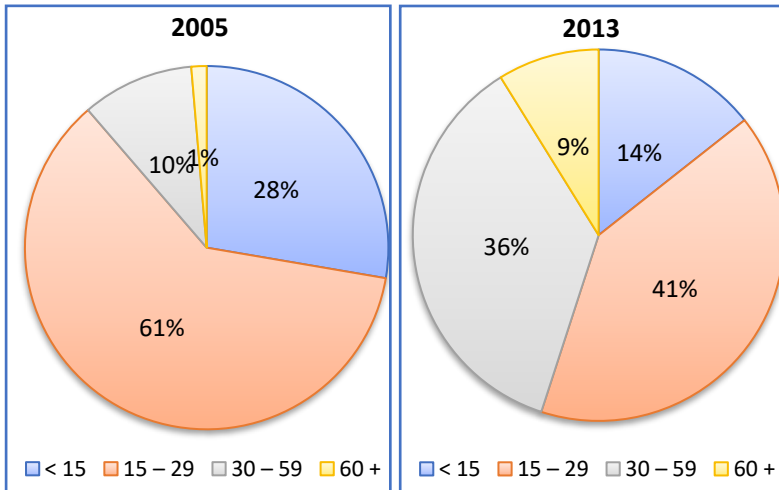
Migration is caused by various factors which impinge on population groups differently. This leads to differentials in migration with respect to the age, gender or marital status of the migrants. In order to understand the selectivity of the migration process, we examined migrants' demographic and socio-economic characteristics (age, gender, marital status, education and employment status). The distribution of migrants according to these characteristics is presented in Table 4.5.

Age distribution

Age is an important determinant of migration because it is related to life-cycle changes that influence most humans in almost all societies. Studies on migration indicate that migration is largely influenced by a person's age. Studies on migration differential by age reveal the impact of migration on socio-economic and demographic structures at both places of destination and origin (Weeks, 2008). The age distribution of rural urban migrants in Ethiopia demonstrates the majority of the migrants were young at the time of migration. Figure 4.12 shows that the highest percentage of migrants was observed for those aged 15-29 in both surveys. The proportion of migrants in this age group was 61% in 2005 and 41% in 2013. The percentage was significantly higher in both survey years compared to those in other age groups.

The percentage of migrants increased by more than threefold for those in the age group 30–59 (from 10% in 2005 to 36% in 2013), while for those of 50 and over, it increased from 1% in 2005 to 9% in 2013. The data shows that for those below 15 years, it decreased by half from its 2005 level in 2013.

Figure 4.12: Age Distribution of Migrants (2005 and 2013)



CSA (2005; 2013)

The median age at the time of migration was 18 years and the mean age was 21.3 with a Standard error of 10 in 2005. In 2013, the median was 19 and the mean was 22 with a SE of 11.4 years. This shows that the majority of the migrants were very young at the time of their first migration. They do so mainly in search of decent work and better living conditions (ILO, 2013). During the transition to adulthood, young people make important choices regarding education, labor force participation, and family formation. According to UNDESA (2016), many youths choose or are forced to migrate to find decent work, or to escape poverty, persecution and violence. While migration was highest within the age group 15-29 years more so, it decreased with age, possibly due to the higher psychological cost associated with older people.

Gender composition of migrants

The gender composition of the migrants presented in Table 4.5 shows little difference between 2005 and 2013. However, in 2005, males constituted higher percentage (49.2% compared to females 48%), while in 2013, this was reversed with females providing 55.4% of migrants and males 44.6%. This increase in female migration in 2013 may be due to an increase in informal sector employment activities such as construction work, street vending and the like. There is also an increasing number of young women involved in the retail trade, selling of local drinks, food, hairdressing, domestic work, and similar jobs in urban areas. According to Ebisa Deribie (2012), a growing number of women are migrating to seek economic opportunities in urban areas. Self-employed migrant women usually have no more than basic or minimal formal education, are unskilled and possess limited capital, and as a result, their income in the informal sector is lower than those working in the formal sector (Todaro and Smith 2003). Jobs in the informal sector, however, are more accessible for migrant women and can lead to economic empowerment.

Migrants' marital status

The marital status of an individual is among the factors that influence migration, and the distance involved has been found to be closely associated with marital status, and depends, to some extent on the migrant's responsibilities towards the family. Singh, and Yadava (1981b) reported that married persons usually migrate shorter distances to allow frequent family visits. Other studies have also reported that highly educated married migrants are mostly accompanied by family members, as compared to less educated or illiterate migrants (Singh and Yadava, 1981a).

Table 4.5 shows that in 2005, 61 % of migrants were never married though in 2013 this had fallen to 28.7%, and the proportion of married migrants in 2013 was twice that of 2005 (55.1% as against 27.7%). Migrants whose marriage had ended, through divorce or death, made up 11.2% in 2005 and 16.3% in 2013. The percentages of married and unmarried migrants were 72.3 and 27.7 respectively in 2005, and 45 and 55, respectively in 2013.

Table 4.5: Migrants Demographic and Social Characteristics

Migrant Characteristics	2005		2013	
	Number	Percent	Number	Percent
Gender				
Male	335,606	52	1,468,065	44.6
Female	310,046	48	1,825,482	55.4
Marital Status				
Never Married	394,226	61.1	945,330	28.7
Married	178,832	27.7	1,813,988	55.1
Divorce	58,770	9.1	285,000	8.7
Widowed	13,824	2.1	249,228	7.6
Education				
No Education	17,739	2.7	232,579	7.1
Primary	408,789	63.3	1,825,573	55.4
Secondary	188,049	29.1	740,265	22.5
Higher	31,075	4.8	495,129	15.0

Migrants’ level of education

Selectivity of migration often varies according to the level of education of the migrants. Several studies show that migrants are usually more educated than non-migrants with respect to the place

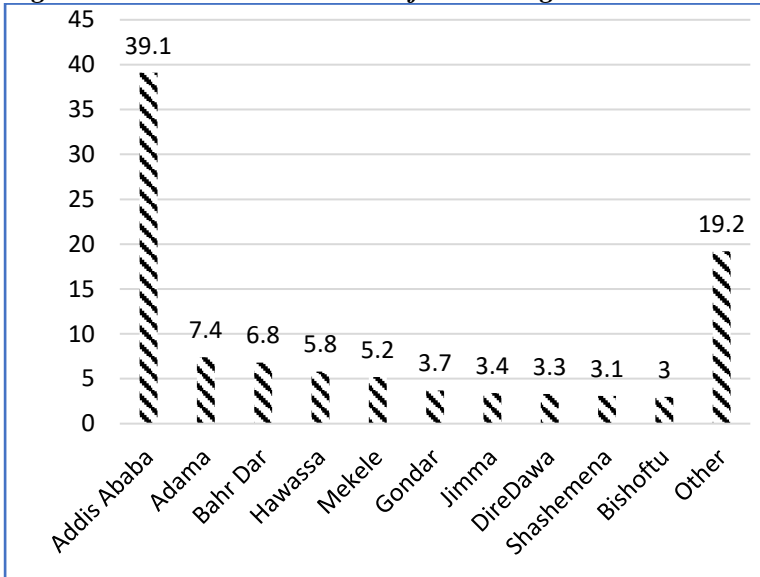
of origin, and less educated than non-migrants with respect to the place of destination (Singh and Yadava, 1981a and 1981b).

Table 4.5 also presents the distribution of migrants according to their educational attainment. Almost all migrants had attained some level of education (97.3% in 2005 and 92.7% in 2013). Of these, 63.3% in 2005 and 55.4% in 2013 had primary education. The percentages of migrants with secondary education were 29.1% in 2005 and 22.5% in 2013. More than a third (33.9% in 2005 and 37.3% in 2013 had attained secondary and higher education. People with higher level of education migrate to the cities because there is very little chance of getting a suitable job in the rural areas. In addition, educated people are less interested in taking up agriculture as their occupation (Singh and Yadava, 1981a and 1981b) nor is it likely that they could find enough land to work on in the rural areas.

4.4.2. Urban Destinations of Rural Urban Migrants

Recent rural-urban migration data shows that more than 80% of all rural urban migrants go to the ten largest cities in the country: Addis Ababa, Adama, Bahr Dar, Hawassa, Mekele, Gondar, Jimma, Dire Dawa, Shashemene and Bishoftu, and Addis Ababa is the destination for the majority. Of all migrants moving to cities between 2008 and 2013, 39.1% moved to Addis Ababa, followed by Adama, Bahr Dar and Hawassa receiving 7.4%, 6.8% percent and 5.8%, respectively. The remaining 19.2% were scattered across all the remaining urban centers (Figure 4.13).

Figure 4.13: Urban Destination of Rural Migrants



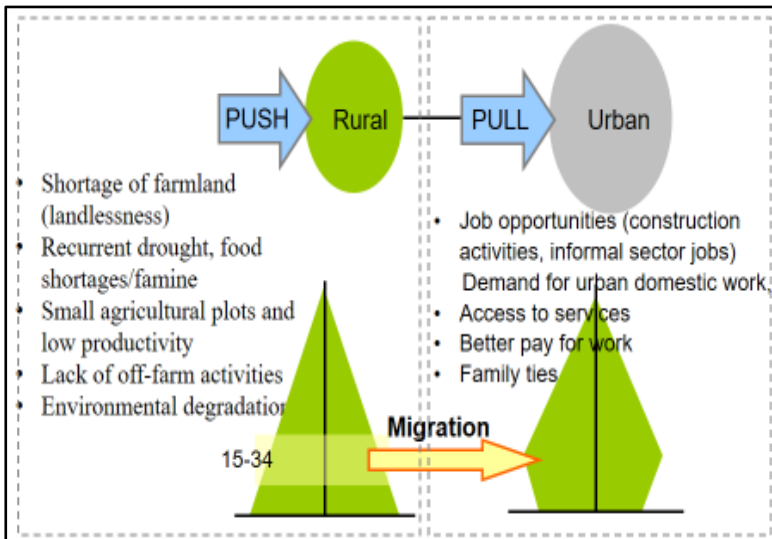
Source: CSA (2013)

4.4.3. Causes and consequences of rural-urban migration

Causes: The Pull-and-Push Factors

People seldom move from one place to another without reason. They have justification: usually moving to look for better opportunities. More specifically, in Ethiopia push factors include shortage of farmland, recurrent drought, food shortages, famine, the size of agricultural plots, low productivity, and lack of off-farm activities. Education and job opportunities, access to services, better payment and family ties are some of the pull factors for rural to urban migration (Figure 4.14).

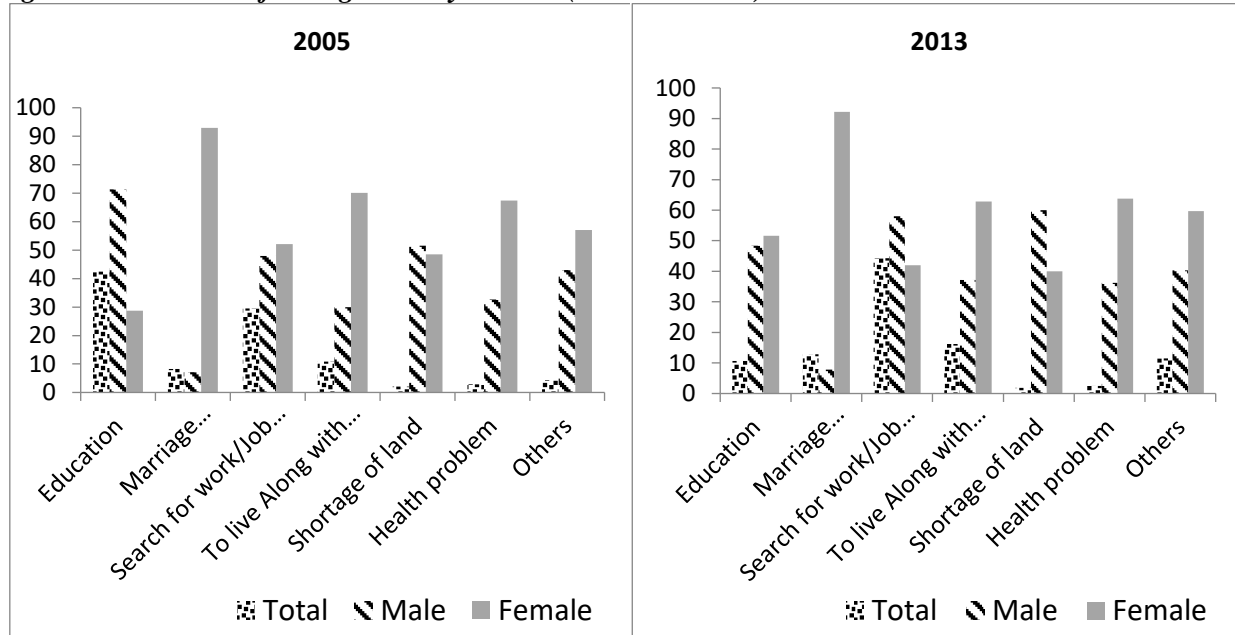
Figure 4.14: Push-and-pull Factors of Rural to Urban Migration in Ethiopia



Source: Adapted from Peter and Larkin (1999) and modified by the author

In 2005, about 42% of migrants mentioned that education was the main reason for their move, with nearly 25% searching for work as a reason for their move. Marriage arrangements provided a reason for about 6%. These remained the main motives for migration in 2013 but there was some variation in the pattern. Moves for education were much less frequent in 2013, having declined quite significantly from 2005, decreasing by 75 percent, at a rate of 9% a year. Searching for jobs and marriage arrangement had increased by nearly 65% percent (8% a year) and 77%p (10% a year), respectively in 2013. One widely cited push factor, land shortage, remained unchanged at 2%, suggesting shortage of farmland is not a major factor in encouraging people to migrate to urban areas (Figure 4.15).

Figure 4.15: Reasons for Migration by Gender (2005 and 2013)



Source: CSA, 2005 and 2013.

Gender also provides for differences. In 2005, 71% of education movers were male and 29% female and in 2013, the proportion changed to 52% female and 48% male. Similarly, the percent of migrants due to “search for work” changed across gender in 2005 and 2013. Consequently in 2005, 56 % were female and 44% male, and in 2013, 57 % were male and 43% were female. In both surveys, scarcity of farmland induced more males to leave their home than females; and a very high proportion, 93% of female migrants, reported that they moved from their home place due to marriage related issues.

Consequences of migration

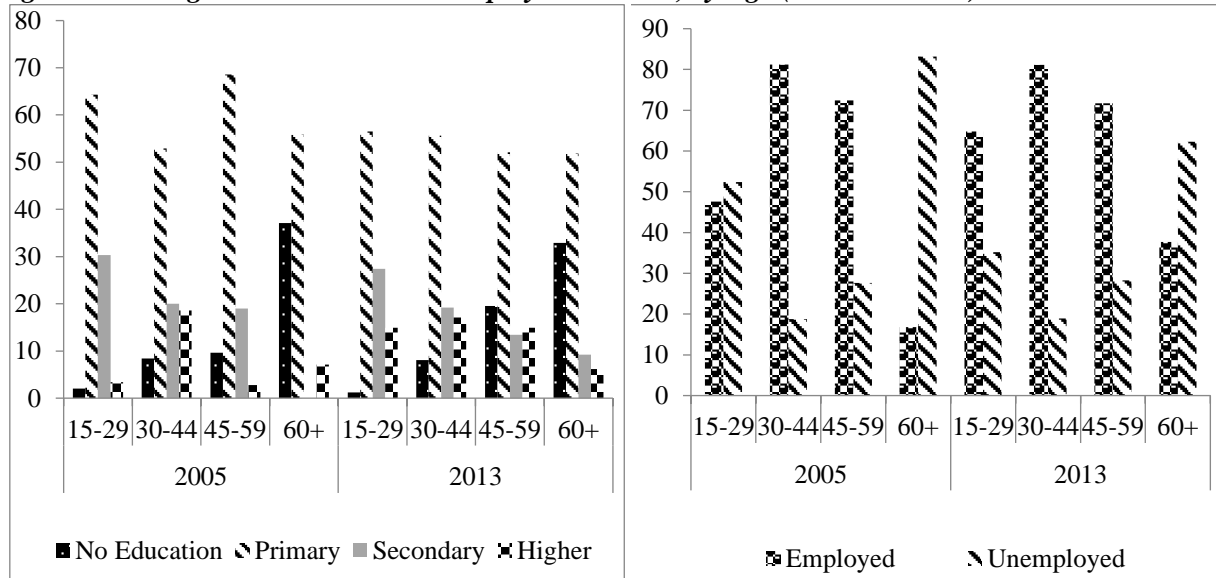
Rural to urban migration is a growing phenomenon in Ethiopia having a positive and negative development contribution for both the sending and the receiving areas. It is difficult to do a cost benefit analysis of rural to urban migration in Ethiopia based on secondary data. Nonetheless, this section attempts to discuss the consequences of rural to urban migration based on secondary data analysis and empirical literature.

Figure 4.16 shows the limits on migrant educational levels, with the majority having primary level education only. This suggests migrant skill levels are low and that unskilled migrants, especially females, are increasingly engaged in labor intensive economic activities, working as daily laborers, street vendors or domestic work. (Alemante et al., 2006; Acharya and Cervatus, 2009; McCatty, 2004). Filling a gap in labor demand can be viewed as a positive factor in rural to urban migration, but it also has negative consequences. A large proportion of youth migrants remain jobless, nearly 35% in 2013. Creating jobs for this large number of youths is a challenge, putting huge pressure on urban facilities. Moreover, social and economic opportunities seem to

mostly favor male migrants rather than female. In 2013, female migrants were twice likely to be unemployed compared to male migrants (Figure 4.16). Any effort to circumvent the gender bias in job and education opportunities will put additional pressure on urban areas.

Overall, the growing number of people moving into urban areas puts pressure on the provision of access to education and employment opportunities in urban settings. Job opportunities are insufficient to absorb the arrival of large numbers and this affects basic amenities like schools, health facilities and housing (Ralph, 2012; Habtamu, 2015).

Figure 4.16: Migrant Education and Employment status, by Age (2005 and 2013)





Source: CSA, 2005 and 2013.

Rural-urban migration can also influence the place of origin as well. The data on the causes of migration in 2005 and 2013 revealed that nearly 30% and 44% of migrants wanted to reside in urban areas with the ambition of being employed. To some extent, they have achieved their aspirations as 64% of youth and 81% of adult migrants were employed in 2013. This implies they have been able to use earned income to satisfy their need to support parents and others in the rural areas. Certainly, migration and remittances play important role in supporting rural livelihoods (Beneberu and Mesfin, 2017; Johnson and Stol 2008; Vathi and Black 2007).

There is a downside to rural to urban migration. Since it is the economically active male populations that are more migratory, the loss of human capital of rural communities is a major adverse effect. In rural areas, youth, particularly males, are usually engaged in labor intensive works to support their families. When this segment of the working age population leaves their parents, it has serious consequences on the wellbeing of the family and can slow-down the local economy (Grau and Aide, 2007).

4.4.4. Correlates of Rural–urban Migration

The results of the multivariate logistic regression model fitted to estimate the marginal effect of the socio-economic and demographic variables that are the push-pull factors of rural to urban migration in Ethiopia are presented in Table 4.6.

The marginal effect estimates¹ of the model is presented in the table. The demographic characteristics of sex age and household size are the drivers of migration. The probability of migration among males was 23% and among females 18%. Urban amenities seem to attract youth and the probability of migration among the youth is 27%. In addition, the chance of migration increases with household size. For instance, the probability of

¹ All covariates are set at observed values in the sample.

migration among rural dweller from a household of size four to five members is only 19%; it is 27% where the household size is six or more.

Table 4.6: Results of the Logistic Regression Model

	Marginal Effect	z	P> z
Sex			
Male	0.23	5.56	0.00*
Female	0.18	4.31	0.00*
Age			
<=14	0.07	1.55	0.12
15-29	0.27	6.97	0.00*
30+	0.09	1.60	0.11
Household Size			
1-3	0.16	3.38	0.00*
4-5	0.19	3.24	0.00*
6+	0.27	4.79	0.00*
Source Information			
Family	0.16	4.11	0.00*
Friends/Neighbors	0.19	3.08	0.00*
Government/Employer	0.39	3.37	0.00*
Self	0.22	3.48	0.00*
Employment Sector			
Agriculture	0.06	1.57	0.12
Construction and Manufacturing	0.16	2.43	0.02*
Trade and Service	0.25	4.19	0.00*
Education and Health	0.31	4.77	0.00*
Major Regions			
Tigray	0.06	1.10	0.27
Amhara	0.36	3.38	0.00*
Oromia	0.40	4.54	0.00*
SNNPR	0.23	3.42	0.00*

Source: Calculated by the Researcher based on the LSMS 2015/16 World Bank data.

Socio-economic and cultural factors are also correlated with rural-urban migration. The probability of rural-urban migration among those who obtained information from an employer prior to migration is 39%. Specific sectors appear more attractive to rural dwellers, with the probability of migration among those who become employed in trade and service sector being 25% and the probability of migration in the education and health sector 31%. Migration and region are also significantly associated, with the probability of rural-urban migration among those who live in Oromia, Amhara and SNNPR being 40%, 36% and 23% respectively.

4.4.5. Challenges faced by urban migrants

Migrants confront many challenges at their destination. Migrants with little or no formal education or skills find life is not as anticipated. Challenges ranges from difficulty of finding accommodation or employment, to mistreatment by employers and local government officials, the inability to be organized in associations and obtaining identification cards. One recent study showed that migrants experienced various forms of mistreatment including denial of salary, false accusations of theft, gender-based harassment, and irregular salary payments as well as labor exploitation, such as being forced to work for long hours with no overtime payment (Bundervoet 2018). In construction works, most of the time migrants are forced to work for more than 10 hours without over-time payments for fear of being fired. Those who sell goods on the street also experience harassment from the police including beating and confiscation of their goods/or property. Bundervoet (2018) also noted that migrants lack access to government services and support because urban government officials are reluctant to provide urban ID card for migrants, or

allow them to be organized in associations to access finance or a work place. The result is that migrants face difficulties in moving freely within an area, opening bank accounts, or joining or forming associations that would allow them to access loans, find affordable housing or buy subsidized goods like cooking oil and sugar from community shops.

4.5. Summary, Conclusions and Recommendations

4.5.1. Summary and Conclusions

The aim of this study was to identify the development challenges and opportunities of population dynamics and rural-urban migration in Ethiopia. It covered trends in population growth, the changes in the age structure and the emerging demographic opportunities as well as rural-urban migration and the relevant push-and-pull factors. A desk review of the relevant literature as well as pertinent policy and strategy documents/reports, analysis of secondary data obtained from the 2005 and 2013 National Labor Force surveys and data from the [World Bank's Living Standards Measurement Study \(LSMS\) 2015/16](#), was followed by analysis of secondary data to understand trends in population growth and distribution and the challenges concerning population dynamics and rural-urban migration. The study explored the causes, drivers, consequences, and prospects of rural-urban migration and population dynamics in Ethiopia. Descriptive statistics and multivariate logistic regression analysis were used in the analysis of data.

The findings show that Ethiopia is one of the developing countries with a rapidly growing population characterized by a young age structure. The median age of the population is less than 20 years, but the age structure is changing with a decline in the under-15-year population and an increase in the working age

population in both urban and rural areas. The faster change is taking place in the urban population. The country's demographic window of opportunity is being opened to enable its demographic dividend.

Overall, rural-urban migration is increasing, though this varies considerably among regions with the three major regions. Oromia, Amhara and the SNNPR predominating. These also have the largest populations. Youth and the unmarried are more disposed to migrate than the older and married people. Youth dominated the age groups, and females, the gender composition of migration particularly in 2013. Married individuals are more migratory than unmarried and married males more than married females. Availability of jobs and better employment opportunities arising from increased construction work and the demand for domestic workers are some of the key pull factors; shortage of farmland, population pressure, drought, famine, poverty and conflict are the main push factors for rural to urban migration. The largest urban recipient of migrants is Addis Ababa.

Urban opportunities for education and employment favor male migrants. While migrants' secondary and higher education completion rate is very low, a substantial number of migrants have completed their primary education, including a large proportion of female migrants. However, more male than female migrants have completed secondary education and above.

The majority of migrants are employed. However, there is a gender bias in employment, and more male than female migrants were employed in 2013.

The major causes of rural to urban migration are education, search for work and marriage. In 2013, the majority of rural to urban migrants moved to search for work. Males

constituted the largest proportion of these. Many more females than males migrated due to marriage.

Rural-urban migration has a positive effect on the destination area, filling the gap in the demand for employees in the informal sector as most migrants are unskilled. Migration, however, can also depress social and economic services in the area of destination. Quite significant numbers of migrants aged 15 to 29 who have not completed secondary or higher education remain unemployed, particularly female migrants.

This may also be due to shortage of sufficient employment opportunities in urban areas to absorb the growing labor supply of working age population. Rural male youth migration may lead to the shrinking of the labor force in rural areas and negatively affect the wellbeing of families and depress rural productivity. Conversely, migrant remittances have a positive contribution to improve family livelihoods. Families allocate remittances to child schooling, health and household consumption, which in turn contributes to the growth of rural economy.

Rural to urban migration is mostly determined by the age of individual and household size. Prior to migration, migrants can get information from their social network about where to go and find jobs, and those who obtained information from potential employers were more successful in getting jobs. The situation in Oromia, Amhara and SNNP Regions has a significant effect on migration as the larger number of migrants come from these regions.

4.5.2. Recommendations

Based on the study findings, the following recommendations are proposed:

- i. Speed up the Demographic Transition and the age structural

- change in order to accelerate the opening of the window of opportunity for harnessing the demographic dividend by providing more accessible family planning and reproductive health education and services, especially in rural areas and in areas with little or no current access;
- ii. Put more effort in improving public institutional transparency, accountability, and reducing corruption.
 - iii. Increase investments in human capital, especially skill enhancement, and focus on improving technical capabilities through the provision of quality education to respond to the labor supply of an active and growing youth population;
 - iv. Design and implement macroeconomic policies that inspire productive investment and increase employment opportunities;
 - v. Provide greater access to quality education, skill enhancement and focus on improving technical capabilities;
 - vi. Initiate appropriate development interventions to augment the contributions of rural-urban migration:
 - vii. Increase access to social services (health and education) in rural areas to improve the quality of life of the rural population;
 - viii. The variations in the scale of rural-urban migration should be acknowledged and a strategy implemented to maximize the benefits while reducing the risks of migration. This should include sensitization of local authorities and law enforcement bodies to better understand the concept migration and the reasons behind it;
 - ix. Develop policies that address the needs of the migrant labor force in general and migrant women in particular, especially in education and employment to gain maximum benefits from their contributions;

- x. Most migrants are unskilled youth with limited education, employed in the informal sector. Give access to vocational and technical training to improve their skills and reach the greater productivity and economic growth skilled migrant workers can provide;
- xi. Youths migrate from rural to urban areas due to lack land. There is need to diversify the economic opportunities available to youth in rural areas by setting up agro-allied industries in rural areas to provide job opportunities to ensure youth are integrated into the rural cash economy and guaranteed a future. Additionally, institutionalize the remittance system and increase the potential for development as well as generating savings for poor households in rural areas;
- xii.** The scale of rural-urban migration varies according to the sources of information. Migration needs to be managed effectively. Establish ICT centers in rural areas, strengthen local media and information centers, to provide reliable information and opportunities about destination areas. Given the risk of exploitation that young migrant women face in urban areas, especially those engaged in domestic work, special focus needs to be given to make urban migration safer for women.

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CHAPTER FIVE

Multi-dimensional Poverty and Inequality in Urban Ethiopia

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5. Multidimensional Poverty and Inequality in Urban Ethiopia

5.1. Introduction

Urbanization in developing countries has been viewed by some development theorists as an integral part of economic growth, poverty reduction, and distributional change (Ravallion, Chen, & Sangraula, 2007; Todaro & Smith, 2012). However, the claims have not been sufficiently supported by empirical evidence so far. Fast urbanization in developing countries over the past few decades has served more people worldwide living more in urban than in rural areas since 2007. In 2020, over 56 percent of the population in the world lives in cities/towns which are projected to reach over 68 percent by 2050 (UN, 2018). Countries in sub-Saharan Africa (SSA) register the highest recent urban growth rates averaging over 4.2 percent per annum in the last four decades (1980-2020). Over the same period, Ethiopia's urban population has grown by over 4.7 percent per annum, making 21.7 percent of the total population lives in urban areas in 2020. This is projected to be almost double to 39.1 percent (or 74.5 million people) by 2050.

Contrary to the expectations, the urbanization of SSA has rather been correlated with poverty and inequality. For example, the urban share of the money poor in the region grew steadily from 24.3 to 30.2 percent during 1993-2002 while the urban population share rose from 29.8 to 35.2 percent (Ravallion et al., 2007). Showcasing inequality and growth in most cities and towns of SSA has also been correlated with slum growth as it is evident from the

change in their slum¹ household population between 1990 and 2014 by over 115 percent to reach about 201 million (UN-HABITAT, 2016). Unregulated urban growth, natural population growth, and rural-urban migration take the blame for the overstretching rise of urban areas. The capacities of urban areas are suffering from their limits of providing employment, housing, basic services (water, health, education, electricity), etc. Owing to this, urban dwellers may be deprived of multiple welfare indicators so that poverty and inequality analyses need to pursue a multidimensional approach. A very recent estimate using surveys done in 40 SSA countries over 2010–2018 shows that over 29 percent of urban residents live in acute multidimensional poverty, representing about 86 million of 326.5 million of the 2017 urban population in the respective countries (UNDP & OPHI, 2019). In Ethiopia, the same report shows that 37 percent (or about 6 million in 16 million) of urban dwellers are poor multidimensionally.

Income or expenditure has traditionally been used as a standard indicator of welfare, aggregated as indices such as FGT (Foster, Greer, & Thorbecke, 1984) for poverty and Gini coefficient for inequality. A feature of this unidimensional approach is that it depends on market prices to compute the monetary values of the goods consumed. However, the fact that markets are imperfect in many developing countries, and that consumption includes public goods whose market prices are inexistent. The approach, however, has been put under strong criticism, calling for a systematic inclusion of nonmonetary dimensions (Tsui, 2002). The multidimensionality of welfare is

¹ A slum household is defined as that lacking one or more of the following conditions: access to improved water, access to improved sanitation, sufficient living area, durability of housing, secure tenure (UN-HABITAT, 2016).

recognized by the SSF report (Stiglitz, Sen, & Fitoussi, 2009), the ‘Atkinson’ report commissioned by the World Bank (World Bank, 2017), and very importantly by UN’s Human Development Report through the publication of multidimensional poverty and inequality indices (UNDP, 2010, 2015, 2019) and its Sustainable Development Goals (SDGs). A multidimensional approach is based on a shortfall from a threshold on indicators of someone’s wellbeing (Bourguignon & Chakravarty, 2003) and summaries can be computed on a multidimensional poverty index (MPI) (Alkire & Foster, 2009, 2011) and inequality index (Seth & Alkire, 2014).

Poverty reduction and fair distribution of resources have been among the core agenda, among others, of the Ethiopian government for years. This initiative is noted to be reflected in its policy and strategy documents including Sustainable Development and Poverty Reduction Program (SDPRP) (MoFED, 2002), Plan for Accelerated and Sustained Development to End Poverty (PASDEP) (MoFED, 2006), and Growth and Transformation Plan (GTP) I and II (MoFED, 2010; NPC, 2016). The other related efforts made by the government have helped to decline the proportion of people living in poverty in the last couple of decades. For example, over the 20-year period spanning 1995/96–2015/16, the poverty headcount rate fell gradually from 45.5 to 23.5 percent (NPC, 2017, Table 4.10). In urban areas, the percentage points drop was slightly high, from 33.2 to 14.8 percent. Other unidimensional poverty measures (poverty gap and severity indices) also dropped during the same period.

However, the absolute number of people living in poverty declined only slightly (from 25.6 to 21.4 million) over the reference period (1995/96–2015/16) (NPC, 2017, Figure 5.4). Considering, nonmonetary dimensions, the poverty situation in the country was even far higher as the percentage of the population in

multidimensional poverty was 83.5 percent (or 85.5 million people) using 2016 survey data (UNDP, 2019). Over half of the overall multidimensional poverty is contributed by deprivations in standards of living. Moreover, among all the countries considered for the global multidimensional poverty index (MPI), Ethiopia has the biggest difference between incidences of multidimensional poverty (83.5 percent) and monetary poverty (27.3 percent) based on the poverty line of \$1.90 per person per a day (UNDP & OPHI, 2019). Hence, poverty still is a worrying concern in Ethiopia and a lot of work awaits ahead to achieve the Sustainable Development Goal (SDG) number one of which is ending poverty in all its forms by 2030.

Moreover, inequality in resource distribution has been rising in Ethiopia over the past years. Official figures show that the Gini coefficient using the unidimensional (expenditure) approach increased from 0.29 to 0.33 in the country in general and from 0.34 to 0.38 in urban areas in particular between 1995/96 and 2015/16 (NPC, 2017). Though indicator of monetary inequality among people in Ethiopia is still lower than other countries in East Africa (World Bank, 2020, Figure 5.15), the fact that it is getting higher over time is worrisome. Rising inequality not only constrains the country's efforts to meet SDG number 10 of reducing inequality by 2030 and to maintain economic and social stability but also does severely undermine the poverty reduction role of economic growth. Therefore, reducing poverty and inequality should continue to be on the list of the primary tasks of the Ethiopian government. This requires, among other things, timely assessments of the documents and the existing situation using state-of-the-art methods.

Various recent empirical studies analyze poverty at the national level in Ethiopia. These include MoFED (2012), PDC

(2017), Sender (2019), Shimeles (2019), Woldehanna & Araya (2019), and World Bank (2010, 2016, 2020). The studies apply the unidimensional indicators (income or expenditure levels) to determine welfare status. However, as noted earlier, welfare is multidimensional that income or expenditure is deficient in defining one's experience of poverty. The nonmonetary indicators such as education, health, housing, clean water, sanitation, electricity supply, empowerment, employment, personal security, information, etc. need to be properly considered. The multidimensional approach to poverty is well suited to analyze these nonmonetary indicators. Yet, only a few empirical pieces of evidence are available in Ethiopia at the national level to apply such a technique (Bersisa & Heshmati, 2016; Goshu, 2019; Seff & Jolliffe, 2016; Tigre, 2018; World Bank, 2015). For urban Ethiopia, no recent systematic evidence is available to investigate poverty in this framework.

With regard to inequality, previous studies in Ethiopia at the national level (Geda, Shimeles, & Weeks, 2009; Woldehanna & Araya, 2019) and subnational level (Nebebe & Rao, 2016; Teka, Woldu, & Fre, 2019) primarily use the unidimensional (expenditure-based) Gini coefficients. Despite the multidimensionality of inequality in resource distribution (UNDP, 2015), official inequality estimates are also unidimensional (MoFED, 2012; NPC, 2017). Some analyze inequality using a dashboard of monetary and nonmonetary outcomes (Argaw, 2017; Kedir, 2015). Only a couple of studies attempt to assess multidimensional inequality at the national level (Goshu, 2019; Tigre, 2020). In fact, UNDP has recently started reporting multidimensional inequality indices alongside its MPI for over 100 countries including Ethiopia (UNDP, 2019; UNDP & OPHI, 2019). However, there are virtually no studies that adapt recent

developments in multidimensional welfare analyses to the urban context in Ethiopia. Apart from providing index estimates, these reports also lack detailed contextual investigations and disaggregation by population groups and indicators.

Hence, this study seeks to assess multidimensional poverty and inequality thereby filling the existing evidence gaps and directing the future needful policy interventions in Ethiopia. To be more specific, it attempts to answer the following research questions.

(i) What are the extents of monetary poverty and inequality at the national and regional levels?

(ii) What are the levels of multidimensional urban poverty and inequality at the national, regional, and other population group levels?

(iii) Which are the sources of multidimensional urban poverty and inequality?

(iv) How are the extents of macro-context and the micro-level multidimensional urban poverty and inequality linked?

(v) What are the constraints to, and opportunities and policy options for reducing multidimensional urban poverty and inequality in Ethiopia?

The study employs available advanced methods in the unidimensional and multidimensional welfare analysis. It primarily uses Ethiopia's LSMS-ISA dataset in addition to data and information collected from CSA, NPC, NBE, and other sources. The remaining part of the study is organized as follows. The next section presents the research methods including the data type and sources. After results on multidimensional poverty and inequality are presented and discussed, conclusions and policy implications lead to the summary of the study.

5.2. Research Methods

An important step in multidimensional welfare analysis is deciding on the choice of dimensions and their indicators. The first step is to choose dimensions and indicators of poverty and inequality related to the literature, the SGDs, and the global MPI, pertaining to be relevant to the Ethiopian urban context. Different poverty and inequality indices are considered. Once FGT class of the unidimensional indices of poverty (Foster et al., 1984) and Gini coefficients for inequality is estimated, they are extended to indices of multidimensional poverty (Alkire & Foster, 2011) and inequality (Seth & Alkire, 2014). After the estimates and their distributions across socioeconomic and regions are presented and discussed, contributions of those groups and dimensions/indicators to overall poverty are analyzed. Although the household is used as a unit of analysis, two of the four dimensions, namely, education and health, contain individual-level information. An attempt has been made to link macroeconomy and urbanization. Besides non-parametric estimates, econometric models are estimated to have an idea of the correlates of multidimensional poverty and inequality in urban Ethiopia. In what follows, there is a discussion related to the identification and aggregation of monetary and multidimensional poverty and inequality; technical details are available in the Appendix 2.

5.2.1. Dimensions and Indicators

Twelve indicators are categorized in four dimensions that can represent the welfare of the household. Some of the indicators capture access to and utilization of basic infrastructural services such as education, health, water, sanitation, electricity, housing.

Others measure food and non-food poverty as well as access to information. The fact that children's deprivations considering through nutrition and education also helps capture the future welfare of society. The dimensions, indicators, and their deprivation cut-offs are chosen based on the literature, SDGs², and global MPI. Yet, attempts are made to customize them to the Ethiopian urban context. **Error! Reference source not found.** Table 5.1 provides the selected dimensions, indicators, weights, and deprivation thresholds for constructing multidimensional poverty and inequality indices.

² SDG=Sustainable Development Goal. SDG1.2: Reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions. SDG2.2: End all forms of malnutrition. SDG4.1: Ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes. SDG4.6: Ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy. SDG6.1: Achieve universal and equitable access to safe and affordable drinking water for all. SDG6.2: Achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations. SDG7.1: Ensure universal access to affordable, reliable and modern energy services. SDG11.1: Ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.

Table 5.1: Dimensions, indicators, weights and deprivation cut-offs for multidimensional welfare

<i>Dimension (weight)</i>	<i>Indicator (weight)</i>	<i>Deprivation cut-off</i>	<i>Indicator in Global MPI?</i>
Education (1/4)	Formal education (1/8)	Any household member has no formal education (SDG4.6).	Yes
	Child enrolment (1/8)	School-age child not currently attending school (SDG4.1).	Yes
Health (1/4)	Child nutrition (1/12)	Child (6-83 months-old) is stunted (height-for-age z-score<-2)(SDG2.2; WHO).	Yes
	Safe water (1/12)	Unsafe source of drinking water (SDG6.1; WHO).	Yes
	Sanitation (1/12)	Unimproved toilet facility (SDG6.2).	Yes
Living standards (1/4)	Electricity (1/20)	No access to electricity (SDG7.1).	Yes
	Cooking fuel (1/20)	No improved cooking fuels (SDG7.1).	Yes
	Overcrowding (1/20)	Over 3 people live per room (SDG11.1; UN-Habitat).	New
	Floor (1/20)	Floor is natural, non-permanent material (SDG11.1).	Yes
	Information (1/20)	No TV/ radio/mobile phone/ fixed phone.	New
Monetary poverty (1/4)	Food poverty (1/8)	Adult per-capita food expenditure is below the national food poverty line (SDG1.2; NPC).	New
	Non-food poverty (1/8)	Adult per-capita non-food expenditure is below the national non-food poverty line (SDG1.2; NPC).	New

Note: WHO=World Health Organization. PDC= Planning and Development Commission. TV=Television.

The tool developed by Alkire & Foster (2009, 2011), implemented by (UNDP, 2010) since 2010 and Alkire & Santos (2014) for a host of countries and referred to by many as the global MPI, is a widely accepted framework for multidimensional poverty analysis. The global MPI primarily uses Demographic and Health Surveys (DHSs) for its data needs but advises contextualizing choices of dimensions and indicators according to the needs. Hence, this chapter first opts for using LSMS rather than DHS dataset since the former contains income and expenditure data that DHSs lack. Second, given that housing is one challenge in many urban settings, it is considered that the number of people living per room above a certain limit (overcrowding) is one deprivation that is not available in the global MPI. Third, our indices contain a monetary poverty dimension. Yet, we keep eight indicators of the global MPI with a little adjustment of moving drinking water and sanitation deprivations to the health dimension.

Education is an important indicator of present and future capability. Two indicators—years of schooling and compulsory child school enrolment form the education dimension. Whether any household member has no formal education captures deprivation in years of schooling while deprivation in child school enrolment is measured by the presence of any school-age child not in school. Indicator of school enrolment for children of compulsory school-age, which is 7 to 17 years in Ethiopia, is widely used in the literature (Alkire & Santos, 2014; Seff & Jolliffe, 2016) and it goes in line with the national standards and SDG targets.

The health dimension is represented by three indicators capturing lacks in human capital functioning and other health issues. The first is child nutrition measured in terms of stunting. Following Seff & Jolliffe (2016) and WHO (2006), two more

indicators are employed that are traditionally included in the standards of living dimension (access to safe drinking water¹ and sanitation) to strengthen the health dimension. Education and health dimensions represent the extent of access to and utilization of basic infrastructural services and contain certain elements of intrahousehold inequality.

The five indicators in the living standards dimension are similar for all members and capture the household public goods component of welfare. They primarily measure deprivations in other basic services including housing, electricity, cooking fuel, and information. Housing is one of the major problems in urban Ethiopia where it is noted here as to whether over three people live per room (Santos & Villatoro, 2018). The quality of the floor is another housing indicator. The choice of informational assets over all other assets is also motivated by the literature and applied to Ethiopian data (Plavgo et al., 2013). Deprivation cut-offs of the indicators are chiefly taken from SDG targets and the national ones.

As can be seen from Table 5.1, monetary poverty is incorporated as a fourth dimension. The monetary dimension may be considered as capturing both present and future capabilities. It is composed of two indicators namely, food poverty and non-food poverty. Consumption aggregates into food and non-food expenditure as done by the World Bank's LSMS team are used and compared with the country's official absolute poverty lines (NPC, 2017). One challenge of including a monetary indicator is its possible correlation with nonmonetary indicators which may

¹ This is captured by improved water sources defined as consisting of water piped into a dwelling, water piped into a yard or plot, a public tap or standpipe, a tube-well or borehole, a protected dug well, a protected spring, bottled water, or rainwater (WHO, 2006).

ultimately affect weights given to them. However, using a similar dataset used here, Seff & Jolliffe (2016) find that monetary and multidimensional poverty are not correlated. There is a growing research favoring the inclusion of a monetary dimension in multidimensional welfare measurement (Atkinson, 2003; Sen, 1999; Stiglitz et al., 2009). For example, Sen notes that “the role of income and wealth has to be integrated with a broader and fuller picture of success and deprivation” (Sen, 1999, p.20). Recent works have also estimated multidimensional poverty indices with monetary poverty (Bersisa & Heshmati, 2016; Burchi, Rippin, & Montenegro, 2018; Goshu, 2019; Rippin, 2016; Santos & Villatoro, 2018; World Bank, 2018). Bersisa & Heshmati (2016) and Goshu (2019), in their multidimensional poverty index for Ethiopia, include a monetary dimension with an indicator taking 1 if the household’s adult per-capita expenditure is below the national poverty line. World Bank’s first multidimensional poverty indices for various countries also incorporate a monetary indicator that the household consumes below the US\$1.90 per day per person line (World Bank, 2018).

5.2.2. Aggregation of Multidimensional Poverty and Inequality

The study follows the procedures of the AF framework (Alkire & Foster, 2009, 2011) to identify households as multidimensionally poor. These tools provide raw (unweighted) deprivation headcount ratios for each indicator which are equivalent to the headcount ratio of the FGT family of indices. Then, attempts are made to compute AF multidimensional poverty indices and undertake subgroup decomposition. Multidimensional poverty and inequality among the multidimensionally poor are also computed based on Seth & Alkire (2014). For the

multidimensional analyses, the procedures also provide weighted deprivation count, censored multidimensional poverty headcount ratio, the average intensity of deprivations, adjusted multidimensional poverty index, and a multidimensional inequality index. Details of the aggregation are available in the Appendix.

As noted by Sen (1976), a measure of poverty needs to satisfy three important aspects namely, incidence, intensity, and inequality. The AF counting approach to poverty based on ordinal indicators, however, lacks the inequality aspect (Burchi et al., 2018; Rippin, 2016; Seth & Alkire, 2014). A poverty measure that is insensitive to inequality does not provide incentives to the policymaker to prioritize the conditions of the poorest state. In other words, a measure of inequality is needed in order to understand whether a poverty alleviation policy has been equitable across the poor. Although the multidimensional poverty index can still be decomposable, it is inconclusive regarding the disparity across socio-demographic subgroups. This study, therefore, employs the measure suggested by Seth & Alkire (2014). Abeje et al. (2019) also applied it to Ethiopian data. The traditional Gini coefficient (G) is also used to measure inequality in monetary terms (consumption expenditure).

Lastly, to gain an understanding of the significant correlates of single deprivations, monetary poverty, multidimensional poverty, and inequality, the available econometric models are estimated. Such analyses supplement non-parametric descriptions of the link between extents of macro-context and micro-level multidimensional urban poverty and inequality. Besides the analysis help identify constraints, opportunities, and policy interventions for reducing poverty and inequality in urban Ethiopia.

5.2.3. *The Dataset: Ethiopia Socioeconomic Survey*

The study primarily uses the urban sub-sample of the 2015/16 wave of Ethiopia Socioeconomic Survey (ESS). Collected jointly by the World Bank and the Central Statistical Agency (CSA) as part of the Living Standard Measurement Study-Integrated Surveys of Agriculture (LSMS-ISA) project, ESS was initiated in 2011/12 in rural and small towns. It is 2013/14 and 2015/16 waves that include samples from medium and large towns. ESS uses a stratified, two-stage design where regions of Ethiopia serve as the strata (CSA & World Bank, 2017). While the first stage involves a selection of primary sampling units or enumeration areas (EAs), the second stage entails the selection of households using simple random sampling. In 2015/16, a total of 4,954 households were interviewed which hosts over 23,393 individuals. A third of them in which this study focuses on were sampled from urban areas (small, medium, and large towns²). Data cleaning produces a usable urban sample of 1,625 households (411 or 25% from small towns and 1,214 or 75% from the medium, and large towns) (Table A 1: in Appendix). As expected, the majority were drawn from the largest regions of Oromia (21%), Amhara (18%), and 15% were also sampled from the city of Addis Ababa.

ESS is a multi-topic survey containing individual-, household- and community-level data on a range of modules. Individual data on demographics, education, health, expenditures, and time use are also collected while household data include expenditure, assets, shocks, non-farm enterprises, credit, and farm production. Moreover, community-level data on various social

² CSA's definition of town size is used: Small town: <10,000 population; medium town: 10,000-100,000 & big town/city: >100,000 (CSA & World Bank, 2017). However, ESS does not discriminate between medium and large.

services as well as on prices from local markets are available. Data for the dimensions of multidimensional poverty and inequality analysis are extracted from the various modules of ESS.

Although ESS is the principal data source, the study also used data and information from other sources. For example, data on urbanization are collected from CSA; information on microfinance comes from the National Bank of Ethiopia, and government expenditure and related official statistics are obtained from the National Planning and Development Commission (NPC).

5.3. Multidimensional Welfare Measures

The study uses some dimensions that should be considered in measuring welfares. Below are presentations on multidimensional measuring welfares.

5.3.1. Characteristics of Urban Households

Table 5.2 provides the characteristics of households for the full urban sample and by town size. Forty one percent of them are headed by females which is slightly higher in the medium than they are in large towns (43%). The head's average age is 42 years and 37% of them are younger than 35 years but those in medium and large towns are significantly younger than 35. The average household size is 3.9 persons.

Over the year preceding the survey, 15% of the households took credit of at least birr 500. More than a third of them have at least one migrating member over the past two years for various reasons. The migrating rate reaches almost half in small towns. In a tenth of the households, there exists some form of child labor and it is over thrice more prevalent in small towns (20%) than in medium and large towns (6%). While illiteracy is significantly

higher in small towns (42%) than in medium/large towns (23%), as they are not completing a certain level of education.

Overall, food and non-food monthly expenditures are significantly higher among households living in medium/large towns than in small towns. International remittances are received by about 1 in 10 urban households. Price and non-price shocks are also rampant in urban Ethiopia. For example, 30% of them suffer from food price rises during the previous year with no significant disparities by town size. Health, primary school, and microfinance branches are reported to be available at community (enumeration area) levels in over two-thirds of the households though small towns are better than medium or large towns.

Table 5.2: Demographic and socioeconomic characteristics of urban households by town size

<i>Variable</i>	<i>All urban Ethiopia</i>		<i>Small town</i>	<i>Medium & large</i>	<i>Test for difference</i>
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>Mean</i>	<i>p-value</i>
Household head is female	0.41	0.492	0.39	0.43	0.123
Household head's age	42.25	14.941	44.29	43.45	0.049**
Household head is young (<35y)	0.37	0.482	0.27	0.35	0.003***
Household size	3.88	2.127	4.35	3.84	0.000***
Household head is married	0.59	0.492	0.65	0.56	0.003***
Household head is Christian	0.82	0.387	0.73	0.82	0.002***
Household head is Muslim	0.18	0.384	0.26	0.18	0.002***
Household has migrant members	0.38	0.485	0.48	0.32	0.000***
Household head is working	0.58	0.493	0.57	0.57	0.926
Any child is working	0.10	0.297	0.20	0.06	0.000***
Share of females in working age (15-60y)	0.56	0.302	0.55	0.56	0.420
Head's education: illiterate	0.26	0.438	0.41	0.23	0.000***
Head's education: elementary	0.29	0.453	0.29	0.32	0.282
Head's education: high school	0.22	0.416	0.11	0.22	0.000***
Head's education: above high school	0.23	0.422	0.18	0.23	0.044**
Monthly expenditure (adult equivalent)	885.44	675.314	697.74	1027.43	0.001***

<i>Variable</i>	<i>All urban Ethiopia</i>		<i>Small town</i>	<i>Medium & large</i>	<i>Test for difference</i>
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>Mean</i>	<i>p-value</i>
Monthly food expenditure (ad. eq.)	577.71	513.900	480.03	668.75	0.027**
Monthly non-food expenditure (ad. eq.)	261.49	263.327	201.05	302.11	0.001***
Household owns the dwelling	0.48	0.500	0.66	0.42	0.000***
Taken credit of at least birr 500 in a year	0.15	0.353	0.14	0.15	0.550
Received international remittances	0.09	0.281	0.06	0.10	0.003***
Shock faced: food price rise	0.29	0.455	0.27	0.32	0.033**
Shock: non-price	0.11	0.309	0.11	0.10	0.443
Community has health clinic	0.76	0.428	0.85	0.74	0.000***
Community has public primary school	0.76	0.425	0.80	0.76	0.095*
Community has microfinance institution	0.69	0.464	0.74	0.68	0.028**

Notes: SD=Standard deviation. *, ** & *** show an estimate in small towns is statistically different from that in medium/large towns at 10%, 5% & 1% level, respectively. For categorical variables, proportion test is used. All observations are weighted to make estimates representative.

Source: Based on data from ESS 2015/16.

5.3.2. Unidimensional Poverty, Deprivations, and Inequality

Measuring welfare using only monetary indicators gives poverty incidence, intensity/gap, and severity at 38%, 13%, and 6%, respectively (). Corresponding official figures during the same year (2015/16) in urban Ethiopia are much lower at 15%, 4%, and 1.4% (NPC, 2017)¹. Although the incidence of monetary poverty does not significantly vary with the head's sex, the gap and severity of poverty are higher among female-headed households. Households in small towns are worse off in all measures of monetary poverty. Unlike previous findings (Goshu, 2019; NPC, 2017), the estimates show that urban monetary poverty measures are lower than the national averages in Addis Ababa and in regions with a higher rate of urbanization in regions such as Tigray.

Urban monetary poverty in the regions of the Amhara and the SNNP fall above the national averages. Monetary inequality measure (Gini coefficient) based on consumption expenditure in urban Ethiopia is estimated to be 0.37 which contrasts with the official figure of 0.38 during the same period (2015/16). Differences exist when disaggregated by town size and regions where the metropolitan Addis Ababa has the lowest Gini at 0.31 while urban areas of the SNNP region are the most unequal at Gini of 0.46.

¹ However, this should be taken cautiously; ESS's food expenditure data are on selected items which may overestimate food and overall poverty rates.

Table 5.3: Monetary poverty and inequality indices in urban Ethiopia: 2015/16

	<i>Poverty headcount (P₀)</i>	<i>Poverty gap (P₁)</i>	<i>Poverty severity (P₂)</i>	<i>Gini Coefficient t(G)</i>
All urban Ethiopia	0.38	0.13	0.06	0.37
Head's sex				
<i>Male</i>	0.37	0.12**	0.05**	0.37
<i>Female</i>	0.41	0.15	0.07	0.37
City/town size				
<i>Medium/large</i>	0.33***	0.10***	0.04***	0.35
<i>Small town</i>	0.55	0.22	0.12	0.37
Urban region				
<i>Addis Ababa</i>	0.26	0.07	0.03	0.31
<i>Amhara</i>	0.50	0.17	0.08	0.35
<i>Oromia</i>	0.37	0.13	0.07	0.34
<i>SNNP</i>	0.39	0.14	0.07	0.46
<i>Tigray</i>	0.32	0.09	0.03	0.36
<i>Other regions</i>	0.37	0.15	0.08	0.34

Notes: *, ** & *** show an estimate of a group (e.g., male) is statistically different from that of the other group just below it (e.g., female) at 10%, 5% & 1% level, respectively. ¹In 2015/16, official annual adult equivalent poverty line was birr 7,184 (NPC, 2017). All observations are weighted to make estimates representative. SNNP=Southern Nations, Nationalities and Peoples. “Other regions” represents the regions of Afar, Benishangul-Gumuz, Gambella, Harari and Somali, and Dire Dawa city administration. ESS data are not separately representative in these regions.

Source: Based on data from ESS 2015/16.

Nonmonetary deprivation rates for the whole sample and by selected socioeconomic groups are presented in Table 5.4.

Monetary poverty indicators are also reported to give a complete picture. In general, there is a considerable deprivation in indicators of living standards with a high prevalence of food and non-food poverty. There also exist certain disparities in deprivations when disaggregated by the head's sex and town size. Deprivations in education in urban Ethiopia are the lowest of all the deprivations measured. Six percent of households have no member receiving formal education with a similar proportion reporting to host a school-age child not in school during the time of the survey. In a tenth of the households, their lives at least one under-seven-year-old child whose height-for-age is below WHO's standards (stunted). This child nutrition deprivation is substantially higher in male-headed households (13%) than in female-headed ones (5%). Drinking water is not safe for 7% of the urban households in the sample and female-headed households are slightly worse off (9%). Sanitation constitutes the largest deprivation within the health dimension where 27% of the households lack improved sanitation facilities, reaching as high as 39% of them among households in small towns.

Table 5.4: Unidimensional deprivations in monetary and nonmonetary welfare indicators in urban Ethiopia by head's sex and location: 2015/16

<i>Dimension</i>	<i>Indicator</i>	<i>All sample: urban Ethiopia</i>	<i>Head's sex</i>		<i>Town size</i>	
			<i>Male</i>	<i>Female</i>	<i>Medium/ large town</i>	<i>Small town</i>
<i>Education</i>	Formal education	0.06 (0.008)	0.04** (0.010)	0.07 (0.012)	0.05 (0.008)	0.08 (0.020)
	Child enrolment	0.06 (0.006)	0.05 (0.009)	0.06 (0.010)	0.06 (0.007)	0.06 (0.011)
<i>Health</i>	Child nutrition	0.10 (0.012)	0.13*** (0.016)	0.05 (0.010)	0.09 (0.013)	0.12 (0.026)
	Safe water	0.07 (0.016)	0.06* (0.012)	0.09 (0.025)	0.08 (0.019)	0.06 (0.022)
	Sanitation	0.27 (0.027)	0.26 (0.029)	0.29 (0.034)	0.23*** (0.030)	0.39 (0.053)
<i>Living standards</i>	Electricity	0.10 (0.032)	0.07 (0.020)	0.15 (0.056)	0.09 (0.041)	0.14 (0.039)
	Cooking fuel	0.80 (0.030)	0.80 (0.033)	0.80 (0.034)	0.75*** (0.039)	0.95 (0.019)
	Over-crowding	0.13 (0.013)	0.15* (0.018)	0.10 (0.017)	0.12 (0.015)	0.16 (0.031)

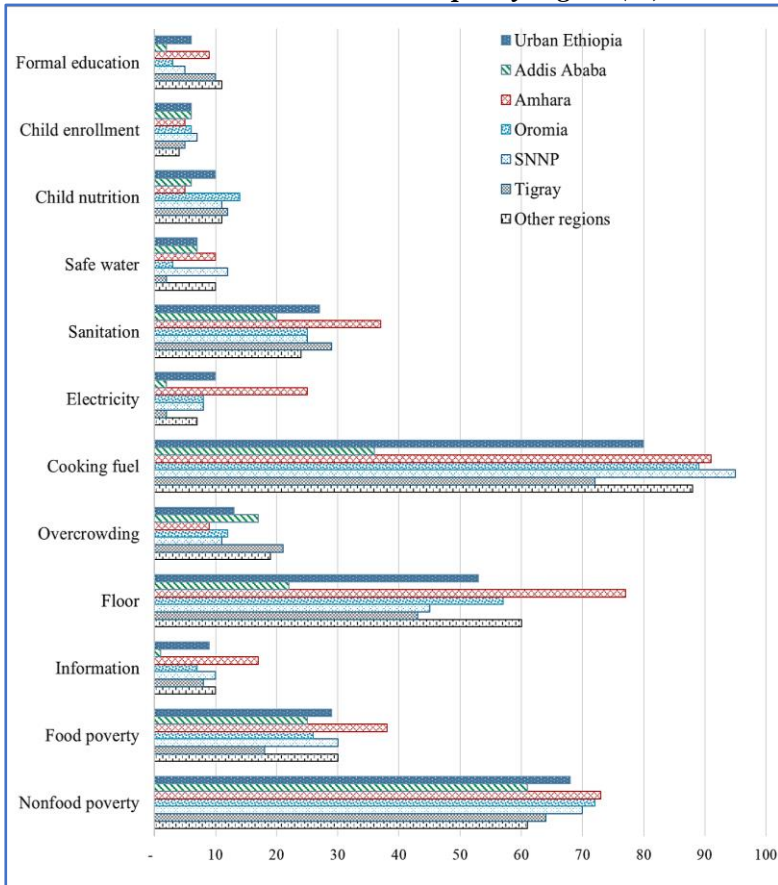
<i>Dimension</i>	<i>Indicator</i>	<i>All sample: urban Ethiopia</i>	<i>Head's sex</i>		<i>Town size</i>	
			<i>Male</i>	<i>Female</i>	<i>Medium/ large town</i>	<i>Small town</i>
	Floor	0.53 (0.036)	0.50 (0.037)	0.56 (0.044)	0.47*** (0.046)	0.73 (0.041)
	Information	0.09 (0.016)	0.05*** (0.012)	0.15 (0.026)	0.07*** (0.020)	0.18 (0.027)
Monetary poverty	Food poverty	0.29 (0.023)	0.27* (0.026)	0.32 (0.027)	0.25*** (0.025)	0.42 (0.047)
	Non-food poverty	0.68 (0.023)	0.69 (0.028)	0.68 (0.028)	0.64*** (0.027)	0.81 (0.033)

Notes: *, ** & *** show an estimate of a group (e.g., male) is statistically different from that of the other group just on the right (e.g., female) at 10%, 5% & 1% level, respectively. ¹In 2015/16, official annual adult equivalent food, non-food and overall poverty lines were birr 3772, 3412 and 7184 respectively (NPC, 2017). Standard errors in parentheses. All observations are weighted to make estimates representative.

Source: Based on data from ESS 2015/16.

Deprivations in indicators of living standards are among the highest in urban Ethiopia. For example, a tenth of the households has no electricity while a staggering 80% (95% in small towns) use unimproved cooking fuel. With regard to the housing problem, 13% of households have at least three of their members living in a single room. Over half of the houses have their floor made from natural, non-permanent material. This deprivation reaches about three quarters in small towns and is yet a major concern in medium and large towns (47%). About 1 in 10 households (as high as 1 in 5 in small towns) is disconnected from current information due to a lack of information-providing assets. People in female-headed households are also highly deprived of information (15%). Food poverty is also high in urban Ethiopia where 29% are not able to meet the national poverty line of birr 3772 per year per adult equivalent. Female-headed households (32%) and those living in small towns (42%) are the most affected in food poverty, and yet a quarter living in medium and large towns are food-poor. During the same period (2015/16), the official food poverty headcount rate in urban Ethiopia was reported to be 15% while it was 28% in 2010/11 and 35% in 2004/05 (NPC, 2017). Non-food poverty at 68% is over twice higher than food poverty and it significantly varies by town size.

Figure 5.1: Deprivations in monetary and nonmonetary indicators in urban Ethiopia by region (%)



Notes: All observations are weighted to make estimates representative. SNNP=Southern Nations, Nationalities and Peoples. “Other regions” represents the regions of Afar, Benishangul-Gumuz, Gambella, Harari and Somali, and Dire Dawa city administration. ESS data are not separately representative in these regions.

Source: Based on data from ESS 2015/16.

The regional disparity in raw deprivations is depicted in Figure 5.1. Substantial variations exist in deprivations in almost all indicators across regions in urban Ethiopia. Compared with the national urban average (6%), deprivation in formal education is higher in Tigray (10%), Amhara (9%), and other less populated regions (11%). However, Addis Ababa (2%) and Oromia (3%) are better performers. Deprivation in child enrolment is almost fairly distributed in all regions. Nutrition deprivation measuring under-7-years-old-child is stunted in the household which is the highest in Oromia followed by Tigray, the SNNP, and other regions. With regards to access to safe drinking water, the SNNP (12%), the Amhara (10%), and other regions (10%) have deprivations above the national average of 7%. Lack of sanitation is among the deprivations having big regional differences with the Amhara region (37%) followed by Tigray (29%) performing poorly compared with Addis Ababa (20%).

The Amhara region is an outlier in terms of lack of access to electricity with 25% of urban households deprived while the national average is 10% and 2% in Addis Ababa. Use of unhealthy cooking fuel is the most widespread across all regions in Ethiopia. This deprivation ranges from 95% in the SNNP region to 36% in Addis Ababa. Housing deprivation in terms of overcrowding also exhibits regional disparities ranging from 21% in Tigray to 9% in the Amhara region. However, housing quality is questionable as 77% of households in the Amhara region live in houses whose floor are built with only natural and non-permanent materials. Oromia and other regions also have floor deprivations higher than the national average. Housing floor deprivation is expectedly the lowest in Addis Ababa (22%) compared with other urban areas in the country though it is higher for a metropolitan city. This adds to the result that the City has one of the highest crowds (17%) in the

country. Information deprivation is the lowest in Addis Ababa and is the highest in urban areas of Amhara region. With regard to food poverty, except for the outliers Amhara region (38%) and Tigray (18%), the headcount figures remain between 25% and 30% respectively. Apart from worrisome higher incidences throughout, no substantial differences are noticed among regions on non-food poverty.

Before analyzing the overall picture of poverty and inequality in a multidimensional context, it is worthwhile to see the deprivation score which is the weighted sum of deprivations in all indicators. The score is depicted as a density curve in Figure A.1 in the Appendix, disaggregated by town size and region. There exist large disparities in overall household deprivation across towns and regions. Notably, small towns and the Amhara region have the highest accumulation of multidimensional deprivation in urban Ethiopia since their distribution curve remains atop other comparison groups. In contrast, medium and large towns, and hence Addis Ababa, have the lowest cumulative deprivations.

5.3.3. Multidimensional Poverty and Inequality

The multidimensional poverty and inequality measures analysis is presented below with the distribution multidimensional welfare by gender and location.

5.3.3.1. Overall multidimensional poverty and inequality measures

Multidimensional poverty and inequality measures in urban Ethiopia are summarized in Table 5.5. There exists a high incidence of multidimensional poverty (H) where 30% of the households live below the multidimensional poverty line with high intensity (A) reaching 45% of deprivation in weighted indicators. The figures make the adjusted multidimensional poverty index

(M) 0.13. Using DHS 2016 data, UNDP & OPHI (2019) estimate the incidence, intensity, and an adjusted MPI in urban Ethiopia as 37%, 44%, and 0.16 respectively although they do not include a monetary poverty dimension.

With regard to multidimensional inequality, the overall index in urban Ethiopia is estimated to be 0.10 while the inequality among the multidimensionally poor is 0.048. A nearly similar index for inequality among the multidimensionally poor for Ethiopia reported at the Human Development Report using DHS 2016 data is 0.024 (UNDP, 2019) whereas Seth & Alkire (2014) estimate a high value of 0.129 for 2011, hinting that inequality among the poor rose between 2011 and 2016. In contrast, using a different approach to estimate for urban and rural areas, Goshu (2019) finds that multidimensional inequality increases with urbanization.

The issue of how multidimensional poverty and inequality vary with the choice of multidimensional poverty cut-off is an important point in the study. These measures thus are estimated at various cut-offs whose results are summarized in Table A.2 in the Appendix. At the worst extreme scenario, when the multidimensional poverty line is taken as being deprived in at least 5% of the weighted indicators ($k=0.05$), 95% of households are multidimensionally poor at an average intensity of 28% making an adjusted MPI of 0.26. Inequality among the multidimensionally poor stands at 0.094. At the other extreme cut-off of 0.80 or more, only 0.1% are poor with the average intensity of 85% but almost no one is in MPI. Inequality among the multidimensionally poor is 0.001 implying almost all at the highest deprivation cut-off are equally poor. Recall that when the weighted deprivation score falls in the range 0.20–0.33, a household is vulnerable to multidimensional poverty, while at 0.50 or higher, severe

multidimensional poverty sets in. Accordingly, another 30% are at risk of sliding into multidimensional poverty in urban Ethiopia while 7% live in severe multidimensional poverty.

Table A 2:. Multidimensional poverty and inequality at various cut-offs in urban Ethiopia: 2015/16

<i>Multidimensional welfare measure</i>	<i>Multidimensional poverty cut-off (k)</i>						
	<i>k=0.05</i>	<i>k=0.10</i>	<i>k=0.20</i>	<i>k=0.33</i>	<i>k=0.50</i>	<i>k=0.67</i>	<i>k=0.80</i>
Multidimensional poverty headcount (H)	0.95 (0.011)	0.87 (0.016)	0.60 (0.029)	0.30 (0.024)	0.07 (0.011)	0.01 (0.005)	0.001 (0.001)
Average intensity of deprivation (A)	0.28 (0.009)	0.30 (0.008)	0.36 (0.007)	0.45 (0.008)	0.62 (0.011)	0.75 (0.016)	0.85 (0.003)
Adjusted multidimensional poverty index (M)	0.26 (0.010)	0.25 (0.011)	0.21 (0.013)	0.13 (0.012)	0.04 (0.007)	0.01 (0.004)	0.00 (0.001)
Inequality among the multidimensionally poor (<i>Ih</i>)	0.094 (0.007)	0.083 (0.006)	0.063 (0.006)	0.048 (0.007)	0.028 (0.006)	0.012 (0.004)	0.001 (0.000)

Table 5.5: Multidimensional poverty and inequality indices in urban Ethiopia: 2015/16

	<i>Multi-dimensional poverty headcount (H)</i>	<i>Average intensity of deprivations (A)</i>	<i>Adjusted multi-dimensional poverty index (M)</i>	<i>Multi-dimensional inequality (I)</i>	<i>Inequality among the multidimensionally poor (I_h)</i>
Urban Ethiopia	0.30	0.45	0.13	0.10	0.048
Head's sex					
<i>Male</i>	0.29*	0.44*	0.12*	0.09**	0.039**
<i>Female</i>	0.33	0.47	0.15	0.12	0.057
City/town size					
<i>Medium/large</i>	0.25***	0.45	0.11***	0.10	0.045
<i>Small town</i>	0.49	0.46	0.22	0.10	0.051
Urban region					
<i>Addis Ababa</i>	0.14	0.41	0.05	0.07	0.024
<i>Amhara</i>	0.43	0.46	0.20	0.11	0.045
<i>Oromia</i>	0.32	0.44	0.14	0.10	0.043

	<i>Multi-dimensional poverty headcount (H)</i>	<i>Average intensity of deprivations (A)</i>	<i>Adjusted multi-dimensional poverty index (M)</i>	<i>Multi-dimensional inequality (I)</i>	<i>Inequality among the multidimensionally poor (I_h)</i>
<i>SNNP</i>	0.31	0.46	0.14	0.11	0.057
<i>Tigray</i>	0.24	0.43	0.10	0.08	0.021
<i>Other regions</i>	0.30	0.46	0.14	0.12	0.086

Notes: $k=0.33$ is used as multidimensional poverty cut-off. *, ** & *** show an estimate of a group (e.g., male) is statistically different from that of the other group just below it (e.g., female) at 10%, 5% & 1% level, respectively. All observations are weighted to make estimates representative. Standard errors are not reported for brevity; they can be available upon request. SNNP=Southern Nations, Nationalities and Peoples. “Other regions” represents the regions of Afar, Benishangul-Gumuz, Gambella, Harari and Somali, and Dire Dawa city administration. ESS data are not separately representative in these regions.

Source: Based on data from ESS 2015/16.

5.3.3.2. Distribution of multidimensional welfare by gender and location

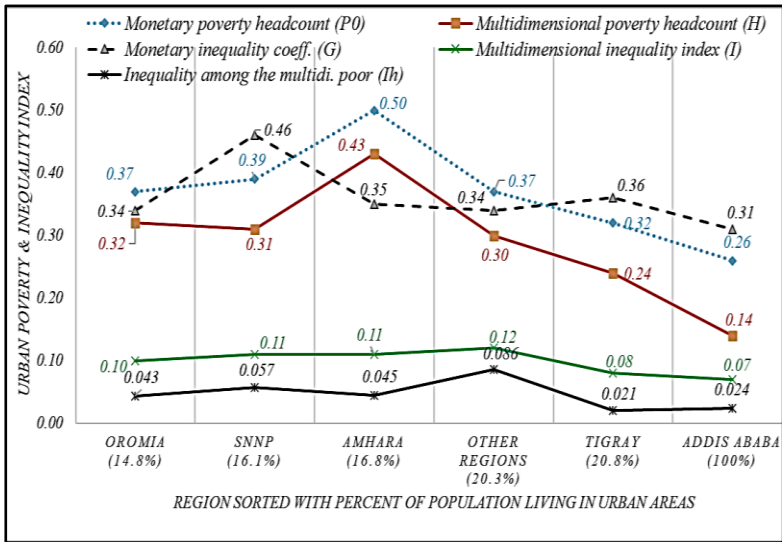
Female-headed families are also worse off on multidimensional welfare. Multidimensional poverty is significantly higher in households headed by females (0.15) compared to those headed by their males' counterparts (0.12) (Table 5.5). The difference comes from both the incidence and intensity of poverty. Multidimensional inequality and the inequality among the multidimensionally poor are also substantially higher among female-headed households than the national urban average and male-headed households.

Regarding the distribution across regions, considerable disparities are observed particularly in the proportion of people living in multidimensional poverty. Like in the case of single and weighted deprivations, households in the urban Amhara region at incidence, intensity, and adjusted MPI of 43%, 46%, and 0.20, respectively, are the most multidimensionally poor while those in Addis Ababa city are the least poor ones at 14%, 41% and 0.05. Urban areas in Oromia and the SNNP regions are also other hotspots of multidimensional poverty. There is some regional variation in multidimensional inequality. A notable finding is that the most urbanized Tigray region and Addis Ababa city have the lowest overall multidimensional inequality.

Urbanization is widely thought to improve the welfare of people while some argue that it does little to urban poverty particularly in SSA (Ravallion et al., 2007; Todaro & Smith, 2012). However, the estimates in the study support the first hypothesis. That is, multidimensional poverty headcount in small towns is twice that in medium/large towns with no significant difference in intensity. Besides this evidence, the corresponding regional urbanization rates can be related to regional welfare estimates (proportion of the total population living in urban areas)

obtained from CSA (2013). As depicted in Figure 5.2, the association urbanization has with multidimensional poverty and inequality as well as with monetary poverty takes the shape of an inverted-U while it generally seems to be inversely related to multidimensional inequality. These pro-urbanization findings are against Goshu's findings (2019) that states multidimensional poverty and inequality increase with urbanization.

Figure 5.2: Urban monetary and multidimensional poverty headcounts and inequality by region and urbanization rate: 2015/16



Notes: Regions are sorted in ascending order of their urbanization rate. SNNP=Southern Nations, Nationalities and Peoples. “Other regions” represents the regions of Afar, Benishangul-Gumuz, Gambella, Harari and Somali, and Dire Dawa city administration. ESS data are not separately representative in these regions.

Source: Based on data from ESS 2015/16 and CSA (2013) Population Projections for 2016 (for urbanization).

5.3.4. Sources of Multidimensional Poverty and Inequality

Multidimensional poverty in urban Ethiopia is estimated to be the highest with a significant portion of vulnerability to it. As one step to curb the situation, identifying the most contributing factors and locations of accumulation is crucial. To that end, the contribution to adjusted multidimensional poverty of indicators, dimensions, and population groups are estimated. Regressions are also used to identify micro- and community-level factors that have associations with poverty and inequality. Lastly, macro-level opportunities and challenges to reducing urban poverty and inequality in urban Ethiopia are highlighted.

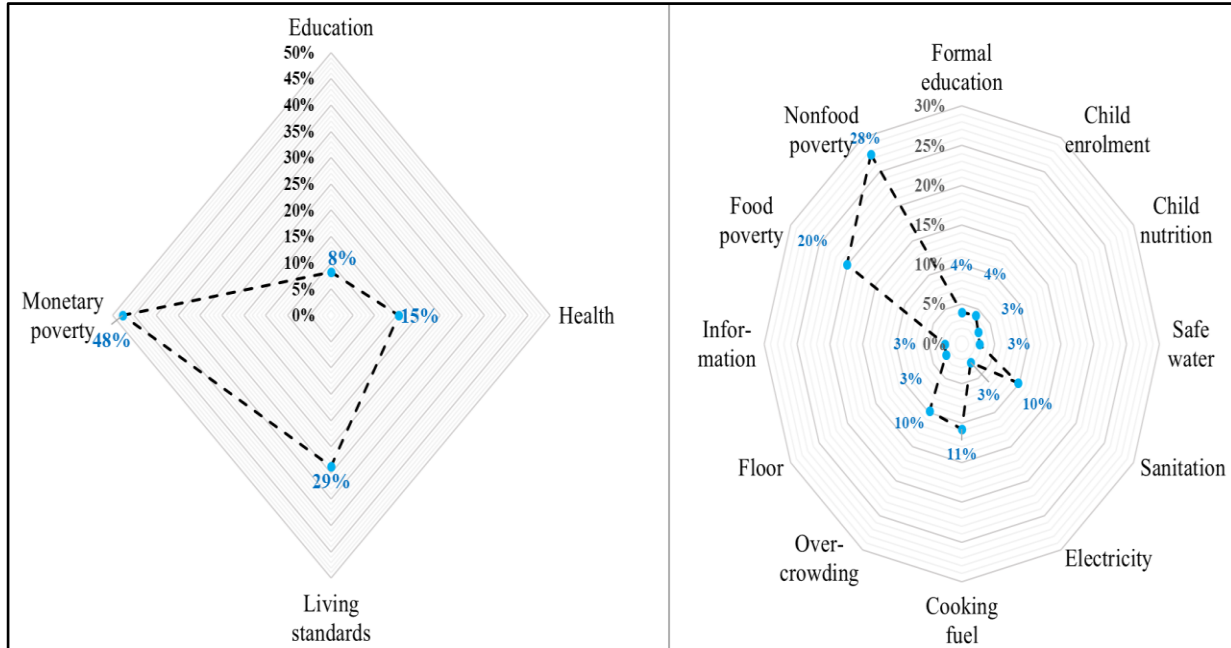
5.3.4.1. Decomposition of multidimensional poverty by indicators and population groups

Figure 5.3 depicts the contributions of indicators and dimensions to the adjusted multidimensional poverty in urban Ethiopia. As shown on the left panel, most of the multidimensional poverty comes from the monetary poverty dimension (48%), of which (right panel) 28% is from non-food poverty and the rest 20% from food poverty. The dimension of living standards at 29% which is mainly contributed by deprivations in cooking fuel (11%) and floor of dwellings (10%). Health dimension contributes only 15%, mainly due to sanitation deprivation (10%). Education is the least contributor at 8% with equal shares from deprivations in any member's formal education and child enrolment. Large contributions of monetary and living standards dimensions in Ethiopia are also evidenced by Goshu (2019) as they are estimated at 44% and 16% respectively at the country level. An annual Human Development Reports, where the multidimensional poverty index is estimated without a monetary dimension, the

living standards dimension is always the dominant contributor (UNDP, 2019).

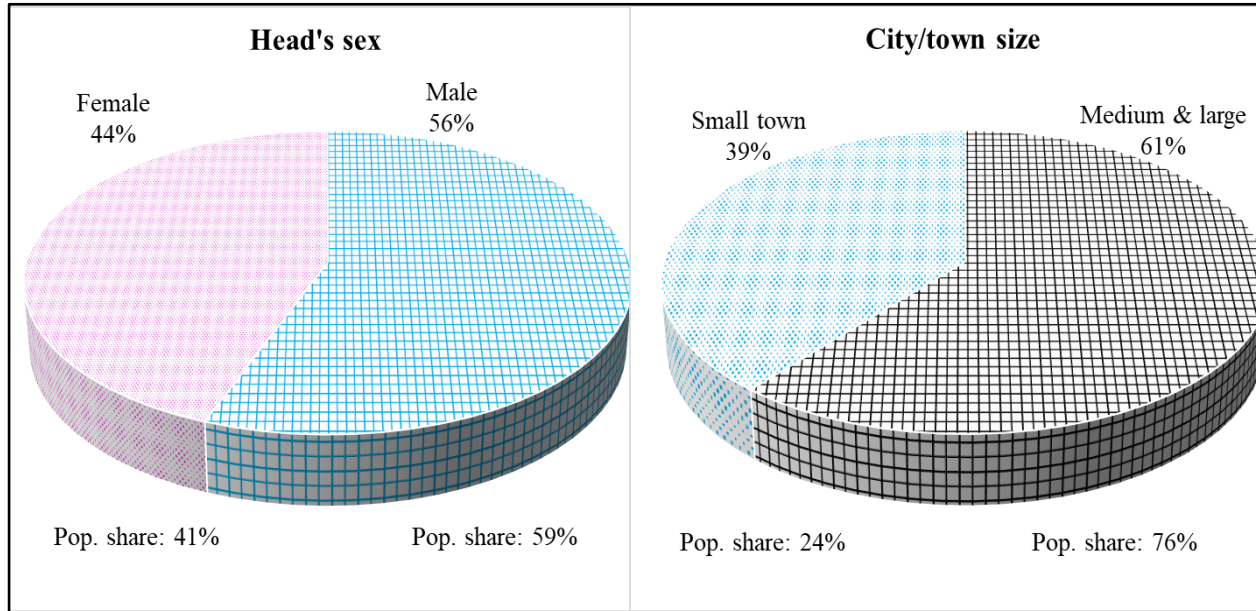
Given their population shares, how do various population groups contribute to overall multidimensional poverty? Figure 5.4 contains answers to the question with selected groups. It is found that female-headed households are slightly overrepresented in the multidimensional poverty as they contribute 44% while their share in the urban population is 41%. However, the contribution of households in small towns (39%) is huge compared with their population share (24%).

Figure 5. 3: Contributions of dimensions and indicators to overall multidimensional poverty in urban Ethiopia: 2015/16



Source: Based on data from ESS 2015/16.

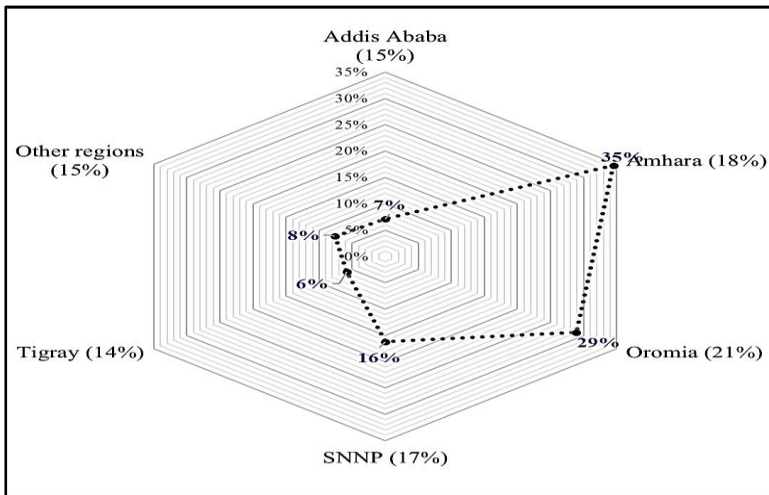
Figure 5.4: Contributions of population groups to multidimensional poverty in urban Ethiopia: 2015/16



Source: Based on data from ESS 2015/16.

Regional contributions to the adjusted multidimensional poverty are plotted in Figure 5.5. As expected, the country’s most populous regions, Oromia and the Amhara, contribute much of the urban multidimensional poverty. However, the Amhara region, though having an 18% share in the country’s urban population, contributes as much as twice (35%) to adjusted multidimensional poverty. Oromia still contributes more than its population (21%) to the MPI (29%). Urban population share and contribution to poverty almost match only for the SNNP. Addis Ababa city and Tigray region are the least contributors towards multidimensional poverty relative to their share in the country’s urban population.

Figure 5.5: Contributions of regions to multidimensional poverty in urban Ethiopia 2015/16



Notes: Figures in parentheses represent percentage contributions of a region in the total urban population. SNNP=Southern Nations, Nationalities and Peoples. “Other regions” represents the regions of Afar, Benishangul-Gumuz, Gambella, Harari and Somali, and Dire Dawa city administration. ESS data are not separately representative in these regions.

Source: Based on data from ESS 2015/16.

5.3.4.2. Micro- and community-level factors associated with multidimensional welfare

Answering the question of what factors at household and community levels could be associated with welfare is also crucial to designing policies for improvement. We run several regressions of selected deprivations, monetary and multidimensional poverty, and inequality for the whole urban sample, small towns, and medium/large towns. The results are summarized in the Appendix.

Table A.4 provides the correlation between monetary poverty and child stunting. After controlling for demographic and geographic factors, monetary poverty is found to be lower in households headed by those with at least primary education. Living in places where microfinance institutions are available and access to credit are also associated with lower monetary poverty. Similarly, child stunting is positively correlated with family size and negatively with home ownership and taking up of credit especially in small towns. The correlation between overcrowding and unimproved cooking fuel deprivations are presented in Table A.5 in the Appendix. Besides demographic and geographic factors, those with educated heads, in higher expenditure quintiles, and homeowners are less likely to be deprived of overcrowded housing. While receiving at least a primary education is negatively associated with deprivation in cooking fuels, non-price shocks have a chance to increase the deprivation.

An attempt has been made to identify factors that have associations with households' multidimensional poverty status and inequality (measured as a variation from the average weighted deprivation score). Findings are available in Table A.6 in the Appendix. Demographic factors such as female headship, increasing head's age and large household size increase the probability of being multidimensionally poor. Multidimensional

poverty is higher in households with a working child and lowers with higher shares of working adult females. Financial factors are also important factors where those having access to credit, receiving remittances, and living closer to microfinance institutions have a lower chance of falling into multidimensional poverty. The presence of a primary school in the community is also correlated negatively with multidimensional poverty. Our previous finding that multidimensional poverty is high in small towns and regions of the Amhara and Oromia regions (relative to Addis Ababa) is also confirmed when other factors are controlled in the regressions. Regarding multidimensional inequality, apart from certain demographic and geographic factors, taking credit, receiving international remittances, and a nearby primary school are found to reduce overall multidimensional inequality and that among the multidimensionally poor. In contrast, shocks in the form of food price rise worsen the level of inequality.

5.3.4.3. Macro-context and multidimensional welfare

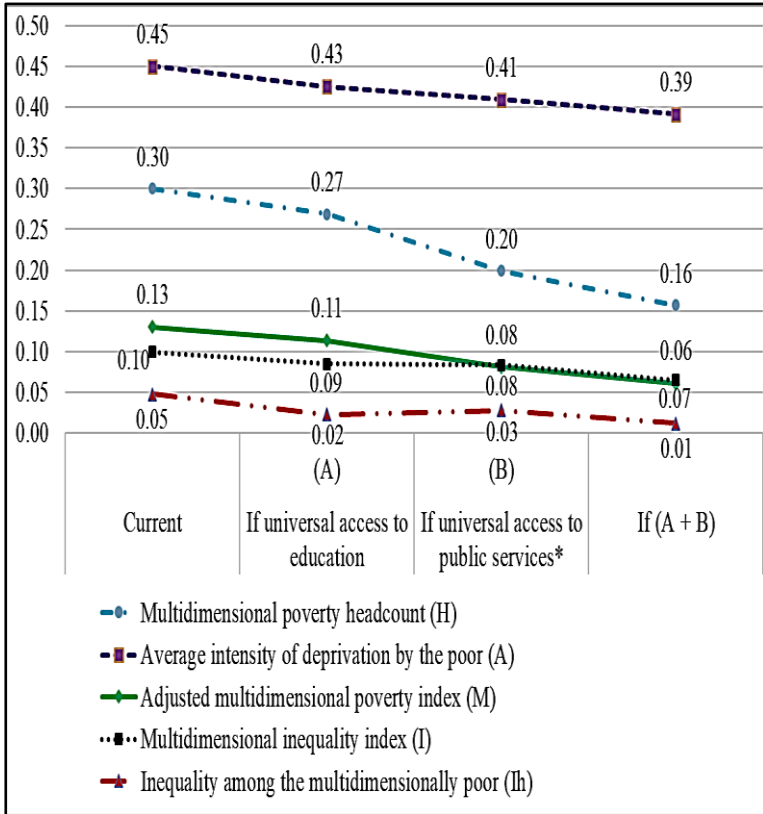
There are numerous opportunities for and constraints to reducing urban multidimensional poverty and inequality in Ethiopia. While a full analysis of the macroeconomic developments and policy options are presented in the study, the macro-context that could be related to multidimensional welfare in Ethiopia is highlighted. As a first opportunity, there seems to be an overall government commitment and policy framework. Governments in Ethiopia have had a history of preparing development plans including addressing poverty and inequality. Recent ones include SDPRP (2006–2006), PASDEP (2006–2010), GTP I (2010/11–2014/15), and GTP II (2014/15–2019/20).

The current government is also expected to unveil a 10-year perspective plan. Besides, policy frameworks and

commitment in terms of spending have also been noticed. For example, recent trends in poverty-targeted expenditures (education, health, agriculture, roads, water) over the period 2011/12–2015/16 averaged over two-thirds of total government expenditure (NPC, 2017). However, there are related constraints, including, among others (i) lack of efficiency by government agencies including implementation of policies at lower tiers of government, (ii) poor expenditure and project management coupled with corruption not only increases the public debt but also does result in inflation when projects take too long to offer the desired outputs while billions of funds are pumped into them, and (iii) poor provision and distribution and/or high cost of public infrastructures such as electricity, safe water, and improved cooking fuel.

Our estimates suggest that there can be gains if these inefficiencies are improved. For instance, a simple simulation exercise on the effect of universal coverages of education, safe drinking water, electricity, and improved cooking fuel on multidimensional welfare gives interesting results. As summarized Figure 5.6, if urban local governments have made sure that every school-age child got enrolled in and adults received any level of formal education, multidimensional poverty headcount would drop by 3 percentage points to 27%, and adjusted MPI would become 0.11. If a universal coverage of safe drinking water, electricity, and improved cooking fuels could be achieved, more reductions in multidimensional poverty and inequality would be realized. Using a joint of these public interventions, multidimensional poverty would be halved with moderate reductions in its intensity and multidimensional inequality.

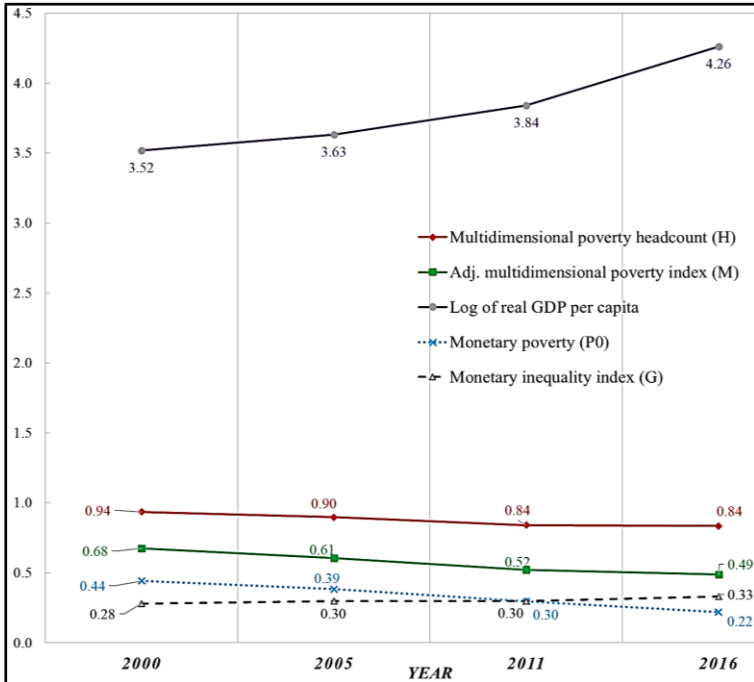
Figure 5.6: Effect of universal coverage of publicly provided basic services on multidimensional welfare in urban Ethiopia: simulated



Notes: *Refers to universal access to water, electricity and improved cooking fuel. Standard errors in parentheses. All observations are weighted to make estimates representative.

Source: Based on data from ESS 2015/16.

Figure 5.7: Recent trends of economic growth and monetary and multidimensional poverty and inequality in Ethiopia: 2000–2016



Source: Based on Alkire & Roche (2013), NPC (2017), NBE (2017), UNDP (2010, 2015, 2019).

The second opportunity is that there has been economic growth over the past many years, and this is expected to continue in the years to come. However, the quality of recent past growth is questionable. Since 2000, four Demographic and Health Surveys and Household Income Consumption and Expenditure (HICE) surveys were conducted. Based on the survey findings both monetary and multidimensional welfare measures in Ethiopia were estimated. Collecting these estimates from various sources and

corresponding real per-capita GDP growth data from the National Bank of Ethiopia (NBE), trends have been plotted in Figure 5.7. A result that stands out is that the association between micro-level welfare and macro-context in terms of real per-capita GDP has not been uniform. Over 2000–2016, while monetary poverty headcount was halved, multidimensional poverty headcount fell only by 10 percentage points. Over the five years spanning 2011–2016, when economic growth was the fastest, multidimensional poverty headcount was virtually flat. The entire fifteen years were also characterized by a rise in expenditure inequality as measured by the Gini coefficient.

As a third opportunity, a fairly large number of microfinance institutions exist in Ethiopia. According to the National Bank of Ethiopia, 46 microfinance institutions have been in operation in the country beginning from July 2020. Moreover, 70% of urban households live in communities having a microfinance institution. However, ESS 2015/16 data show that household credit comes primarily from informal sources with formal or microcredit covering only 27% in urban areas. Despite the findings of the study, taking credit by households as well as the availability of a microfinance institution at the community level have desirable correlations with monetary and multidimensional poverty and inequality.

5.4. Conclusions and Policy Implications

5.4.1. Conclusions

Ethiopia, as discussed in Chapters 3 and 4, is fast urbanizing. In 2050, about 40 percent of its population will live in urban areas. Although one may view urbanization as an integral part of economic growth and poverty reduction, it is evident that urbanization is correlated with poverty and inequality in sub-

Saharan Africa. Besides, there is a lack of well-documented evidence on urban Ethiopia about poverty and inequality using recent developments in multidimensional welfare analysis tools. This study, hence, aimed at filling these gaps by analyzing Ethiopia's urban multidimensional and monetary poverty and inequality levels that links to the macro-context, constraints, opportunities, and policy issues.

The multidimensional poverty and inequality indices analyzed use four dimensions, namely, education, health, living standards, and monetary poverty, represented by twelve indicators relevant to Ethiopian's contexts that are related to the literature and SDGs. Though we keep many indicators of the global MPI, customizing to the Ethiopian urban setting is made by adding four indicators and a monetary dimension. Once unidimensional indices of poverty and inequality are estimated, they are extended to multidimensional indices. The distributions across and contributions of population groups and dimensions/indicators to overall poverty are analyzed. Econometric models are estimated to identify the correlation between multidimensional poverty and inequality. The link between micro-level welfare estimates to the macro-level context is also discussed. The data primarily come from the urban sub-sample of ESS 2015/16 which is an LSMS-ISA project of the World Bank. Supplementary data and information also come from various sources.

Findings reveal a large prevalence of food and non-food poverty as well as substantial nonmonetary deprivation particularly in indicators of living standards such as housing and cooking fuels. The national deprivation and poverty rates generally mask substantial variations across male-female headship, small town-medium/large town, and region. Notably, many of the deprivations are found to be higher in female-headed households,

small towns, and the Amhara region. The estimated monetary poverty incidence (38%), gap (13%), and severity (6%) are found to be higher than the official figures. With an adjusted multidimensional poverty index of 0.13, constituted by the incidence of 30% and intensity of 45%, multidimensional poverty in urban Ethiopia is one of the highest. Another 30% are at risk of sliding into multidimensional poverty. About half of the overall multidimensional poverty comes from monetary poverty followed by deprivations in living standards (30%), health (15%), and education (8%). Overall multidimensional inequality index in urban Ethiopia and inequality among the multidimensionally poor are 0.10 and 0.048, respectively. The figures may be lower, given a monetary Gini coefficient of 0.37, but inequalities among regions and within female-headed households are large.

Poverty and inequality seem to fall with urbanization while regional differences are large. For example, households in the urban Amhara region have the highest incidence and adjusted MPI while those in Addis Ababa city are the least deprived and poor ones. The most urbanized, Addis Ababa city and Tigray region, have the lowest multidimensional poverty and inequality rates. In contrast, small towns and those in regions of Amhara and Oromia contribute significantly to urban multidimensional poverty compared to their population shares. Although there seems to be overall government commitment, policy framework, and economic growth as opportunities, numerous constraints challenge efforts of reducing poverty and inequality. Fast economic growth over the past 15 years is reported to have halved monetary poverty though multidimensional poverty declined very steadily while monetary inequality slightly rose. In addition to demographic and geographic factors, receiving remittance, access to credit, availability of microfinance institutions and primary schools at the

community-level, and food price shocks are among the factors that are correlated with various indicators of household welfare in urban Ethiopia. For instance, shocks in the form of food price rises worsen the multidimensional inequality.

5.4.2. Policy Implications

Most of the policy options that could be pursued for the reduction of the multidimensional poverty and inequality in urban Ethiopia seem to be stated by the findings themselves. The finding of substantial deprivation particularly in indicators of living standards dimension, which ranks as the second most contributor to overall multidimensional poverty, clearly needs intervention. As these deprivations include publicly provided infrastructural services such as electricity and drinking water, it is crucial that the government must pursue a policy of affordable provision. With universal coverage of electricity, improved cooking fuel, safe water, and education services, the simple simulation exercise shows that overall multidimensional poverty can be reduced by half. Given that lack of improved cooking fuels is always among the top deprivations in Ethiopia, it, therefore, requires special intervention. Relating it to universal access to electricity and promoting the use of alternative sources of clean household energy may be of paramount help. Addressing the housing problems in urban areas, besides reducing household level overcrowding, is thought to have multiplier welfare effects.

Large incidences of food and non-food poverty, jointly contributing to the largest share of overall multidimensional poverty with the desire for a call for interventions. Parametric evidence implies policies advocating gendered interventions, family planning, and provision of education, credit, and employment opportunities. On the other hand, the findings of

notable disparities among regions and higher rates of deprivations, monetary poverty as well as multidimensional poverty and inequality in small towns automatically call for installing fair distribution systems. Given that poverty and inequality are found to fall with urbanization, a policy direction towards planned urbanization is also recommended.

Promoting household access to microcredit and other sources of finance are also another vital strategy. The National Bank of Ethiopia needs to promote innovative forms of microcredit access to the poor by the financial institutions under its supervision. Stabilizing prices, especially of food, has effects on all forms of poverty and inequality. As the link between economic growth and poverty reduction is not perfect and with undesirable effects on inequality, redistribution policies including social protection programs for those in severe welfare deprivations may also be useful.

Lastly, it is recommended to use a multidimensional approach, rather than only a monetary one, to welfare measurement by the Ethiopian government. Assessment of the country's progress in urban and rural areas towards the reduction of poverty and inequality, as reported by the National Planning and Development Commission, relies only on expenditure-based poverty and inequality indices. As welfare is multidimensional, such a comprehensive approach which also reports monetary welfare measures will help monitor progress from various dimensions. It not only aligns the country's overall welfare measures to the SDGs (target 1.2) and track progress from the HDR but also makes the country to join up an increasing list of countries which officially use the multidimensional approach. The list of countries includes Angola, Ghana, Mozambique, Nigeria, Rwanda, Sierra Leone, and Seychelles.

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Appendices

A1. Aggregation of multidimensional poverty and inequality

We follow procedures of the AF framework (Alkire & Foster, 2009, 2011) to identify households as multidimensionally poor. The single raw deprivation rates or headcount ratios (h_j) for each indicator j are computed as

$$h_j = \frac{1}{N} \sum_{i=1}^N I_{(0,1)}(y_{ji} \leq z_j)$$

where $I_{(0,1)}(y_{ji} \leq z_j)$ is an indicator function taking 1 if the expression in parenthesis is satisfied and 0 otherwise; y_{ji} is attainment by household i in indicator j ; z_j is the cut-off in indicator j , also called indicator-specific poverty line; and N is the number of households. These are equivalent to the headcount rate (P_0) in the FGT indices (Foster et al., 1984). Note also that raw deprivations provide the proportion of households who are deprived of a specific indicator, regardless of whether they are deemed multidimensionally poor, i.e. they are not censored by the multidimensional deprivation status (Aplaza & Yalonetzky, 2012).

The sum of weighted deprivations (C_i) for each household i , also called deprivation score, is

$$C_i = \sum_{j=1}^D w_j I_{(0,1)}(y_{ji} \leq z_j)$$

where w_j is the weight given to indicator j ; and D is the total number of indicators. A household is then identified as

multidimensionally poor if it is deprived in at least a third of the weighted deprivations (Alkire & Santos, 2014; UNDP, 2019): $h_i = I_{(0,1)}(C_i \geq k)$. Censoring at the cut-off and averaging helps get the aggregate multidimensional poverty headcount ratio (H) as

$$H = \frac{1}{N} \sum_{i=1}^N I_{(0,1)}(C_i \geq k)$$

where k is the multidimensional poverty cut-off, 0.33 in our case. Optionally, once the poor are identified, this can be expressed as $H = \frac{q}{N}$ where q is the number of the multidimensionally poor. We also consider other thresholds to see the sensitivity of multiple deprivations to choices of these cut-offs¹. The average intensity of multidimensional deprivations (A) or average percentage of weighted deprivations (as a proportion of the maximum number of possible deprivations) suffered by the multidimensionally poor households is given by

$$A = \frac{1}{N * D * h_j} \sum_{i=1}^N I_{(0,1)}(C_i \geq k) * C_i.$$

The adjusted multidimensional poverty index (M) is then simply given by the product

$$M = H * A.$$

To meet the objective of decomposing multidimensional poverty into dimensions/indicators and population subgroups, we proceed

¹UNDP (2019) considers people in the range 0.20–0.33 as vulnerable to multidimensional poverty while those with a deprivation score of 0.50 or higher are in severe multidimensional poverty.

as follows. The percentage contribution (Q_j) of indicator j to the adjusted multidimensional poverty M is

$$Q_j = \frac{1}{N * D * M} \sum_{i=1}^N I_{(0,1)}(y_{ji} \leq z_j) * I_{(0,1)}(C_i \geq k)$$

where the terms on the right-hand side are as defined previously. Such a decomposition provides information that can be useful for revealing the country's deprivation structure and can help with policy (UNDP, 2019). If we have S number of population subgroups, the percentage contribution of each subgroup s (e.g. urban region) to the adjusted multidimensional poverty index M is extracted from the identity

$$\frac{m_1(\frac{N_1}{N})}{M} + \frac{m_2(\frac{N_2}{N})}{M} + \dots + \frac{m_s(\frac{N_s}{N})}{M} = 1$$

where m_s is the value of M in subgroup $s = 1, 2, \dots, S$ and N_s is the number of households in each subgroup. Each element at the left-hand side of the equation is, therefore, the contribution of a specific subgroup.

For multidimensional inequality, we employ the measure suggested by Seth & Alkire (2014). Their multidimensional inequality index (I_h) among the multidimensionally poor is given by

$$I_h = \frac{4}{q} \sum_{i=1}^q [C_i - A]^2$$

where q is the number of multidimensionally poor households; C_i is the weighted deprivation score of household i , as defined earlier; and A is the intensity of multidimensional poverty, as defined earlier. It can also be computed for the whole household population by using the overall average deprivation score and leaving the denominator q so that we denote the index by I .

Weighting of dimensions and indicators is important in multidimensional welfare analysis. We opt to provide equal weights to all dimensions, and each indicator in a dimension is similarly equally weighted. This is the tradition in most of the literature. However, depending on the availability of further information and assumptions made, one may also assign subjective weights (Decancq, Fleurbaey, & Maniquet, 2019) or statistically-computed weights (Bersisa & Heshmati, 2016; Tigre, 2018). Besides basing our choices of dimensions and indicators on the literature and attempting to customize them to the Ethiopian urban context, we undertake a statistical procedure to test if the indicators and their weights are relevant following Goshu (2019). Linear pairwise and nonlinear tetrachoric correlations between the chosen indicators and the computed multidimensional poverty and inequality measures are estimated whose results are summarized in Table A.3 in the Appendix. All correlations with weighted deprivation score and multidimensional poverty as well as with multidimensional inequality (except one indicator) are statistically significant confirming that our chosen indicators along with their weights are appropriate to analyze multidimensional poverty and inequality in urban Ethiopia.

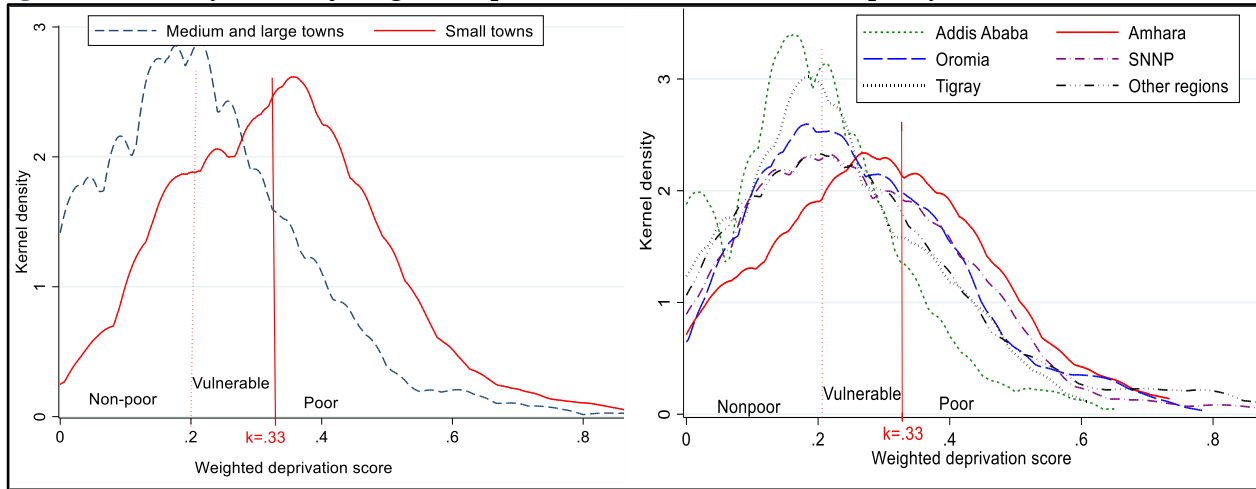
Table A 1: Distribution of urban households interviewed in ESS 2015/16 by region and town size

<i>Region</i>	<i>Distribution of households interviewed in urban areas</i>			
	<i>Small towns</i>	<i>Medium and large towns</i>	<i>Urban total</i>	<i>% of urban total</i>
<i>Addis Ababa</i>	-	241	241	14.8
<i>Amhara</i>	103	193	296	18.2
<i>Oromia</i>	106	236	342	21.0
<i>SNNP</i>	97	180	277	17.0
<i>Tigray</i>	43	189	232	14.3
<i>All other regions</i>	62	175	237	14.6
<i>Urban total</i>	411	1,214	1,625	100.0
<i>% of urban total</i>	25.3	74.7	100.0	

Notes: SNNP=Southern Nations, Nationalities and Peoples.

Source: Extracted from ESS 2015/16.

Figure A 1: Density curves of weighted deprivation scores in urban Ethiopia by town size



Notes: SNNP=Southern Nations, Nationalities and Peoples. “Other regions” represents the regions of Afar, Benishangul-Gumuz, Gambella, Harari and Somali, and Dire Dawa city administration. ESS data are not separately representative in these regions. According to UNDP (2019), households with weighted deprivation cut-off of 0.33 or higher are identified as multidimensionally poor, those in the range 0.20–0.33 are vulnerable and those with 0.50 or higher are in severe multidimensional poverty.

Source: Based on data from ESS 2015/16.

Table A 2: Multidimensional poverty and inequality at various cut-offs in urban Ethiopia: 2015/16

<i>Multidimensional welfare measure</i>	<i>Multidimensional poverty cut-off (k)</i>						
	<i>k=0.05</i>	<i>k=0.10</i>	<i>k=0.20</i>	<i>k=0.33</i>	<i>k=0.50</i>	<i>k=0.67</i>	<i>k=0.80</i>
Multidimensional poverty headcount (H)	0.95 (0.011)	0.87 (0.016)	0.60 (0.029)	0.30 (0.024)	0.07 (0.011)	0.01 (0.005)	0.001 (0.001)
Average intensity of deprivation (A)	0.28 (0.009)	0.30 (0.008)	0.36 (0.007)	0.45 (0.008)	0.62 (0.011)	0.75 (0.016)	0.85 (0.003)
Adjusted multidimensional poverty index (M)	0.26 (0.010)	0.25 (0.011)	0.21 (0.013)	0.13 (0.012)	0.04 (0.007)	0.01 (0.004)	0.00 (0.001)
Inequality among the multidimensionally poor (I_h)	0.094 (0.007)	0.083 (0.006)	0.063 (0.006)	0.048 (0.007)	0.028 (0.006)	0.012 (0.004)	0.001 (0.000)

Notes: Standard errors in parentheses. All observations are weighted to make estimates representative.

Source: Based on data from ESS 2015/16.

Table A 3: Correlations between indicators and multidimensional poverty and inequality measures in urban Ethiopia: 2015/16

Dimension	Indicator	Correlation with		
		Weighted deprivation score	Multidimensional poverty status	Multidimensional inequality
Education	Formal education	0.3753***	0.6188***	0.3676***
	Child enrolment	0.2836***	0.5901***	0.1900***
Health	Child nutrition	0.2132***	0.3241***	0.0910***
	Safe water	0.2621***	0.3768***	0.3260***
	Sanitation	0.5101***	0.5897***	0.2112***
Living standards	Electricity	0.4033***	0.6087***	0.3816***
	Cooking fuel	0.3955***	0.6167***	-0.0271
	Overcrowding	0.2857***	0.4140***	0.0729***
	Floor	0.5255***	0.6772***	0.1131***
	Information	0.4387***	0.6786***	0.3853***
Monetary poverty	Food poverty	0.5942***	0.8294***	0.2333***
	Non-food poverty	0.6043***	0.7296***	-0.1087***

Notes: *** denotes correlation is significant at 1% level. The correlation with multidimensional poverty status is tetrachoric (nonlinear) while other correlations are linear pairwise.

Source: Based on data from ESS 2015/16.

Table A 4: Correlates of monetary poverty and child nutrition in urban Ethiopia: 2015/16

<i>Variable</i>	<i>Monetary poor</i>			<i>Child stunted</i>		
	<i>Urban Ethiopia</i>	<i>Medium/Large</i>	<i>Small town</i>	<i>Urban Ethiopia</i>	<i>Medium/Large</i>	<i>Small town</i>
	<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
Head is female	0.081*	0.111**	0.008	-0.032	-0.029	-0.046
Head's age	-0.002	-0.002	0.001	-0.002**	-0.002	-0.004*
Household size	0.045***	0.041***	0.062***	0.041***	0.040***	0.043***
Has migrant members	-0.021	0.019	-0.135*	-0.012	-0.033*	0.046
Received international remittances	-0.066	-0.105*	0.136	-0.014	-0.011	-0.01
Head's educ: elementary ¹	-0.122**	-0.172**	-0.033	0.025	0.045	0.001
Head's educ: high school ¹	-0.206***	-0.261***	-0.057	-0.015	0.020	-0.109*
Head's educ: >high school ¹	-0.337***	-0.377***	-0.271**	0.001	0.017	-0.031
Any child is working	0.091	0.085	0.019	-0.011	0.034	-0.077
Females' share in working age	-0.171**	-0.187**	-0.112	0.04	0.035	0.071
Owens the dwelling	-0.018	-0.035	0.020	-0.038*	-0.037	-0.029

<i>Variable</i>	<i>Monetary poor</i>			<i>Child stunted</i>		
	<i>Urban Ethiopia</i>	<i>Medium/Large</i>	<i>Small town</i>	<i>Urban Ethiopia</i>	<i>Medium/Large</i>	<i>Small town</i>
	<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
Taken credit of birr 500 or more	-0.096*	-0.064	-0.220**	-0.022	-0.009	-0.106**
Shocks faced: food price rise	-0.007	0.021	-0.047	0.044	0.035	0.078
Shocks faced: non-price	0.031	0.007	0.108	0.055	0.101*	-0.063*
Community: gov't primary school	-0.076*	-0.128*	0.100	0.03	0.007	0.137**
Community: microfinance instit'n	-0.100*	-0.094	-0.165	-0.009	0.004	-0.037
Community: daily/weekly market	0.069	0.052	0.128	0.004	0.013	-0.014
Living in small town	0.167**	-	-	0.006	-	-
Region: Amhara ²	0.133*	0.108	0.102	0.010	0.016	-0.06
Region: Oromia ²	-0.014	0.010	-0.119	0.063	0.065	-0.042
Region: SNNP ²	-0.014	-0.059	0.044	0.038	0.023	-0.005
Region: Tigray ²	-0.023	-0.056	0.016	0.063*	0.079*	-0.065
Region: All others ²	-0.051	-0.040	-	0.044	0.037	-

<i>Variable</i>	<i>Monetary poor</i>			<i>Child stunted</i>		
	<i>Urban</i>	<i>Medium/</i>	<i>Small</i>	<i>Urban</i>	<i>Medium/</i>	<i>Small</i>
	<i>Ethiopia</i>	<i>Large</i>	<i>town</i>	<i>Ethiopia</i>	<i>Large</i>	<i>town</i>
	(1)	(2)	(3)	(4)	(5)	(6)
Expenditure quintile: poor ³				0.050	0.020	0.080
Expenditure quintile: middle ³				0.075*	0.082*	0.059
Expenditure quintile: rich ³				0.055	0.042	0.090*
Expenditure quintile: richest ³				0.06	0.055	0.076
Constant	0.531***	0.638***	0.377	-0.095	-0.119	-0.01
Number of observations	1,625	1,214	411	1,625	1,214	411

Notes: *, ** & *** show statistical significance at 10%, 5% & 1% levels, respectively. ¹Comparison: illiterate.

²Comparison: Addis Ababa. ³Comparison: poorest. Multidimensional inequality is proxied by a squared variation of the household deprivation score from the average. SNNP=Southern Nations, Nationalities and Peoples. All observations are weighted to make estimates representative. Standard errors are not reported for brevity; they can be available upon request.

Source: Based on data from ESS 2015/16.

Table A 5: Correlates of deprivations in selected living standards indicators in urban Ethiopia: 2015/16

Variable	Overcrowded housing			Cooking fuels not improved		
	Urban Ethiopia	Medium/ Large	Small town	Urban Ethiopia	Medium/ Large	Small town
	(1)	(2)	(3)	(4)	(5)	(6)
Head is female	-0.005	0.006	-0.054	-0.047	-0.048	-0.042
Head's age	-0.004***	-0.004***	-0.002	-0.001	-0.001	0.000
Household size	0.059***	0.052***	0.080***	-0.018*	-0.024*	-0.006
Has migrant members	-0.052***	-0.058**	-0.036	-0.001	-0.018	0.036
Received international remittances	-0.036	-0.021	-0.091	-0.076	-0.066	-0.122*
Head's educ: elementary ¹	-0.033	0.012	-0.157**	-0.084***	-0.107**	-0.036
Head's educ: high school ¹	-0.137***	-0.111***	-0.171**	-0.154***	-0.183**	-0.085*
Head's educ: >high school ¹	-0.120***	-0.083*	-0.180**	-0.255***	-0.316***	-0.092*
Any child is working	-0.005	-0.018	-0.002	0.006	0.023	-0.004
Females' share in working age	-0.037	-0.049	0.036	0.059	0.060	0.076
Owns the dwelling	-0.073***	-0.076**	-0.080*	-0.04	-0.047	0.009
Taken credit of birr 500 or more	0.033	0.036	0.024	0.031	0.039	0.007

<i>Variable</i>	<i>Overcrowded housing</i>			<i>Cooking fuels not improved</i>		
	<i>Urban Ethiopia</i>	<i>Medium/Large</i>	<i>Small town</i>	<i>Urban Ethiopia</i>	<i>Medium/Large</i>	<i>Small town</i>
	<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
Shocks faced: food price rise	-0.012	0.005	-0.05	-0.003	-0.002	-0.02
Shocks faced: non-price	-0.014	-0.017	-0.016	0.090**	0.139***	-0.065
Community: gov't primary school	0.04	0.051	-0.021	-0.018	0.001	-0.088*
Community: microfinance institution	0.022	0.011	0.01	-0.027	-0.024	0.014
Community: daily/weekly market	-0.016	-0.02	-0.039	0.074	0.082	0.004
Living in small town	-0.004	-	-	0.060	-	-
Region: Amhara ²	-0.074	-0.120**	0.215	0.426***	0.415***	0.059
Region: Oromia ²	-0.083*	-0.075	0.028	0.431***	0.406***	0.097
Region: SNNP ²	-0.085*	-0.082*	0.052	0.502***	0.523***	0.066
Region: Tigray ²	0.028	0.037	0.188	0.271***	0.275**	-0.169
Region: All others ²	-0.023	0.016	-	0.424***	0.408***	-
Expenditure quintile: poor ³	-0.192***	-0.160*	-0.220**	-0.045	-0.069	-0.03

<i>Variable</i>	<i>Overcrowded housing</i>			<i>Cooking fuels not improved</i>		
	<i>Urban Ethiopia</i>	<i>Medium/Large</i>	<i>Small town</i>	<i>Urban Ethiopia</i>	<i>Medium/Large</i>	<i>Small town</i>
	<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>
Expenditure quintile: middle ³	-0.210***	-0.197**	-0.261***	-0.059	-0.057	-0.078
Expenditure quintile: rich ³	-0.212***	-0.217**	-0.222*	-0.077*	-0.094	-0.057*
Expenditure quintile: richest ³	-0.239***	-0.266***	-0.142	-0.102**	-0.116*	-0.092*
Constant	0.430***	0.448***	0.213	0.712***	0.776***	1.053***
Number of observations	1,625	1,214	411	1,625	1,214	411

Notes: *, ** & *** show statistical significance at 10%, 5% & 1% levels, respectively. ¹Comparison: illiterate. ²Comparison: Addis Ababa. ³Comparison: poorest. Multidimensional inequality is proxied by a squared variation of the household deprivation score from the average. SNNP=Southern Nations, Nationalities and Peoples. All observations are weighted to make estimates representative. Standard errors are not reported for brevity; they can be available upon request.

Source: Based on data from ESS 2015/16.

Table A 6: Correlates of multidimensional poverty and inequality in urban Ethiopia: 2015/16

<i>Variable</i>	<i>Multidimensionally poor</i>			<i>Multidimensional inequality</i>			<i>Inequality among the multidimensionally poor</i>		
	<i>Urban Ethiopia</i>	<i>Medium/Large</i>	<i>Small town</i>	<i>Urban Ethiopia</i>	<i>Medium/Large</i>	<i>Small town</i>	<i>Urban Ethiopia</i>	<i>Medium/Large</i>	<i>Small town</i>
	<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>	<i>(7)</i>	<i>(8)</i>	<i>(9)</i>
Head is female	0.662***	0.717***	0.709*	0.027*	0.031*	0.010	0.018*	0.026*	-0.008
Head's age	0.018**	0.014*	0.045***	0.001*	0.000	0.002*	0.000	0.000	0.000
Household size	0.164***	0.161**	0.210***	0.001	-0.001	0.007	0.002	0.003	0.001
Any child is working	0.616*	0.645*	0.148	0.046	0.053	-0.007	0.010	0.028	-0.015
Females' share in working age	-0.58*	-0.528	-0.932*	0.015	-0.001	0.060	0.017	-0.008	0.065*
Owns the dwelling	-0.231	-0.213	-0.434	-0.004	-0.003	-0.016	0.000	-0.003	0.001
Taken credit of birr 500 or more	-0.639*	-0.555	-0.967*	-0.030*	-0.02	-0.055*	-0.025*	-0.01	-0.033
Has migrant members	-0.197	-0.06	-0.655*	-0.009	-0.006	-0.016	-0.003	-0.016	0.012

Received international remittances	-0.762**	-0.882**	-0.312	-0.016	-0.008	-0.062**	-0.03	-0.035	-0.030**
Shocks faced: food price rise	0.131	0.345	-0.309	0.027*	0.015	0.082*	0.035*	0.016	0.068*
Shocks faced: non-price	-0.105	-0.153	-0.018	-0.012	-0.013	-0.002	-0.018*	-0.018	-0.024*
Community: gov't primary school	-0.454*	-0.599*	0.007	-0.016	-0.031*	0.046	-0.003	-0.014	0.020
Community: microfinance institution	-0.478*	-0.388	-0.343	-0.003	0.001	0.003	-0.003	-0.016	0.013
Community: daily/weekly market	0.052	0.286	-1.349	-0.006	0.005	-0.166	0.014	0.018	-0.048*
Living in small town	1.009***	-	-	0.014	-	-	0.005	-	-
Region: Amhara ¹	1.389***	1.296***	1.398	0.026	0.027*	0.161	0.008	0.006	0.024
Region: Oromia ¹	0.806*	0.748*	0.768	0.009	-0.004	0.147	0.003	-0.016	0.034
Region: SNNP ¹	0.596	0.388	1.054	0.023	0.002	0.190*	0.023	-0.02	0.060
Region: Tigray ¹	0.538	0.626	0.405	-0.013	-0.005	0.116	-0.011	-0.02	0.013
Region: All others ¹	0.623	0.426	-	0.025	0.058	-	0.057	0.113*	-

Constant	-2.384***	-2.421**	-1.283*	0.054	0.080**	-0.073	-0.007	0.019	-0.016
Number of observations	1,625	1,214	411	1,625	1,214	411	504	288	216

Notes: *, ** & *** show statistical significance at 10%, 5% & 1% levels, respectively. ¹Comparison group: Addis Ababa. Multidimensional inequality is proxied by a squared variation of the household deprivation score from the average. SNNP=Southern Nations, Nationalities and Peoples. All observations are weighted to make estimates representative. Standard errors are not reported for brevity; they can be available upon request.

Source: Based on data from ESS 2015/16.

CHAPTER SIX

Synthesis, Conclusion and Policy Implications

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6. Synthesis, Conclusion and Policy Implications

6.1. The Interface of Population, Urbanization, Welfare and Economy

As introduced in Chapter one, State of the Ethiopian Economy 2020, or simply '*State of the Ethiopian Economy*' (*SEE*), is a flagship project of the EEA which will be issued every year and it replaces the former Annual Report. The SEE is conceived as a dynamic and living document which looks into not only the current and the past economic performance but also assesses the future diagnostics of social and economic agenda. It is an expression of EEA's responsiveness to the comments and suggestions of its clients and partners, and a realization of change with the time thereby offering realistic and informative social, economic and policy analyses. It aims to contribute to a deeper understanding of social and economic issues and inform policymaking, contributes to the design of operational programs, investment options, and initiates further research and debate, and serves as an important reference document.

While the themes of the present study contain four sectoral areas, however, the SEE is a single, interlinked and holistic study bringing salient features of population, migration, urbanization and welfare to be informed by and further informing macroeconomic economic development. For this reason, inter-sectoral coordination in terms of conceptual, methodological and analytical coherence; avoiding redundancies; and supporting cross-reference are taken into account throughout the analysis and write-up of the book and the chapters.

To an extent data permits, the ambitions of the study is to trace back 10 years and look 10 years into the future end beyond. Again, contingent on data availability, spatial and gender dimensions including urban/rural dynamics, and pull-push factors are incorporated into the study. The report keeps in mind policymakers, program planners, investors, development partners, and researchers/scholars. In keeping with demands of EEA readers, the report blends robust conceptual and methodological approach with ease of accessibility to non-economists.

The four interlinked themes discussed in the preceding four chapters are the study of the interrelationships among population (rural urban, migration) on the one hand, the national economy, and overall welfare of Ethiopians on the other. Typically, existing research appears to have focused on a single sector analysis without seeking for how a particular sector interfaces with other sectors. Similarly, most policy issues are excessively focused on the macroeconomy, an aggregate national output, the national ‘the pie’. Contrastingly, very little efforts have been exerted to understand how population has evolved overtime, spread geographically and how population is organized, that is, rural, urban, migration and urbanization processes. Population in all its spatial manifestation is the ‘denominator’, the divisor of the pie. Welfare then is the measure of the national pie and its population. It is not just the population size that must be studied, but also the urbanization processes that is as equally relevant. Urbanization offers an opportunity for a concentrated service delivery of education, health, roads, and basic utilities. For this reason, urban population demands for and often forces politicians to pay attention at the expense of the remote and sparsely populated rural population. Furthermore, when/if population growth and urbanization are not coherently and strategically

managed, it can lead to urban sprawling, and unbalanced national development discourse.

There are three overarching conceptual underpinnings that help clarify the relationships among population, the economy and welfare. First, the most enduring theory was advanced by Thomas Malthus in 1798 postulating that population grows geometrically, while food supply only increases arithmetically (Malthus, 1798). If left unchecked, this causes the population to outstrip food supply, which leads to a ‘Malthusian catastrophe’. The resulting policy proposition has been to keep the population growth in line with food supply, either by placing limit on the growth of the population (for example, by lowering the birth rate which is preventive checks), or a natural restriction that limits the growth of the population by increasing the death rate (positive checks). The underlying assumption that population continues to grow indefinitely, and food production would not keep pace with population growth has not come to be true. Production continues to expand beyond the Malthusian imagination benefiting from successive technological changes over the past century, and still there are a constant quest for expanding the frontier of production.

On the population side, despite population boom benefiting from health sector improvements, fertility rate as well as population growth rates have declined among populations in advanced economies. In fact, natural increase in population is below a natural replacement rate (that is birth rate is lower than death rates) thereby leading to declining population. In contrast, in most developing economies, growth in population exceeds that of growth in food production; this is not because of limiting natural resources, but because of the way developing countries have approached changes in technology, and the resulting fear of creative destruction.

As readers may notice from Chapter 4, early pattern of population transition appears to be emerging in Ethiopia, although inconclusive, that total fertility rate (being the number of babies born to females during their productive age) has declined from 7.1 in the 1990s to 5.2 in 2020 in rural area; whereas it has declined from 6.6 to 4.6 in urban areas. Historically, Ethiopia's population growth rate was 1.87% in 1950s, 2.73% in 1970s, 3.66% in 1990s and 2.57% in 2020. While the long-term population growth rate shows a slight decline compared to past decades, it remains one of the highest. At this point, it is not sufficiently clear whether or not 'demographic transition' is taking place in Ethiopia.

On the other side, agricultural production and productivity have continued to grow close to and/or below population growth rate and expanded demands for food supplies. Ethiopia is lagging entry into the full-scale modernization of agricultural and allied sector technologies. As such, the Malthusian bomb cannot be ruled out unless Ethiopia earnestly works in multiple fronts of technological change.

The second, and as equally prominent scholarship on population was advanced by Boserup that stipulates "...human societies have had to face the problem of inter-relationship between population growth and food production (Boserup, 1965). There are two fundamentally different ways of approaching this problem. Boserup's theory suggests that population change in primitive societies will lead to agricultural intensification with resulting increase in production. This counters Malthusian hypothesis. However, Boserup's model also faces severe limitation as the case of Ethiopia presents, that is, population pressure has not yet induced advanced technological adoption, at least for now. In spite of a continued increase in production both from expansion in area cultivated as well as limited use of

agricultural inputs smallholder farms are saturated and no longer absorbing new entrants into agriculture (see Diriba, 2018). As the second chapter in this study presented (see Chapter 4), rural to urban migration is taking place on an increasing scale; land carrying capacity and labor productivity have reached a diminishing return under the prevailing agricultural technologies and practices. The combined effects are that there are numerous rural and urban population who are faced with chronic and transient welfare deficits across range of variables including food, housing, water, fuelwood, and other essential expenditure for life (see Chapter 5 on urban welfare section).

The third framing of population issue is one that is focused on policy prescription and advocating for labor-intensive approach. The labor-intensive prescription is very appealing to politicians and policy planners, especially in economies dominantly rural and agriculture, and where manufacturing is at a low level. Implicit in such a prescription is of the fear of technological change and its consequences of replacing labor-intensive traditional methods of production, hence loss to labor. The key question is what exactly is ‘labor-intensive’ approach? A standard description of labor-intensive is provided as an industry or sector in which goods or services are produced with a large amount of labor, requiring a large number of employees in order to be successful. Labor intensity may be quantified by taking a ratio of the cost of labor (i.e., wages and salaries) as a proportion of the total capital cost of producing the good or service. The higher the ratio, the higher the labor intensity. In their natural state, labor intensive industries include agriculture, mining, and services.

Employment issue must now be seen along with the population dynamics discussed in Chapter 4. While the population

pyramid has somewhat varied across the decades of 2007, 2017, and the projected 2027 and 2037; however, it is evident that in 2007, the shape of population pyramid was wide at the bottom in rural areas and bulges at 15-24 years of age in urban locations. Ten years later, in 2017, rural age pyramid has remained wide-base with a step pyramid and gradually narrowing after 59 years. Urban population pyramid bulged at 10 to 34 further expanding the 'youth bulge'. The projected population for 2027 and 2037 shows bulging of 10-34 in urban area and continued wide base for rural area. Population bulge for specific age groups, especially in the middle (10-34) and increasing at the top has a number of important policy and development implications. The population bulge in the age range of 10 to 34 represents a reservoir of opportunities as well as developmental challenges. The youthful population both in urban and rural areas represents a continual reservoir of labor supply for a foreseeable future. As Ethiopia strives to join the club of countries referred to as 'Low-Middle-Income', it must harness the vast labor force for development opportunities. The underlying assumption or consideration is that Ethiopia will focus on enacting quality education merged with digital technologies to energize dynamic, innovative and skillful workforce that Ethiopia requires. However, the reservoir of youthful population can also signal challenges to the nation if economic transformation is not taking place at speed and scale to meet the growing demand for employment and other services. Ethiopia will have to contend with the vast rural reservoir of labor supply for many decades to come. The question is whether Ethiopia is deliberate in its policy managing emerging tension among population, urbanization, the demands for employment, food, and other basic services.

The proponent of the labor-intensive policy is likely to be at a collision course with technological change and the desire for

an integrated and multisector transformation. For example, a study by the International Labor Organization (ILO) notes that "... many African countries experienced a growth revival, some with exceptionally high growth rates. Yet the record of decent employment creation and poverty reduction has been very disappointing. So, something is wrong with the focus on growth per se, and with the prevailing patterns of growth. What is it? And how can policy better respond to the challenge? Do African countries need a new more efficient and more balanced growth strategy? How can such strategy be promoted? ... The policy challenge ahead is twofold: (a) to accelerate and sustain economic growth in the context of an increasingly volatile international environment; and (b) to make growth more inclusive and job-rich, enhancing the resilience of local households and local enterprises and upholding social and political stability" (ILO, 2011).

At the most fundamental level, Ethiopia cannot be, and it is not, an isolated island of technology; it is feasible to make a successful transition from the traditional to modern technologies without forgoing employment opportunities. Secondly, economic growth fueled by technological change and transformation is not at odd with labor employing ambitions. That is, economic growth due from multisectoral transformation will be a labor employing across sectors. As Diriba (2020) contends, "At the most fundamental level, Ethiopia's problem has been the way it has ignored the scientific progress that has provided economic and social solutions, eased human hardships from want of food, improved and accelerated transportation, invented tractors and harvesters that have eliminated the need to depend on the backbreaking antique farming methods and making agriculture work easier and more enjoyable (Diriba, 2020). The traditional factors of production, land, labor and capital, have now been

merged with the knowledge system. The real difference between the rich and poor countries is no longer only endowment of the factors of production as they used to be; rather it is how effectively nations, and people, utilize knowledge. Knowledge, that is scientific invention, technology, innovation, and the internet are all growing at an accelerated rate leaving far behind countries such as Ethiopia.”

Dependence on the traditional practices presents important challenges of meeting the Sustainable Development Goals (SDG), the global aspiration that commits to end hunger and poverty in all their forms, among the 17 SDG goals. The lagging technological change highlights the deficient nature of Ethiopia’s growth and raise some doubts about its sustainability. As discussed in Chapter 2, Ethiopia’s aggregate growth (GDP) primarily came from the non-economic sectors, namely, construction (27%) and services (41%), and the contributions of the real economic sectors is distant second with agriculture (25%) and manufacturing (7%). Furthermore, the service has the highest share of gross valued added with 40% in 2019 with the agriculture sector contributing 33%. All of these portends to a steep slope Ethiopia will have to climb to facilitate rapid growth of the real economy to mitigate the prevailing inflationary pressure.

Ethiopia’s investment in human development such as in health service coverage, reduction in child mortality, increase in life expectancy at birth, access to clean water, primary school enrolment and literacy have been remarkable; however, these are militated by high multi-dimensional poverty indices including severe deprivation in cooking fuel, housing, food, sanitation and other non-food poverty. That is why national indicators are littered with inadequate food intake and resulting stunting and wasting.

6.2. Findings and Policy Options

Several policy implications and key messages emanate from the interlinked studies of economy, urbanization, migration and population dynamics, and multi-dimensional poverty and inequality in urban areas discussed in preceding chapters. Ethiopia, in economic terms, will have to make a renewed commitment to a broader micro- and macroeconomic agenda, including a coherent population and urbanization strategy, transformation of productive sectors of the economy as well as domestic resource mobilization all of which are the necessary and sustainable means of financing both for the attainment of the SDGs and national social protection floors. Currently, Ethiopia's domestic resources mobilization, especially, taxation is at very low level although it has improved over the past years.

The government's ongoing policy and program articulation embodied in the Homegrown Economic Reform as well as Ten-year Development Plan aspire to induce structural transformation. How Ethiopia will push the transformation agenda across all sectors, especially focusing on agriculture and manufacturing as engine of transformation at the expected speed and scale of action. A genuine commitment to removing technical and technological barriers are prerequisites to putting Ethiopia on the developmental path of sector-wide transformation. For Ethiopia, transforming agriculture and the manufacturing sectors is *prima facie* action that has the capacity to fuel other sectors, reduce expenditure on food and keep wage inflation in check.

The employment agenda

Ethiopia will continue to experience massive working age population bulge over the coming decades as can be gleaned from Chapter 4. The wide-base population pyramid of rural areas will continually release large number of job seekers into urban areas both as a push and pull-factors. The demand for jobs must be matched by a rapid economy-wide transformation that creates new jobs as old ones are lost, especially in agriculture. For this reason, policymakers and development practitioners must aim, not only for aggregate GDP metrics, also at inclusive economic and social opportunities for all, including a decent job for all, a floor social protection system and improving the wellbeing of the population. The sector-specific development interventions and macroeconomic guidance that have been initiated over the past decades must continue with fervor and speed. Managing the dynamics of population, the youth and the working age population bulge, and the resulting incessant demands for employment will likely precipitate in massive population movements within rural and from rural to urban areas. Establishing a policy and operational framework for local development (woreda, kebele, small towns, municipalities) and putting in place effective accountability system at all levels of organizations are necessary to resolving the dynamics of population and economic interaction.

The employment challenge for Ethiopia will continue to mount as a result of rural to urban migration: both push factors due to diminishing rural land, the drudgery of agriculture, and expanded educational opportunities, and pull factors such as job opportunities and the allure of better conditions in urban areas. “Job creation”, rather, *creating job opportunities* better fits the characterization, must come from both the public and the private sectors and by diversifying the economy, and promoting inclusive

development opportunities at local levels. For example, Ethiopia will have to wake up to the urgent tasks of developing and mapping out urbanization policies with decentralized and guided urbanization strategies. Of course, urbanization cannot take place as an isolated agenda in itself; rather, it must be combined with rapid and at-scale structural transformations across all sectors of the economy. Economic transformation that encompasses population and urbanization is crucial for inclusive and sustainable development in line with the SDG ambitions and better welfare outcomes for all Ethiopians, be it in rural or urban locations.

‘Job-creation’ initiatives currently pursued at the Federal and across the Regional States to encourage and support self-employment plays, in the short- to medium-term, a key role in improving livelihood of a vast number of workers. A long-term policy and program framework must be devised that will help produce wage-employment, family businesses, small businesses, and aim to promote a better living and working conditions for all Ethiopians. It is important that employment creation should symbiotically coexist, promote technological adoption and enhanced structural transformation within and between sectors. Policymakers and development planners must get out of the traditional mindset of “labor-intensive” proposition, and must now recognize that job lost in an existing activity will give rise to many more other activities; for example, efficiency gains in agriculture will release large labor surplus, however, the surplus labor will find new employment in services, manufacturing, construction, and others.

Agriculture employs two thirds of the working force followed by services of 21% while industry employs the remaining 10%. However, the service sector is the highest contributor to GDP overtaking the historical dominance of agriculture. These

phenomenon results in expansion of urban informal sector and extreme wage inequality. Women workers are disproportionately represented in the informal economy and being marginalized from the benefits of urbanizations.

Governing urbanization and population

As discussed in chapters 3 and 4, urbanization and population agenda have not entered into the national development discourse as a priority, nor are there policy and developmental imperatives to guide urbanization, and encourage small town development at a local level with the goal of offering local level migration and offering better incentives than to migrating to major urban centers. It has become clear that Addis Ababa is the primate city with distant seconds of other regional towns. As Chapter 3 presented, the number of cities with population of more than 20,000 has increased from 22 in 1984 to 85 in 2007 and projected to increase to 442 cities by 2037. Furthermore, some 42.4 million people are expected to live in towns and cities by 2037, nearly doubling the present urban population of 22.88 million. Addis Ababa is 11 times larger than the second largest city with more than 4.79 million inhabitants (if the present Addis Ababa population to be taken seriously). Rapid urban growth is on the rise, but national development agenda and policy frameworks do not appear to be equipped with the required economic and social structural transformations.

Ethiopia must contend with the rising demands for services and essential supplies including food, health, education, water, housing, cooking and lighting energy supplies. As noted in chapter 3, 471,000 housing units are required annually for the rapidly expanding urban centers. This does not include the need to improve rural housing and emerging village development which

are the breeding ground of urban development. Already, supplying housing for urban population, especially in Addis and major urban towns, is the major challenge, and the rising rental cost of residential unit constitutes a significant proportion of wage income, to a large measure contributing to inflationary pressure. All of this signifies the challenge of growing demands for housing and other services. The stern shortage of formal urban housing results in unplanned urban sprouting and proliferation of secondary markets of urban land and housing (what is officially referred to as urban land invasion). The study also shows that urban areas are facing shortage of infrastructures and housing, concurring with the report by the Ministry of Urban Development and Housing (MoUDH) (2016) that highlights deficits in housing, infrastructure, and services, very high unemployment and inequality, and an increasing homelessness (MoUDH, 2016). The prevailing low level of urbanization, in relative terms, is an opportunity to harness the potential of urbanization through proactive policy guidance and masterplan development including strengthening urban planning and investing in institutional development and capability.

Urban centers in Ethiopia are evolving and expanding at a much faster pace than ever, although from low base. The rapid urbanization requires actively planned and managed functions to unlock the potential and facilitate inclusive development. Monitoring the current urban expansion must be the top priority for the government as the institutions in charge are publishing a series of strategy documents and proclamations. However, most of the policy documents in this regard are less effective and not informed by rigorous evaluations.

Rethinking welfare as investing in people

Ethiopia already is a home to millions of vulnerable populations with regularized welfare assistance in the form of PSNP, and humanitarian assistance as non-contributory social program. The non-contributory social program is necessary but unlikely to be sustainable as a single-track approach without introducing contributory social protection in rural and urban areas across the nation. Sustainable economic and social development requires effective welfare policies as key investment in human development and a contribution to growth, productive employment and decent work. Such efforts to create a more sustainable and inclusive social protection require the investment in the human capital of the population throughout the life cycle through access to health, education and other social services, as well as at least a minimum level of income security that empowers people to engage in productive employment and income-generating investments.

An expanded and coordinated social protection mechanism in Ethiopia presents policy challenges. The social protection must now be conceived as part of the broader social security, which includes the establishment of national social protection floors, emphasizes the importance of investing in people's social protection as a means to achieving substantial progress in poverty reduction and to realizing human right to social security. Such investments will help Ethiopia to develop the full productive potential of the population, contribute to the formalization of employment, support economic and social change, foster sustainable and equitable growth, reduce vulnerability and boost economic and social development.

Data availability

The four thematic topics treated in this study reveal inadequacy of data expressed in time series, spatial disaggregation, and consistency overtime. In some cases, data is rarely available, for example, Ethiopia does not have data on population migration nor is there a system to monitor it. Furthermore, where data is available, it is at a regional level; rarely is data available at woreda and Kebele level. No data is available, nearly for all economic and social variables, at local level (kebeles, rural towns, municipalities) nor is there organizational readiness to do so. The Central Statistical Agency (CSA) must be capacitated to undertake data collection at the disaggregated levels commensurate with Ethiopia's development demands. With more regions being carved out, boundaries of woredas (districts) are being modified incessantly which presents challenge to time series data analysis and resulting policy and development guidance.

Without timely, accurate, country-representative and disaggregated system of data availability nationwide, it would be very difficult, if not impossible, to sufficiently guide national development. The rapid urban expansion is a complex set of factors which requires comparable high-quality data and indicators and advanced analytical skills and knowledge. For this reason, it is critical to strengthening data-collection capacity.

6.3. Specific Recommendations

Based on the findings of the four studies, the following specific recommendations and policy implications are generated:

Macroeconomic development

1. ***Designing a differentiated support system to enterprises:*** To enhance structural transformation towards the manufacturing sector, there is a need for a special support scheme aimed at boosting productivity and competitiveness of the sector. The current support system to enterprises in Ethiopia is uniform without consideration of the risks and competitions the enterprises face. The manufacturing industries face stiff competition from imports. Moreover, it is prone to expensive logistics as it continues to be import-intensive. Hence, there is a need to design a differentiated support system to sectors based on the particular challenges they face. This would increase the share of the manufacturing sector in employment, GDP and exports.
2. ***Shifting towards development policies and interventions led by the private sector:*** Low TFP with high capital accumulation may indicate inefficiency of large public investments and points to the importance of shifting to private-led investment to sustain the recent growth momentum. While the government has reiterated its commitment to make the private sector an engine of growth and development, in practice there has been little changes in recent years as the public investment continues to dominate which crowds out credit and foreign exchange access to the private sector. It is imperative to address the financial repressions of the private sector for ensuring sustainability of the growth momentum.
3. ***Matching skills of the labor force with the needs of industries:*** With high urban unemployment and under-employment and with low wages of the employed on both rural and urban, mismatch of skills in the labor market is a key challenge that requires interventions as industries continue to

struggle to find appropriately skilled workforce despite large number of graduates from higher education and TVET systems. Not only is there a poor quality of training and education; but also, the skills being produced are not the skills required by the industries in the economy. A skills anticipation system is required to ensure alignment of skills supplied and those required by the industry.

- 4. *Investigating the underlying drivers of inflation in Ethiopia:*** The current high inflation in Ethiopia is not only depleting the welfare of consumers, but also firms as they have pressure to increase salaries expected to affect their competitiveness. A prudent monetary policy will play key role in curbing inflation. There is also a need to check on inefficient large government investments which fuel inflation without considerable gains for the economy. The intervention on improving agricultural productivity is also vital as it is directly related to the prospect of food inflation. For all these interventions, it is advisable to first conduct a diagnostic study of the drivers of inflation in the country.

Urbanization and development

- 5. *Addressing economic and social constraints:*** the current investments in industrial parks led by the government and economic growth corridors are expected to bring remarkable growth rates in the economy. Ethiopia's structural transformation is very slow mainly due to the slow growth of the production sectors (like industrial sector and agriculture) and rapid growth of the service sector, leading to inflationary processes. Rapid urbanization with slow structural transformations is going to exacerbate the negative externalities such as poor quality of education and health

services; urban poverty; and weak public transport services. Most cities in Ethiopia have low density but demonstrate urban sprawl (Gebre-Egziabiher and Yemeru, 2019). This leads to inefficient mobility within the cities and affect the costs and rents of residential and business properties (World Bank, 2019). A properly planned and managed urbanization plays a crucial role in eradicating poverty and improving quality of life by providing better education and health services and improved infrastructures with equitable access to all.

6. ***Improving the capacity of local administration:*** To realize the potential of cities, development and equitable distribution of services and infrastructures should be taken into consideration. Well-developed infrastructures create conducive environments to accelerate economic development. Strengthening local urban governance with the necessary incentives to municipal finance improves quality of urban services. Hence, priority should be given to strengthen urban local capacity that enables investment and generating finances for infrastructures and services by involving the private sector. An improved recognition and engagement of the private sector in private-public cooperation modalities enables to enhance planning and delivery of urban services.
7. ***Planning and land-use policy:*** Urban planning in Ethiopia is poor and inadequate, characterized by inefficient land management and complicated laws and regulations (Gebre-Egziabiher and Yemeru, 2019). There is weak compliance to land-use and transport measures and the expansion of informal markets for land and housing and urban sprawl. Which has a direct effect on the city's municipal revenue, residents' cost of living, mobility in the city and values of urban ecosystems and biodiversity. A long-term urban territorial and land-use

planning is required, taking into account the short-term dynamisms of socio-economic development and the associated modalities of monitoring and evaluating strategies.

8. ***The need for quality and research:*** Given the complex nature of urban areas and rapid urbanization prevailing in Ethiopia, capacity building in quality data collection, research and policy analysis should be given top priority by the government authorities.

Population dynamics

9. ***Recognizing the distribution and scale of rural-urban migration:*** The scale of rural-urban migration is expanding in Ethiopia with significant difference across regions. This requires a strategy to maximize the benefits of rural-urban migration while at the same time reducing the risks that includes sensitization of local authorities and law enforcement bodies to better understand the concept of mobility and migration and the reasons behind it.
10. ***Gender-responsive measures of addressing rural-urban migration and unemployment:*** Many migrants seem they face a lot of difficulties linked to accessing education and employment opportunities, particularly, women. Policies that address the needs of the migrant labor force in general and migrant women in particular are needed in order to harvest maximum benefits from their contributions.
11. ***The need for training of the unskilled labor force:*** As most migrants are unskilled youth with limited education, they are employed in the informal sector. There is need to improve their skills through access to vocational and technical training, as skilled migrant workers will lead to a greater productivity and economic growth.

- 12. *The need to diversify employment opportunities:*** Youths migrate from rural to urban areas due to lack of farmland. There is an urgent need to diversify economic opportunities available to youth in rural areas by setting up agro-allied industries in rural areas for providing job opportunity and ensuring the integration of the youth to the rural cash economy with bright future.

Urban welfare

- 13. *Addressing disparity and ensuring equity:*** Parametric evidences imply policies advocating gendered interventions, family planning, and provision of education, credit and employment opportunities. On the other hand, the findings of notable disparities among regions and higher rates of deprivations, monetary poverty as well as multidimensional poverty and inequality in small towns call for installing fair distribution systems. Given that poverty and inequality are found to fall with urbanization, a policy direction towards planned urbanization is also recommended.
- 14. *Access to credit for poverty reduction:*** Creating household access to microcredit and other sources of finance is another vital strategy. The National Bank of Ethiopia needs to promote innovative forms of microcredit access to the poor by the financial institutions. Stabilizing prices, especially of food, has effects on all forms of poverty and inequality. As the link between economic growth and poverty reduction is not perfect and with undesirable effects on inequality, redistribution policies including social protection programs for those in severe welfare deprivations may also be useful.

15. *Revising welfare measurement and monitoring methods:*

The monetary methods of welfare measuring and monitoring being employed by the Ethiopian Government relies only on expenditure-based poverty and inequality indices. And ignores the non-monetary dimensions of welfare. The measurement and monitoring of multidimensional welfare help in aligning the overall welfare measures to the SDGs (target 1.2) and track progress from the HDR.

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