Harnessing Uganda’s Demographic Dividend: Evidence From National Transfer Accounts

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The National Population Council (NPC)
The Republic of Uganda

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# TABLE OF CONTENTS

LIST OF CONTENTS ................................................................. iii
FOREWORD .................................................................................. v
STATEMENT FROM UNFPA ....................................................... vii
ACKNOWLEDGEMENT ............................................................... viii
LIST OF FIGURES ........................................................................ ix
LIST OF TABLES ............................................................................. x
LIST OF ACRONYMS AND ABBREVIATIONS ................................ xi
KEY FINDINGS AND POLICY IMPLICATIONS ................................. xii

**CHAPTER 1: INTRODUCTION** ..................................................... 1

1.1 Introduction and Motivation .................................................. 1
1.2 Objectives of the Study ....................................................... 3
1.3 Research Questions ........................................................... 3

**CHAPTER 2: LITERATURE REVIEW** ............................................. 5

**CHAPTER 3: METHODOLOGY AND DATA FOR DERIVING UGANDA’S LIFECYCLE DEFICIT** ............. 8

3.1 Introduction ........................................................................... 8
3.2 The National Transfer Accounts Framework ........................... 8
3.3 Demographic Dividend Methodology .................................... 9
3.4 Data Sources and Estimation Techniques ............................... 11

**CHAPTER 4: NATIONAL TRANSFER ACCOUNTS ESTIMATES: FINANCING UGANDA’S LIFECYCLE DEFICIT** ............................................................. 13

4.1 Introduction ........................................................................... 13
4.2 Public Consumption in Education and Health .......................... 13
4.3 Private Consumption .......................................................... 16
4.4 Labour Income Profiles ....................................................... 20
4.5 The Life Cycle Deficit ......................................................... 22
FOREWORD

There is no more important resource in a country’s development process than its human resource. It is with this central paradigm in mind that the National Planning Authority commissioned a study in 2014 to explore the possibility and likelihood of Uganda experiencing and harnessing a demographic dividend. The idea of population being a crucial factor in development planning has already been espoused by the National Planning Authority and indeed the country.

Uganda’s Vision 2040 recognized the country’s high fertility and resultant high population growth rate and unfavorable age structure as key constraints in the realization of the Vision. The population of Uganda is currently projected at about 39 million people and it is expected to double in the next 20 years. The population has been growing at rates of between 2.5% and 3.2% over the last 30 years mainly due to a high fertility rate which was about 7 children per woman coupled with rapidly declining mortality. The result has been the doubling of the population every 22 years and a high child dependency ratio. Currently Uganda has one of the youngest and most rapidly growing population in world, with the population aged 15 years below constituting more than half the total population.

The Country is therefore, at a critical and defining moment because the most important demographic issue for Uganda is related to the age structure rather the overall size of its population. Changes in the age structure of the population may bring about a demographic dividend that can be captured to produce a virtuous cycle of economic growth with right policy framework. Borrowing a leaf from the experience of the South East Asian countries like Malaysia, Thailand and Singapore, it may be possible to take advantage of this large youthful population and turn it into advantage. If that happens, the country will enjoy the benefits that accrue from a large population such as large markets and economies of scale in production, without suffering the burdens of the current dependency-riddled age structure.

It is within this context that, the National Population Council (NPC) and UNFPA commissioned an independent study on Harnessing Demographic Dividend using the National Transfer Accounts methodology, to examine the extent to which Uganda will be able to meet its aspirations of reaching upper middle-income status by 2040 given its current dependency ratio by age profiles. Government institutions and stakeholders engaged in population and development activities in the various sectors will be able to see the potential impact of their efforts through the assessment made in this report. They should also take note of the challenges highlighted by the report especially where it emphasized disproportionate burden on households incurred costs and expenditure on health and education, which is constraining them from saving and wealth accumulation. It also pointed out that there is need to increase or prioritize efforts in public spending in the health and education sectors and better targeting of Government programmes if the demographic dividend is to be fully realized. Overall, the findings of this study will go a long way in informing public policies, planning frameworks and investment priorities in Uganda.
It is the hope and desire of the Government that the findings and recommendations of this report will guide policy and decision makers, planners, development partners and implementers of population programmes in Uganda and will be used to influence the development discourse towards achievement of the upper middle income status by 2040.

Charles Zirarema
For: Director General, National Population Council
STATEMENT FROM UNFPA

I am happy to write this statement, because the results of this report are timely to inform the review of the National Development Plan (NDP) II and subsequently the development of NDP III. Uganda’s economy over the past decade has achieved an impressive growth of more than 5 percent a year (UBOS, 2018). The population has also grown rapidly, estimated at 39 million in 2018, from 20.4 million in 2002, and is projected to reach 68 million people in 2040 - a year by which Uganda aspires to become a middle-income nation.

The total fertility rate of 5.4 children per woman, combined with improvements in child survival, have fueled population growth and led to an age structure dominated by large numbers of children and youths. If Uganda’s large population of young adults can find productive employment, then the country will enjoy a first demographic dividend, raising the current standard of living and spurring the economy. If resources generated by this first demographic dividend are invested in physical capital and in children’s health and education, then Uganda can achieve a second demographic dividend that will boost economic growth over a longer period. Uganda faces a difficult balancing act, weighing the priority to raise current living standards against the need to increase investment in human and physical capital that will lead to permanently higher economic growth.

The changes in population age structure that accompany fertility decline are important because people earn income and consume at very different levels over the course of their lives. Working-age adults, as a group, produce more than they consume, while children and the elderly consume more than they produce. Therefore, understanding the economic lifecycle is essential because its basic features determine the effects of population age structure on economic growth.

The National Transfer Accounts (NTA) report, describes the economic lifecycle by measuring consumption and labor income at every stage of life. And like many other African countries, Uganda’s per-capita consumption exceeds labor income, with expanded consumption among the young age group. This is not because Ugandan children consume so much, but rather because there are so many children in the population! It is urgent therefore, that, the Uganda government through planning and good governance prioritize young people’s access to education, health and expand their opportunities for economic productivity. Young people, are the custodians of the future and can be at the forefront of technological innovation and social transformation.

It is my belief that, the findings of this report when used by the National Planning Authority (NPA), Ministry of Finance, Planning and Economic Development (MoFPED), Parliament and by all planning experts in Ministries, Agencies and Departments (MDA’s) to guide decision making, will contribute to Uganda’s aspirations of reaching an upper middle income country by 2040.

Let me thank the National Population Council (NPC) for producing this report, another piece of strong evidence on the importance of population dynamics for sustainable development.

Alain SIBENALER
Representative
United Nations Population Fund (UNFPA), Uganda
ACKNOWLEDGEMENT


The Steering Committee provided technical oversight for the study, approved the inception report and the final study report. The study was conducted and report written by Dr. John Mary Matovu, the Team Leader and a Research Fellow at Research for Transformation and Development who provided technical leadership for the study. Dr. Matovu was supported by three experts from Makerere University, College of Business and Management Sciences (COBMAS), Prof. Edward Bbaale, Dr. Francis Wasswa and Dr. John Bosco Oryema.

The study report also incorporated input garnered from in-depth consultations with Government officials and official data collected from the following relevant Ministries, Departments and Agencies (MDAs) namely; Ministry of Education and Sports, Ministry of Health, Ministry of Finance, Planning and Economic Development, National Planning Authority, Uganda AIDS Commission and Uganda Bureau of Statistics as well as other stakeholders.
LIST OF FIGURES

Figure 1.1-1: Illustration of Economic Support Ratio
Figure 0-1: Age Profile of per Capita Public Consumption Expenditure on Education by Facility level
Figure 0-2: Age Profile of per Capita Public Consumption Expenditure on Health by Facility level
Figure 0-3: Public Health Expenditure: Comparative Analysis on SAGE and Non-SAGE Households
Figure 0-4: Age Profile of per Capita Public Private Spending on Health 2012/13 – 2016/17
Figure 0-5: Age Profile of per Capita Public Private Spending on Education 2012/13 – 2016/17
Figure 0-6: Per Capita other Private Consumption 2012/13 – 2016/17
Figure 0-7: Per Capita Spending on Food and Non-Food 2012/13 – 2016/17
Figure 0-8: Per Capita Total Private Consumption 2012/13 – 2016/17
Figure 0-9: Age Profile of Wage to Employees 2012/13 – 2016/17
Figure 0-10: Age Profile of Earning for Self Employed 2012/13 – 2016/17
Figure 0-11: Age Profile of Per Capita Lifecycle Deficit 2012/13
Figure 0-12: Age Profile of Per Capita Lifecycle Deficit 2016/17
Figure 0-13: Growth Rates of Effective Consumers, Effective Producers and Economic Support Ratio
Figure 0-14: Economic Support Ratio, Uganda 1960 – 2050
Figure 5.1-1: Public Spending on Health and Education Sectors (% GDP)
Figure 5.1-2: Distribution of Public Education Spending Benefits by Population Quintiles and Facility Level
Figure 5.1-3: Concentration curve of Education Subsidy by Population Quintiles and Facility Level (%)
Figure 5.1-4: Utilization of Public Health Facilities
Figure 5.1-5: Utilization of Public Health Facilities by Income Status (%)
Figure 5.1-6: Concentration curve of Health Subsidy by Population Quintiles and Facility Level (%)
LIST OF TABLES

Table 0-1: The Process of Data Collection
Table 0-1: Aggregate Control of Life Cycle Deficit, 2013
Table 5.1-1: Average Public Education Spending per Person by Age Group
Table 5.1-2: Average Public Education Spending per Person
Table 5.1-3: Average Household Education and Health Spending per Person by Welfare Quintiles
Table 5.1-4: Pupil/Student Government Subsidy by Enrolment by Facility Level 2002/03 – 2012/13
Table 5.1-5: Estimated School Enrolment by Income Quintiles and Facility Level 2002/03
Table 5.1-6: Estimated School Enrolment by Income Quintiles and Facility Level 2012/13
### LIST OF ACRONYMS AND ABBREVIATIONS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
</tr>
<tr>
<td>BTVET</td>
<td>Business, Technical and Vocational Education Training</td>
</tr>
<tr>
<td>COFOG</td>
<td>Clarification of Outlays by Function of Government</td>
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<tr>
<td>CPI</td>
<td>Consumer Price Index</td>
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<tr>
<td>COBMAS</td>
<td>College of Business and Management Sciences</td>
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<tr>
<td>ESR</td>
<td>Economic Support Ratio</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Products</td>
</tr>
<tr>
<td>GOU</td>
<td>Government of Uganda</td>
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<tr>
<td>LCD</td>
<td>Life Cycle Deficit</td>
</tr>
<tr>
<td>MDAs</td>
<td>Ministries, Departments and Agencies</td>
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<tr>
<td>MoES</td>
<td>Ministry of Education and Sports</td>
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<tr>
<td>MFPED</td>
<td>Ministry of Finance Planning &amp; Economic Development</td>
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<tr>
<td>MoH</td>
<td>Ministry of Health</td>
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<tr>
<td>NIPA</td>
<td>National Income and Products Accounts</td>
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<td>NDP</td>
<td>National Development Plan</td>
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<td>NTA</td>
<td>National Transfer Accounts</td>
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<td>NTTA</td>
<td>National Time Transfer Accounts</td>
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<tr>
<td>PPS</td>
<td>Probability Proportional to Size</td>
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<tr>
<td>SAGE</td>
<td>Social Assistance Grants for Empowerment Programme</td>
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<tr>
<td>SDGs</td>
<td>Sustainable Development Goals</td>
</tr>
<tr>
<td>SNA</td>
<td>System of National Accounts</td>
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<tr>
<td>UBOS</td>
<td>Uganda Bureau of Statistics</td>
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<td>UGX</td>
<td>Uganda Shillings</td>
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<td>UNFPA</td>
<td>United Nations Population Fund</td>
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<td>Uganda National Households survey</td>
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<td>UPE</td>
<td>Universal Primary Education</td>
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<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
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<tr>
<td>USE</td>
<td>Universal Secondary Education</td>
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<td>USD</td>
<td>United States Dollar</td>
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KEY FINDINGS AND POLICY IMPLICATIONS

A: National Transfer Accounts Results

1. The first demographic dividend was realized in 2002 and expected to peak in 2020. This coincides with Uganda’s aspirations of joining the middle-income status country. Our findings are similar to some African countries like Nigeria and Senegal whose demographic dividend started periods after the year 2000 but differ from others like Ghana whose demographic dividend started in early 1990s.

2. Declining trends in fertility rates has resulted into positive trend of the support ratio. Uganda’s support ratio from 1960-2050 indicates that between 1960 and 2006, the support ratio was declining. This implies that in that period, workers had to struggle to support more people. The support ratio starts to increase from 2006, which consequently implies that each effective worker is supporting fewer effective consumers. This is consistent with the decline in fertility rates from 6.7 children per woman to 6.2 children per woman in 2011. An increase in the support ratio potentially frees up resources that can be used to raise per capita consumption, increase saving, or both and hence leading to the enjoyment of the first demographic dividend.

3. There is a need to increase public spending on youth programs to relieve the burden from the young adults whose window of opportunity to save is limited. The youth remain key beneficiaries of transfers especially from the adult population. However, this is also constraining the ability of the adult population to remain with any savings. Given the high level of unemployment among the youth, reported at 64 percent, the youth continue to be supported by their parents hence constraining their potential to save even further.

4. There is an urgent need to address the declining public expenditures of households by intensifying programs such as wealth creation to enhance the income of households. Both total and other private expenditures for 2016/17 seem relatively lower than those of 2012/13 (i.e., 5 years earlier). One possible explanation is the sharp increase in education and health expenditures leaving little income to be spent on consumption of other goods and services. The other possible explanation is that some individuals and households fell into poverty in the last five years. This is possible since according to recent UNHS2016 poverty estimates by UBOS, the proportion of the population living in poverty increased from 19.7% in 2012/13 to 21.4% in 2016/17, an equivalent of about 10 million people living below the poverty line.

5. There is need for Government to invest in modernization of the Agricultural Sector to absorb the large proportion of the unemployed but also improve the livelihoods of those that are mainly engaged in subsistence farming. The self-employment income profile starts at age 14 but is more pronounced between ages 25 and 58. Surprisingly, self-employment labour income suggests that there is early retirement from work in the informal sector occurring at age 61. The Ugandan Labour Force has remained predominantly self-employed (80%) with the majority in the Agricultural Sector.
(72%) which is largely subsistence and requires use of a lot of energy. Specific areas on intervention in agriculture include:

- Modernize agriculture to enhance its productivity and develop value addition industries.
- Promote better quality expenditure and investment in agriculture; via improved budget processes aligned to well-articulated strategies.
- Prioritize enhancement of economic infrastructure and export oriented economic reforms, and enforce accountability in the use of public resources in order to attract investments and create mass quality jobs for the “surplus” labour force.
- Reform education curricula and teaching methods to focus on innovation, skills development, science and technology, and entrepreneurship development.
- Attract more private investment in export-oriented industries with high job-multiplier effects.

6. **There is a need to address the challenge of early employment among the young population.** The younger ages in the labour income profile suggests the prevalence of child labour or a relatively high proportion of economically active children in Uganda. This may call for targeted skilling programs for children who are already absorbed in the labour force and have not got the opportunity to go through the formal schooling system. In addition there is a need to skill the adult population with the objective of transitioning the population into higher productive jobs. Specific interventions in this area highlighted in the population report include the following:

- Strengthen the skills development at both secondary and tertiary institutions.
- There is need to strengthen the labour intensive industry policies and fast track implementation of the 2014 Buy Uganda, Build Uganda (BUBU) and the local content policies.
- Encourage and support investors that set up labour intensive industries with productive incentives. This should be done through providing productivity enhancing incentives such as cheap electricity.
- There is need to consolidate all on-going skills training initiatives in the country. Government should consider consolidating all skills training and development under a single and coherent skills development framework, more especially the Skilling Uganda programme.
- Need to retool the BTVET institutions. This will enable them offer theoretical and practical knowledge to students and impart them with market demanded skills through practical sessions. Government needs to set aside funds for upgrading BTVET institutions.
- Fast tract certification of the uneducated skilled youth. This is supposed to be done in order to enable them acquire formal employment.

7. **The window for savings or having a lifecycle surplus is very limited in Uganda.** This calls for government to allocate more resources especially in the health and education sectors where parents seem to be overburdened. Estimates seem to suggest a very short window of surplus of between 10-12 years that starts at age 42 and ends at age 56. Thus, Ugandans aged between 42 and
56 earn more income than they consume. Given that the life expectancy is estimated at 65 years of age, the window to accumulate wealth for Ugandans remains very small.

B: Public Expenditures on Health and Education

1. **A more balanced approach to spending on social sectors and infrastructure development needs to be adopted.** While there is indication that public spending on education grew at an average rate of 0.7% per year for the entire schooling age group (ages 6-24 years), this has grown at a much lower pace owing to the significant increase in the level of the school-age young population. This therefore calls for further allocation of resources to this age group. While much emphasis has been put on the primary age group (resources increasing by 1.2 percent per capita), this is still not sufficient to meet the increasing population under this age group.

2. **With introduction of USE, there seems to be shifting of some resources between primary education and secondary education without necessarily increasing the resource envelop for both sectors.** This may have negative consequences on reproductive health. The adolescent group tend to be more vulnerable than the other age groups and if there is low funding for their education, they may get into risky sexual behaviors leading to pregnancies. This would jeopardize attempts to achieve reduction in birth rate/fertility, which is a necessary condition for achieving demographic dividend.

3. **The negative growth rate of public spending on education for age group 13-18 is of concern.** With introduction of USE, there seems to be shifting of some resources between primary education and secondary education. This may have negative consequences on reproductive health as adolescent group tend to be more vulnerable than the other age groups. This may also jeopardize the gains to achieve reduction teenage pregnancies.

4. **This increased burden towards the households limits their capabilities to save and accumulate wealth.** Private education expending has been growing at a rate faster than growth in public spending. The trend cuts across all the sub age groups for school age population.

5. **There is need to increase public investments on the adolescent group which continues to be low and also growing at a lower rate.** Generally, public healthcare spending per person has been growing over the 2002/3-2012/13 period. In per capita terms, public spending on healthcare grew at an average rate of 4.7%.

6. **The burden of spending on education and health has fallen more disproportionately on poorer households.** Education spending growth was in fact highest among less-well-off households. Public education spending has barely kept pace with the school-age population and this may have increased the burden on households to use their own resources. This implies that the government should reorient its resources and target them better towards the poor households.
7. **Supply-side constraints particularly the poor quality of health service provided at the health center unit need to be addressed.** In 2002/03, the most frequently used health service was the health unit, with 0.683 visits per individual on average. Hospitals were the least frequently used, with an average of 0.198. The reverse can be observed ten years later in 2012/13, where hospitals are the most frequently used with 0.98 visits per individual on average compared to 0.817 visits per individual for health unit.

8. **Per capita spending on both primary and secondary education levels remain small even compared to peer countries like Kenya and Ghana ranging between 59,000 and 67,000 Uganda shillings.** The public consumption profile for education reveals extremely large transfers to the younger population. Total public consumption on education increases sharply from age 4 peaking at age 19 years. It then declines sharply initially until age 22. This result is similar with public consumption profile in several other countries like Kenya (Mwabu et al., 2011) and Ghana (Amporfu et al. 2014). A bigger share of public consumption on education is driven by spending on primary and secondary education. This is expected in light of the two government policies on education — UPE and USE.

9. **There is an urgent need to establish a universal health insurance system which can cater for all the age groups.** Increased private health consumption in the absence of national health insurance and efficient retirement benefits is an indication that the burden of financing health expenditures for the elderly falls on the working population. This calls for government to provide an environment where national health insurance systems can thrive to reduce the health care burden on the working age population.
CHAPTER ONE

INTRODUCTION

1.1 Introduction and Motivation

While significant progress has been achieved in the reduction of child mortality, Uganda is still struggling with reducing the fertility rates and this has resulted into a high population growth rate with a large youth population. Managing the youthful population requires that the demographic dividend and structural change are harnessed to drive more rapid and sustainable economic growth. The burden of the youth on the working population (child dependency ratio) continues to be high and therefore constraining the capacity of households to save and get on board to the wealth creation process currently advocated for by government. Available statistics from UBOS show that over half of Uganda’s population (57%) is under the age of 15 years, and over half the labor force is under the age of 30, youth aged 15 to 24 years comprising 23.8%, and youth aged 18 to 30 years comprising 24.4%. This bulging youth population calls for urgent need to simultaneously reduce both child mortality and fertility rates by government investing in both education and health sectors if Uganda is to benefit from the demographic dividend.

In 2014, the National Planning Authority (NPA), with support from United Nations Population Fund (UNFPA), published a demographic dividend report titled “Harnessing the Demographic Dividend: Accelerating Socioeconomic Transformation in Uganda.” The report aimed to assess Uganda’s prospects of harnessing the demographic dividend in light of Vision 2040 — “A transformed Ugandan society from a peasant to a modern and prosperous country within 30 years”. The results of the study were used to inform the development of the Second National Development Plan (NPD II). In particular, the report outlines three key findings:

i) Uganda’s demographic indicators and emerging economic opportunities can be turned into a sizable demographic dividend that can propel the country to achieving the socioeconomic transformation envisaged in Vision 2040;

ii) Under the Business as Usual Scenario, Uganda would achieve limited economic growth and development, and the per capita GDP would increase from USD 506 in 2011 to USD 927 in 2040, and; and

iii) If the country prioritizes economic, social and demographic factors to achieve the socioeconomic transformation envisaged in Vision 2040, this would result into per capita GDP of USD 9,567.

The above key findings are indeed at a very high macroeconomic level and would be difficult to understand how these high level results would be achieved. To achieve per capita income of USD 9,567 by the year 2040 as envisioned in the Vision 2040, it is imperative to understand the intergenerational flows of resources in an economy by analysing the behaviour of individuals over their lifecycle in terms of consumption, incomes, dependency, transfers and savings.
The generational economy can be well appreciated by analysing the “economic lifecycle” of individuals, which is characterised by the age pattern of labour income and consumption of public and private goods and services. The economic lifecycle typically shows that populations concentrated in working ages can support a higher level of consumption than population concentrated in the dependent ages for whom consumption exceeds income. This life cycle deficit (LCD) of the dependent age groups is financed by age reallocations in terms of intergenerational transfers and asset-based reallocations (Ladusingh and Narayana, 2011). Indeed, people consume considerably more than they produce through their labour over extended periods at the beginning and the end of their life. In other words, children and the elderly consume more than they produce while those in the prime working ages not only support their own consumption but also that of the economically dependent segment of the society (Ladusingh and Narayana, 2011).

Countries with shrinking numbers of children due to fertility decline and large shares of working-age people can raise their rates of economic growth and standards of living. This phenomenon is often referred to as the “first demographic dividend” or window of economic opportunity (Lee and Manson, 2006), because even with no other changes in the economy, income per person will increase. The dividend in this case is usually quantified using the Economic Support Ratio (ESR) – the ratio of the number of workers adjusted for age-specific variation in work effort and productivity to the number of consumer adjusted for age-specific variation in needs. Over the demographic transition the support ratio rises to a high and favourable peak and then declines as the population ages (Figure 1.1-1).

**Figure 1.1-1: Illustration of Economic Support Ratio**

![Support ratio graph](image)

*Source: Figure 1.3, page 11: National Transfer Accounts Manual: Measuring and Analysing the Generational Economy by Department of Economic and Social Affairs, Population Division of United Nations.*

In light of the above, how rapidly the support ratio increases and how high a peak it reaches in Uganda will depend on the specifics of demographic change and on key features of the economic
lifecycle. The support ratio will increase more rapidly in Uganda if fertility decline is more rapid. The support ratio will also increase more rapidly if fewer young adults emigrate in search of better economic opportunities. Of these two forces, however, fertility decline is the more important.

It is within this context that, the National Population Council (NPC), with support from UNFPA commissioned an independent study on Harnessing Demographic Dividend using the National Transfer Accounts methodology, to examine the extent to which Uganda will be able to meet its aspirations of reaching upper middle-income status by 2040 given its current dependency ratio by age profiles. The findings of this study will inform wide-ranging policy planning and implementation of demographic developments in Uganda.

1.2 Objectives of the Study
The general objective of this study is to use the National Transfer Accounts (NTA) methodology to assess how Uganda will potentially be able to benefit from the demographic dividend given the current lifecycle behavior of individuals. The specific objectives are to:

1. Assess the current dependency and support ratios of individuals by examining their consumption and incomes over their life-cycle;
2. Assess the intra-household transfers as well as transfers between government and individuals and the extent to which these transfers could be used to accelerate achieving the demographic dividend; and
3. Assess the savings and assets accumulation process of individuals and whether the current savings behavior would support the expected growth in per capita income by 2040.

1.3 Research Questions
Achieving the above objectives requires answering the key research question of “How Uganda can capture and maximize the potential benefits presented to it by its changing demographic composition over the coming decades?” This question has several policy implications and therefore requires answering the following specific questions if the findings of the study are to inform policy design and discourse. Specific research questions include the following:

i) Given the current dependency and support ratios of individuals, to what extent can government influence the existing trends by creating employment opportunities especially for the youth population;

ii) Given the current intra-household transfers as well as transfers between government and individuals what should government do to accelerate achieving the demographic dividend;

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1The support ratio (SR) and the dependency ratio (DR) are similar measures of population age structure. In some studies the support ratio is defined purely in demographic terms as the population in the working ages relative to the population in the consuming ages, equivalent to the total population. The dependency ratio is the population in the non-working ages relative to the population in the working ages. The working ages are often considered to be 15-64 but the exact definition varies from study to study. These two demographic measures are closely and inversely related: \( \text{SR} = 1/(1+\text{DR}) \). Which demographic measure is employed is often a matter of analytic convenience with the support ratio being a more convenient measure when considering the macroeconomic effects of changes in age structure.
iii) What are the specific programs (e.g. in education, health or family planning) that are currently underfunded by either the private or public sector;

iv) Given the current savings and assets accumulation process of individuals how feasible is it to meet the aspirations of Uganda joining the middle-income status as stipulated in the NDP and Vision 2040? What will it take to achieve this status?
CHAPTER TWO

LITERATURE REVIEW

There is a growing body of literature concerning demographic dividends and the National Transfer Accounts approach. Whereas the conceptual foundations of National Transfer Accounts (NTA) can be traced many years ago (Samuelson, 1958; Diamond, 1965; Willis, 1988; and Lee, 1994a and 1994b), it is only recently that many studies have been conducted in the subject area. For example, the most comprehensive discussion of NTA and estimates of accounts for 23 countries are provided by Lee and Mason (2011b). Developed by Lee et al. (2006), the National Transfer Accounts (NTA) framework aims at creating an understanding of the generational economy in terms of monetary transfers by age and overtime (Lee and Mason 2011b). In other words, NTA explores how different generations acquire and use economic resources.

NTAs are consistent with standard National Accounts as formulated by the United Nations System of National Accounts (SNA) (Lee 1994a and 1994b). However, they go beyond National Accounts in two important ways. First, they add an age dimension to most variables in the accounts such as consumption, labor income, saving, asset income of various kinds, tax payments and public benefits received. Second, they provide estimates of private transfers made and received, both within households and between households (Lee 1994a and 1994b).

The channels of intergenerational monetary transfers have been identified in the literature. The most common and conventional channel is the downward channel where monetary transfers move from parent to child or grandparent to grandchild (Albertini et al. 2007; Attias-Donfut et al. 2005; Kohli 1999; Lee and Donehower 2011). However, Lee and Donehower (2011) present an exception for some Asian countries where the elderly remain net givers through their seventies or longer. It has been observed that the elderly receiving pensions can transfer money received from government to the young ones who are still in the school going age bracket or those who are still searching for a job without any source of earning (Kohli 1999). This type of transfers is strongly influenced by the parental financial resources, the needs of the child, and the frequency of contact.

The macro-level factors influencing the patterns of the resource flows across generations have been identified as structural, institutional, and cultural (Kohli 2004). Under the structural proposition, the resource flows across generations seems to take place indirectly through sharing various core facilities like shelter, transportation and others. The cultural factor determines the social ties that an individual might have with the rest of the family members and this greatly influences intergenerational monetary transfers in terms of the amount to be transferred, to whom and for how long. The institutional environment is another factor influencing intergenerational money transfers. This concerns the legal and regulatory framework determining someone’s obligation to support other family members. But the amount to be transferred under the institutional set up may
depend on the cost of social services like health and education (Kohli 2004). Albertini et al. (2007) find that among Nordic, Southern, and Continental European countries, regional differences in welfare regimes are related to the frequency and degree to which family members choose to financially support one another. Others observe an inverse relationship between the availability of public transfers within the welfare structure and private monetary transfers (Lee and Donehower 2011).

Literature has also emerged on the National Time Transfer Accounts (NTTA) which analyzes the intergenerational time transfer especially in the perspective of gender, age and household composition. It has been argued that time transfers especially within the household is almost unidirectional flowing from women to men. Women have been found to be the primary producers within the household and consequently incurring surpluses across the life cycle. Men are thin within the household in terms of contribution to household production at all stages (Anxo et. al. 2007; Apps and Rees 2005; Donehower and Mejía- Guevara 2012; Phananiramai 2011). A comparative study of nonmarket activity in Western Europe and the United States have found the gender gap to be widest in Italy, followed by France, the United States, and Sweden. This gender gap is most prominent after marriage and before age 59 (Anxo et al. 2007). A study of household production in Thailand finds that household production peaks at age 31 for Thai women, but remain relatively high between approximately ages 25 and 70 (Phananiramai 2011). A study by Lee and Mason (2011a) provides evidence to the fact that there is no significant difference between the production and consumption trajectories in the life cycle of both developed and developing countries. They find that deficits between labor income and consumption exist up to age 26 and re-surface after age 60. Lee and Mason (2011a) document that countries with an aging population like the case of Germany, display a much higher deficit among the elderly than those with younger populations. Amporfu et al. (2014) analyzed the demographic dividend for Ghana using the National Transfer Accounts Approach. The authors found that lifecycle surplus runs for about 30 years and peaks around age 50. Additionally, they provide evidence that there is early entry in the labor force as well as late exit probably because of the large informal sector in the country. Furthermore, they argue that Ghana started enjoying the first demographic dividend in 1990 and is expected to peak around 2031. Soyibo et al. (2012), used the National Transfer Accounts (NTA) approach to estimate and compare the sources and size of economic lifecycle deficits of Nigeria and Kenya. They find that both countries have economic lifecycle deficits that cannot be offset by labor income, suggesting that individuals must rely on asset income and intergenerational transfers to finance the deficits. The findings of Soyibo et al. (2012) of an economic lifecycle deficit is similar to Lee and Mason (2011).

Oosthuizen (2013) investigates the resource flows across ages within the generational economy in the case of South Africa. The paper reveals that South Africans under the age of 30 and those over the age of 59 consume more than they earn in the labour market and so experience lifecycle deficits. The paper accounts for the impact of youth unemployment in South Africa in delaying the rise in
labour income and a quick transition to surplus. Racelis and Salas (2007) applied NTA approach in the Philippines. They found that Labor income has the expected inverted-U shape, which peaks at age 42 and appears slightly skewed to the right. Consumption is strongly influenced by the shape of the ad hoc equivalence scale used to distribute household consumption to its members. The life-cycle deficits are recorded for ages 0-24 years and 62 years and older.

From the above analysis, it is clear that literature on NTA in the African perspective is still scanty. Much of the work has been done for Europe, America and Asia. There are a few studies in Africa and to the best of our knowledge; there is no study that particularly focused on Uganda. Therefore, the current study on the intergenerational transfer of resources in Uganda represent a real value added and will be instrumental in influencing government policy.
3.1 Introduction
To achieve the objectives of this study, it is imperative to understand the intergenerational flows of resources in an economy by analysing the behaviour of individuals over their lifecycle in terms of consumption, incomes, dependency, transfers and savings behaviours. To this end, we note that the economic system of Uganda is characterized by the coexistence of the public and private sectors in the production and consumption of goods and services, including ownership, management, and financing of social and economic sector activities. Moreover, Uganda is an open economy because its borders are open for international trade in goods and services as well as for international production (e.g., labour and capital). In fact, an increase in openness has been an important factor in the globalization of the Ugandan economy. To this end, we used the National Transfer Accounts Framework (see Mason et al. 2006) to capture the economic implications of a changing age structure based on the economic lifecycle.

3.2 The National Transfer Accounts Framework
The National Transfer Accounts (NTA) approach to quantifying the demographic dividend developments was developed by Manson et al. (2006) and is widely used to estimate demographic dividend in many countries. It provides a systematic approach to introducing age structure into the National Income and Products Accounts (NIPA) to describe intergenerational flows of resources in an economy. The NTA comprises an accounting system for measuring intergenerational reallocation of resources across ages at the aggregate level in a way that is consistent with the National Income and Product Accounts (NIPA) (NTA at flickr, 2010). Unlike the NIPA, which only estimates macro variables such as consumption and income that are delinked from population’s age structure, the NTA is able to estimate the aggregate consumption and income for the population of each age in a given economy. Consequently, the NTA is an approach used to assess the economic performance of countries in relation to changes in the population structure (Lee et al., 2008). It has strong theoretical foundations based on the overlapping generation model (Samuelson, 1958 and Diamond, 1965).

The NTA methodology focuses on what is referred to as the generational economy, defined as: (1) the social institutions and economic mechanisms used by each generation or age group to produce, consume, share, and save resources; (2) the economic flows across generations or age groups that characterize the generational economy; (3) explicit and implicit contracts that govern intergenerational flows; (4) the intergenerational distribution of income or consumption that results from the foregoing (Lee and Mason, 2011, p.7). There are four activities that are central to the generational economy, namely working, consuming, sharing and saving (Mason and Lee, 2011b,
Consumption occurs throughout the lifecycle, although the level varies by age. Productive employment, however, does not occur across all ages, particularly amongst the very young and the very old. As a result, the young and old are typically unable to finance their consumption on their own. Sharing and saving, then, represent the only means through which the young and old are able to bridge this gap. Therefore, quantifying the demographic developments in a country like Uganda requires analysing the extent of the support ratio by age profiles.

The technical details of the NTA methodology are well explained in the NTA manual (Mason et al., 2009), as well as various other publications (see, for example, Lee and Mason, 2011). The aim of NTA is to be able to quantify economic flows for single-year age cohorts, from the very youngest to the very oldest. These economic flows are important because they reflect a fundamental feature of all societies: the economic lifecycle (Mason and Lee, 2011a, p.55). For any individual, inflows must equal outflows and the following identity holds:

\[
Y^I(a) + \tau^+(a) + Y^k(a) + Y^{P+}(a) = C(a) + \tau^-(a) + +Y^{P-}(a) + S(a)
\]  

(1)

The left-hand-side of the identity comprise of inflows in terms of current labor income \(Y^I\), transfer inflows \(\tau^+\), capital income \(Y^k\), and property income \(Y^{P+}\), respectively. The right-hand side consists of outflows from the age group \(a\), in terms of consumption \(C\), transfer outflows \(\tau^-\), property income outflows \(Y^{P-}\), and saving \(S\).

The NTA flow account identity presented in equation 1, consistent with the national income identity, provides an empirical basis for computing Life-cycle Deficit (LCDs) and age reallocations. Rearranging the terms in equation (1), the economic life cycle consistent with the NTA framework and mechanism of transfers and reallocation of resources for each age cohort \(a\) can be written as:

\[
[C(a) - Y^I(a)] = [\tau^+(a) - \tau^-(a)] + [Y^k(a) + Y^{P+}(a) - Y^{P-}(a) - S(a)]
\]  

(2)

The left-hand side of equation (2) presents the key variable of interest, which is \(C(a) - Y^I(a)\) and is defined as the life-cycle deficit (the difference between consumption and labor income at each age). In this study, we provide estimates of LCD made up of differences in consumption and labor income allocated by age group as well as public sector inflows and out flows. While the LCD tables—the LHS of equation (2)—provide a complete picture of NTA estimates, the details of the financing of the deficit is provided by the estimates of the right hand side variables which is beyond the context of this study.

3.3 Demographic Dividend Methodology

We follow Mason and Lee (2006) and Mason (2007) to formalize the demographic dividend. This is quantified and assessed in terms of the economic support ratio (ESR), which emphasizes the profiles
of effective number of producers and consumers in the country. We start by defining the GDP per capita as in Equation (3):

\[
\frac{Y(t)}{N(t)} = \left( \frac{L(t)}{N(t)} \right) \left( \frac{Y(t)}{L(t)} \right)
\]

(3)

Where \(Y(t)\) is the total output, \(L(t)\) is effective number of producers, and \(N(t)\) is the effective number of consumers.

Equation (3) states that GDP per capita comprises of the product of output per effective consumer as equal to output per effective producer and the support ratio (i.e. effective producers per effective consumers). The equation can be used to decompose economic growth to reveal the relationship of population growth with GDP per capita growth. Demographic dividend is defined as the growth rate of the support ratio, which can be obtained by taking the log of both sides of equation 3 and differentiating it with respect to time:

\[
y_t = \dot{L}_t - \dot{N}_t
\]

(4)

Equation (4) reveals that the growth rate of output is equal to the sum of two components, which are the equivalents to the two demographic dividends. The first dividend corresponds to the growth of the support ratio. The second component is the second dividend, which is the rate of growth of productivity. It should be noted that given labour productivity, 1% increase in support ratio leads to 1% increase in per capita growth (Mason 2011).

In the NTA approach, the age profiles of consumption and labor income are calculated for each age in the population to give the age profiles of consumption and labor income. In the period of simulation for the demographic transition and dynamics, the associated support ratio is calculated holding the shape of the age profiles of consumption and labor income fixed, leading to the definition of the support ratio in Equation (5):

\[
\frac{L(t)}{N(t)} = \sum_{a=0}^{\infty} r(a)P(a,t) \sum_{a=0}^{\infty} \phi(a)P(a,t)
\]

(5)

Where, \(P(a,t)\) is the population aged \(a\) at time \(t\), \(r(a)\) and \(\phi(a)\) are the age patterns of labor income and consumption, respectively.

Equation (5) indicates that the support ratio measures the effect of age structure on the capacity of a population to contribute to current production. Ladusingh and Narayana (2011) note that using
the age patterns of labor income and consumption—the parameters of the economic life cycle in the definition of the ESR in Equation (5)—clearly have an edge over ad hoc measures such as the total dependency ratio.

3.4 Data Sources and Estimation Techniques
To obtain estimates for the lifecycle deficit (LCD)—the difference between consumption (C) and production or labor income (Y_L), estimates must be obtained on the two main variables of interests—consumption and labor income components. It is important to note that age patterns of consumption (of public and private goods and services) and labor income must be consistent with NIPA. Table 0-1 shows the process of data collection on the variables of interest for the estimation of components of the Uganda LCD.

Table 0-1: The Process of Data Collection

<table>
<thead>
<tr>
<th>S/N</th>
<th>Variable</th>
<th>Micro data analysis</th>
<th>Macro data needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lifecycle Deficit</td>
<td>Calculated as difference between No. 2 and No. 11</td>
<td>Not applicable</td>
</tr>
<tr>
<td>2</td>
<td>Consumption</td>
<td>Calculated as addition of No 3 and No 7</td>
<td>Not applicable</td>
</tr>
<tr>
<td>3</td>
<td>Public Consumption</td>
<td>Calculated as addition of No 4, No 5 and No.6</td>
<td>Not applicable</td>
</tr>
<tr>
<td>4</td>
<td>Public Consumption, Education</td>
<td>Age profile of student enrolment in government schools</td>
<td>Government financial statistics</td>
</tr>
<tr>
<td>5</td>
<td>Public Consumption, Health</td>
<td>Age profile of spending in government health Facilities</td>
<td>Government financial statistics</td>
</tr>
<tr>
<td>6</td>
<td>Public Consumption, Other</td>
<td>Total government expenditure less expenditure on education and health</td>
<td>Government financial statistics</td>
</tr>
<tr>
<td>7</td>
<td>Private Consumption</td>
<td>Calculated as addition of No 8, No 9 and No.10</td>
<td>Government financial statistics</td>
</tr>
<tr>
<td>8</td>
<td>Private Consumption, Education</td>
<td>Age profile of spending by individuals on Education</td>
<td>Sectoral distribution of GDP</td>
</tr>
<tr>
<td>9</td>
<td>Private Consumption, Health</td>
<td>Age profile of spending by individuals on Health</td>
<td>Sectoral distribution of GDP</td>
</tr>
<tr>
<td>10</td>
<td>Private Consumption, Others</td>
<td>National Household Survey</td>
<td>Sectoral distribution of GDP</td>
</tr>
<tr>
<td>11</td>
<td>Labour Income</td>
<td>Calculated as addition of No. 12 and No. 13</td>
<td>Not applicable</td>
</tr>
<tr>
<td>12</td>
<td>Earnings</td>
<td>Age profile of earnings of employees</td>
<td>Compensation of employees (GDP)</td>
</tr>
<tr>
<td>13</td>
<td>Self-employment Labour Income</td>
<td>Age profile of earnings of self-employed Persons</td>
<td>Operating Surplus (GDP)</td>
</tr>
<tr>
<td>14</td>
<td>Population by age</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data for the National Accounts was compiled from National Account Statistics and Statistical Abstracts compiled by UBOS. Other sources included the World Bank World Development Indicators. The population data (particularly population projections) was obtained from United
Nations, Department of Economic and Social Affairs, Population Division (2013) and crosschecked with population projections from the USAID Demographic Dividend Model database.

Micro data on labor income and the consumption of health, education, and other services (e.g., food, nonfood, housing, infrastructure) in the public and private (household) sectors are required for charting age patterns of labor income and consumption by sector in the Ugandan economy. To this end, the age profile allocation was derived from the 2012/13 and 2016/17 Uganda National Household Surveys (UNHS) collected by UBOS.

The UNHS is nationally representative survey designed to allow for reliable estimation of key indicators at the national, rural-urban, regional levels and separately for 10 sub-regions. The UNHS is collected following a two-stage stratified sampling design. At the first stage, Enumeration Areas (EAs) are grouped by districts and rural-urban location, and then drawn using Probability Proportional to Size (PPS). At the second stage, households, which are the Ultimate Sampling Units (PSU), are drawn using Systematic Random Sampling. The UNHS collects detailed information on demographic characteristics of respondents and all aspects of living conditions including health; education; housing; household income; consumption and expenditure; credit access; asset ownership and savings; market prices; and employment of household members.
CHAPTER FOUR

NATIONAL TRANSFER ACCOUNTS ESTIMATES: FINANCING UGANDA’S LIFECYCLE DEFICIT

4.1 Introduction
This section uses National Transfer Accounts (NTA) Approach to estimate the lifecycle deficit (LCD) and hence the first demographic dividend for Uganda. The age profiles for consumption and labor income constructed from UNHS 2012/13 and UNHS2016/17 are presented, and subsequently used to construct the lifecycle deficits. Subsection 6.1 presents the profiles for public consumption. This is followed by presentation of age profile for private consumption (education, health, other consumption) in Sub‐section 6.2 as well as the labour income profiles in Subsection 6.3. Lastly, Subsection 6.4 presents the estimates for lifecycle deficit.

4.2 Public Consumption in Education and Health
Public consumption is the value of goods and services individuals receive through the public sector. In Uganda, a large proportion of public expenditure (66.1%) is accounted for by other consumption (e.g., security and defense). This is assumed to be allocated equally among all age groups. Public consumption of education and health account for 19.5% and 14.4% respectively. The shape of public consumption is influenced by both education and health. Whilst the shape of the public consumption for up to age 20 is influenced by public consumption on education, that after age 20 is influenced by the shape of public consumption on health (Table 0-2).

Table 0-2: Aggregate Control for Lifecycle Deficit for Uganda, 2013

<table>
<thead>
<tr>
<th></th>
<th>Billions (UGX)</th>
<th>Billions (UGX)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCD</td>
<td>-</td>
<td>1,961</td>
</tr>
<tr>
<td>Consumption</td>
<td>-</td>
<td>39,849</td>
</tr>
<tr>
<td>Public Consumption</td>
<td>-</td>
<td>7,454</td>
</tr>
<tr>
<td>Education</td>
<td>1,454</td>
<td>-</td>
</tr>
<tr>
<td>Health</td>
<td>1,075</td>
<td>-</td>
</tr>
<tr>
<td>Others</td>
<td>4,925</td>
<td>-</td>
</tr>
<tr>
<td>Private Consumption</td>
<td>-</td>
<td>32,395</td>
</tr>
<tr>
<td>Education</td>
<td>2,045</td>
<td>-</td>
</tr>
<tr>
<td>Health</td>
<td>799</td>
<td>-</td>
</tr>
<tr>
<td>Others</td>
<td>29,551</td>
<td>-</td>
</tr>
<tr>
<td>Labour Income</td>
<td>-</td>
<td>37,888</td>
</tr>
<tr>
<td>Compensation to employees</td>
<td>9,294</td>
<td>-</td>
</tr>
<tr>
<td>Self-employed Income</td>
<td>28,594</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations based on UBOS National Accounts
The public consumption profile for education reveals extremely large transfers to the younger population. Total public consumption on education increases sharply from age 4 peaking at age 19 years. It then declines sharply initially until age 22 (Figure 0-1). This result is similar with public consumption profile in several other countries like Kenya (Mwabu et al., 2011) and Ghana (Amporfu et. al.2014). A bigger share of public consumption on education is driven by spending on primary and secondary education. This is expected in light of the two government policies on education — UPE and USE. However, the per capita spending on each education level is smaller ranging between 59,000 and 67,000 Uganda shillings.

Figure 0-1: Age profile of per capita Public Consumption Expenditures on Education by facility level (in Uganda Shillings)

The result for public consumption on health indicates that government spends more on the working elderly population (60 years and above) than the young and working age population (Figure 0-2). The result for public consumption on health is, however, not surprising since there is hardly any public medical care.
The above result was verified using the Social Assistance Grant for Empowerment Program (SAGE) data. SAGE is a form of social protection, which includes a range of intervention designed to protect individuals and households from poverty and deprivation (Holzmann and Jorgensen, 1999; Devereux, 2002). The SAGE program provides direct income transfer to persons aged 65 and above, to improve the welfare arising from life cycle contingencies associated with old age. However, for Karamoja region, which exhibits higher poverty levels and lower life expectancy, the eligible age is lowered to 60 years.

Figure 0-3 shows health expenditures profile among the SAGE and Non-SAGE recipients. The results show that health expenditure is low between birth and age 24. Between age 24 and 45 years, there are spikes in health expenditure. This probably coincides with reproductive age. From age 60, there is significant rise in private health expenditure. The pattern is similar for both SAGE and non-SAGE households. However, the average expenditure is higher for household who benefited from SAGE program. Although the SAGE program data is not nationally representative, the results show that in the program areas, social assistance can enable old people to pay for some of their medical bills as well that of their household members. Given that most households do not have medical insurance, the provision of transfers such as SAGE could help old people to meet out of pocket expenditures.

2The NTA approach for computing private health expenditure profile was applied to SAGE end line survey data.
4.3 Private Consumption

Uganda’s age profile for per capita private health investment for the period 2012—2017 is shown figure 0-4. It indicates that private health expenditure averages about UGX 50,000 between ages 0-54 years. Thereafter private health expenditure starts to increase with spikes at various ages above 60. Uganda’s per capita private health spending pattern has remained relatively the same in the last five years. The findings shown in Figure 0-4 are consistent with expenditure profile for Ghana (Ampofu et al, 2014) and Kenya (Mwabu et al, 2011). Between the age of 18 and 45, health expenditure increases. The swift increase in health expenditure after age 60 is a matter of policy concern because Ugandans aged 60 and above are largely those that have retired from the labour force. Therefore, increased private health consumption in the absence of national health insurance and efficient retirement benefits is an indication that the burden of financing health expenditures for the elderly falls on the working population. This has consumption and savings implications for the working age population and may be responsible for the large lifecycle deficit observed in Uganda. Figure 0-5. Private education expenditure comprises of households’ expenditure on school and registration fees, boarding fees, uniforms, books and school supplies, and other expenses. The graph indicates that there is no private education consumption below ages 2 and after age 55. This is consistent with other studies in other countries that used the NTA methodology, which show that is no private expenditure on education for individuals under 3 years. For Uganda, mean private education expenditure rises after age 3 and reaches a maximum of UGX 532,598, at age 20. The steep rise in private education expenditure between age 13 and 20 reflects the cost of secondary education and first year of tertiary education. Generally, private education expenditure is high between ages 14 and 26 years. Between age 6 and 13, the average
expenditure is approximately UGX 105,000 in 2013 and UGX 187,000 in 2017, representing an increase of approximately 78% in private spending for the primary school age group in the last five years. However, this relatively low compared to that of secondary school age group (13-18 years) which ranges between UGX 270,000 to UGX 330,000 for the same period. The average per capita spend for the 19-26 year age group is UGX 285 in 2013 compared to UGX 338,000 in 2017. The relatively lower per capita spending on education for the primary school age group may be attributed to the subsidized primary education through Universal Primary Education. After age 27, private education expenditure is relatively very small, with many age groups indicating no consumption of private education. This is not surprising given that majority of Ugandans who join tertiary education complete between ages 24 to 26 years. As was the case with health, the spending patterns for private spending on education seem to have remained relatively the same between 2012 and 2017.

**Figure 0-4: Age profile for per capita private spending on health: 2012/13*—2016/17**

*Inflated to 2016/17 prices using consumer price index (CPI).*

Source: UNHS 2012/13 and 2016/17. Notes: *Inflated to 2016/17 prices using consumer price index (CPI).*
In general, the age profile of private education expenditures shows that the youth are the major beneficiaries of the transfers from older age groups since students are part of the non-working population. On the other hand, UBOS (2017) reported that 64 percent of youth were unemployed. This raises questions on whether the youth shall have the ability to earn incomes to support themselves or other age groups. Figure 0-5 is very low. This raises concern about optimal human capital investment necessary for reaping demographic dividend in Uganda, relative to other developing countries.

Other private consumption\(^3\), shown in figure 4-8 below, portrays a steady rise in the early stages of the working age (17 to 30 years), peaking at 25 years and stabilizing around age 35. This is, however, not surprising because most people find themselves establishing their households and families and hence incur higher social expenditures like marriages around these ages in Uganda.

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\(^3\) Includes food and other non-education and health expenditures

---

Figure 0-6: Per Capita other Private Consumption*:2012/13—2016/17

Source: UNHS 2012/13 and 2016/17. Notes: * Other private consumption excludes education and Health consumption. # inflated to 2016/17 prices using consumer price index (CPI).

Figure 0-6 above includes both food and non-food expenditures. However, since food normally takes a bigger share of a household’s budget, it can easily influence the observed patterns.

Figure 0-7 isolates spending on food from the non-food. The findings show that even after isolating food, spending patterns for 2016/17 and still lower than those of 2012/13 and the general conclusion still holds.

Figure 0-7: Per capita spending on food and non-food: 2012/13—2016/17


What is interesting however is that both total per capita expenditure (see Figure 0-8) and other private expenditures (Figure 0-6) for 2016/17 seem relatively lower than those of 2012/13 (i.e., 5 years earlier). Several reasons could be responsible for the observed finding. First, there was a sharp increase
in education and health expenditures leaving, perhaps leaving little income to be spent on consumption of food and other goods and services. Another possible reason is the rise in the cost of living (as measured by the CPI) in 2016/17 compared 2012/13. The CPI between the two study periods increased by nearly 30 percentage points from 134.5 in 2012/13 to 164.1 in 2016/17. The third possible explanation is that some individuals and households fell into poverty in the last five years. This is possible since according to recent UNHS2016 poverty estimates by UBOS, the proportion of the population living in poverty increased from 19.7% in 2012/13 to 21.4% in 2016/17, an equivalent of about 10 million people living below the poverty line.

**Figure 0-8: Per Capita Total Private Consumption*:2012/13#—2016/17**

![Figure 0-8: Per Capita Total Private Consumption*:2012/13#—2016/17](image)


### 4.4 Labour Income Profiles

Labour income is the value of the work effort of resident employees, the self-employed and unpaid family workers.

Figure 0-10 shows the income profiles for wage earners and self-employed income earners in Uganda between 2013 and 2017. Figure 0-9 shows that the compensation of employees (earnings) profile starts at age 14 and ends at age 64 in line with the compulsory retirement of formal workers around age 60. However, some individuals especially in public service are eligible for contracts that may stretch up to ten years after the official retirement age. This could partly explain the observed compensation to employees up to the age of 81. The self-employment income profile starts at age 14 but is more pronounced between ages 25 and 58. Surprisingly, self-employment labour income suggests that there is early retirement from work in the informal sector, starting to occur at age 62 years. This result is not surprising. The Ugandan Labour Force has remained predominantly self-employed (80%) with the majority in the Agricultural Sector (72%) which is largely subsistence and requires use of a lot of energy. The policy implication for this finding is that there is need for Government to invest in modernization
of the Agricultural Sector to absorb the large proportion of the unemployed but also improve the livelihoods of those that are mainly engaged in subsistence farming. Also, the younger ages in the labour income profile suggests the prevalence of child labour or a relatively high proportion of economically active children in Uganda. This is not surprising though, since the situation is normal mostly in the rural areas of Uganda where children are actively engaged in agricultural activities. However, in the urban areas, a significant proportion of these children are engaged in some form of petty trading whiles others are engaged in running errands in hotels and restaurants (GLSS, 2005).

**Figure 0-9: Age profile of wage compensation to employees: 2012/13—2016/17**


**Figure 0-10: Age profile of earnings for self-employed: 2012/13—2016/17**

Findings in Figure 0-10 are quite shocking. The figure indicates that on average, self-employed earnings for 2012/13 were much higher than those of 2016/17. This finding seems to resonate well with the weaker economy and poor business conditions that Uganda has been experiencing in the last five years. The observed low earnings for the self-employed may also explain the observed lower consumptions patterns on other goods and services. The policy implication is that there is need for government to support the self-employed earners through improving business climate and boosting economic growth.

4.5 The Life Cycle Deficit

Figure 0-11 displays the labour income, consumption expenditure and the lifecycle deficit for 2013 and 2017 respectively. Essentially, we obtain a surplus for the working-age adults and a deficit for the dependent age groups—children and the elderly, in accordance with theoretical expectation. There are minimal differences between the lifecycle deficit for children and the elderly, which is contrary to what is expected. However, the contrast could be due to the large children population (about 51% of the population are children). The deficit for young adults starts to drop quite sharply after age 17 when individuals have started earning income but not sufficient to outweigh their consumption. In Uganda, there is no clear pattern of the lifecycle surplus. However, estimates seem to suggest a very short window of surplus. In 2013, a clear surplus window was observed between ages of 50—55 years, suggesting that Ugandans aged between 50 and 55 years earned more income than they consume (Figure 0-10).
The surplus window seem to have increased between 2012 and 2017, albeit still short (only about 16 years of clear surplus) in 2017, starting at age 30 and ending at age 46, averaging only UGX 420,000 (or USD 120). However, overall, there seem to be some surplus window between ages of 30 and 56 years (Figure 0-11). The findings in

Figure 0-10 and Figure 0-11 highlight the magnitude of the unemployment challenge. It is very difficult for the youth to find a decent job, which consequently would allow them to be self-governing in achieving their consumption needs. Uganda fares poorly compared to countries like Ghana and South Africa with a lifecycle surplus of about 27 years that starts at age 33 and ends at age 60 years.
4.6 Uganda’s First Demographic Dividend

The lifecycle deficit estimates presented in section 6 makes it possible for us to estimate the first demographic dividend for Uganda, as determined by the economic support ratio. The support ratio is the ratio of the effective number of producers to the effective number of consumers (United Nations, 2013). It is computed as the inverse of the dependency ratio. It shows how workers have to support non-workers. For example, a support ratio of 0.5 means that each worker is, on average is supporting himself or herself plus one other consumer. Uganda’s support ratio from 1960-2050 is illustrated in Figure 0-13: Growth Rates of Effective consumers, effective producers and Economic support ratio, Uganda

which is drawn from the difference between the growth rates of the number of effective producers and effective consumers.
As shown in figure 0-14, the country started experiencing the first demographic dividend since 2002 and it is expected to peak in 2020 when at the same time Uganda is expected to become a middle-income status country. Our findings are similar to some African countries like Nigeria and Senegal whose demographic dividend started periods after the year 2000 but differ from others like Ghana whose demographic dividend started in early 1990s. Between 1960 and 2006, the support ratio was declining. This implies that in that period, workers had to struggle to support more people. The support
ratio starts to increase from 2006, which consequently implies that each effective worker is supporting fewer effective consumers. This is consistent with the decline in fertility rates from 6.7 children per woman to 6.2 children per woman in 2011. An increase in the support ratio potentially frees up resources that can be used to raise per capita consumption, increase saving, or both and hence leading to the enjoyment of the first demographic dividend.
CHAPTER FIVE

HUMAN CAPITAL INVESTMENT

5.1 Introduction
Investment in education is one of the major ways of accumulating human capital necessary for economic growth and reaping demographic dividends. Heckman (2006) underscores the importance of investing in early childhood education. Currie (2001) reviewed several education improvement programs in the United States and concluded that most programs, which targeted poor households, were significant through improvement of educational attainment, increased earning, reduction of dependency and crime. Similarly, Basu (2002) showed that education plays a critical role in reducing fertility, which is necessary for attaining demographic dividends. In Uganda, public investments for human capital development include Universal Primary Education (UPE), Universal Secondary Education (USE), Business, and Technical, Vocational Education and Training (BTVET) and tertiary education.

This section examines public and private education and health expenditure, for the period 2002/03—2012/2013 financial years. It also assesses the trends in public funding, subsidy and utilization of government services. It is important to note a prior, that, while this study comes at a time when Uganda and the rest of the world are implementing the Sustainable Development Agenda (SDGs), the period 2002/03—2012/13 was selected for the analysis of distributional impacts of public spending on education and health. The motivation was to capture the donor funding influence through the MDGs agenda (implemented between 2000 and 2015) that focused on the social sectors mainly the education sector (primary and secondary levels) and health. Similar analysis can easily be carried out using recent survey datasets.

The household education expenditure profile sheds light on the adequacy of human capital investment at each age. This is particularly important for children and the youth as they prepare for labor market/productive part of their life cycle. With the aid of Education Management Information System (EMIS) data on enrollment at different levels of education, we estimated the levels of expenditure by age groups.

5.2 Public Education and Health Spending
Households can access human capital-related services from either public or private providers. Private Service providers have expanded rapidly over the last 15 years, particularly in the education sector,4 but Government continues to play the central role in ensuring equitable access. Public spending on

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4 According to household survey (UNHS) estimates, the share of primary school pupils attending private schools increased from 14% in 2002/3 to 20% in 2009/10.
both education and health grew significantly between 2002/03 and 2012/13, but at a slower rate than GDP. Public education spending was 2.4% of GDP in 2013/14, compared to 4.0% of GDP a decade earlier (Figure 5.1-1, Panel A). Public health spending fell from 2.5% of GDP to 1.2% of GDP over the same period (Figure 5.1-1, Panel B).

**Figure 5.1-1: Public Spending on Education and Health Sectors (% of GDP)**

This partly reflects concerns regarding value for money in public service delivery, and the high priority accorded to transport and energy infrastructure, particularly since the introduction of the NDP. The fall in health spending as a share of GDP is mainly due to lower donor financing, with domestically financed expenditure expanding broadly in line with economic growth. Enrolment growth has been significantly lower than GDP growth, helping to explain the decline in education spending as a share of GDP.

**5.3 Public and Private Education Investments**

Although the government provides funding for different levels of education, there is no administrative data on the level of public spending on education by age. Consequently, we use the levels of education to identify age groups. According to the Ministry of Education and Sports, children aged 6-12 years are expected to be in primary school while those aged 13-18 are supposed to be in secondary school. Tertiary education enrolls students aged 19 and above. The government funding at the different levels cover part of recurrent and capital expenditures. Due to introduction of UPE and USE, public expenditure on education has been increasing. For instance, in 2012/2013 financial year, public current expenditure on primary education was 11.76 percent of GDP. Public expenditure on primary education as a percentage of government expenditure on education was 52.7 percent. This shows the emphasis
the government is putting on the education of children age 6-12 years. Public expenditure on secondary education (for individuals in 13-18 age group) as proportion of government expenditure on education was 29.2 percent in 2013. Similarly, in 2013, public expenditure on tertiary education as a proportion of government expenditure on education in was 13.8 percent as of 2013. It was the highest value in the past 9 years preceding 2013. Table 5.1-1 provides a breakdown of education spending by government and households for the different schooling levels over a ten-year period (2002/3-2012/13).

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Type of Spending</th>
<th>2002/3</th>
<th>2012/13</th>
<th>Real growth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Shillings</td>
<td>Share</td>
<td>Shillings</td>
</tr>
<tr>
<td>Ages 6-24 years</td>
<td>Public spending</td>
<td>78,744</td>
<td>56%</td>
<td>84,381</td>
</tr>
<tr>
<td></td>
<td>Private spending</td>
<td>62,375</td>
<td>44%</td>
<td>158,681</td>
</tr>
<tr>
<td></td>
<td><strong>Total spending</strong></td>
<td><strong>141,119</strong></td>
<td><strong>100%</strong></td>
<td><strong>243,062</strong></td>
</tr>
<tr>
<td>Ages 6-18 years</td>
<td>Public spending</td>
<td>99,162</td>
<td>53%</td>
<td>106,041</td>
</tr>
<tr>
<td></td>
<td>Private spending</td>
<td>88,862</td>
<td>47%</td>
<td>230,098</td>
</tr>
<tr>
<td></td>
<td><strong>Total spending</strong></td>
<td><strong>188,025</strong></td>
<td><strong>100%</strong></td>
<td><strong>336,138</strong></td>
</tr>
<tr>
<td>Ages 13-18 years</td>
<td>Public spending</td>
<td>261,149</td>
<td>56%</td>
<td>257,479</td>
</tr>
<tr>
<td></td>
<td>Private spending</td>
<td>201,593</td>
<td>44%</td>
<td>466,258</td>
</tr>
<tr>
<td></td>
<td><strong>Total spending</strong></td>
<td><strong>462,742</strong></td>
<td><strong>100%</strong></td>
<td><strong>723,737</strong></td>
</tr>
<tr>
<td>Ages 19-24 years</td>
<td>Public spending</td>
<td>382,431</td>
<td>63%</td>
<td>413,108</td>
</tr>
<tr>
<td></td>
<td>Private spending</td>
<td>223,294</td>
<td>37%</td>
<td>526,513</td>
</tr>
<tr>
<td></td>
<td><strong>Total spending</strong></td>
<td><strong>605,724</strong></td>
<td><strong>100%</strong></td>
<td><strong>939,621</strong></td>
</tr>
<tr>
<td>Ages 6-12 years</td>
<td>Public spending</td>
<td>159,866</td>
<td>53%</td>
<td>180,294</td>
</tr>
<tr>
<td></td>
<td>Private spending</td>
<td>144,536</td>
<td>47%</td>
<td>369,319</td>
</tr>
<tr>
<td></td>
<td><strong>Total spending</strong></td>
<td><strong>304,402</strong></td>
<td><strong>100%</strong></td>
<td><strong>549,613</strong></td>
</tr>
</tbody>
</table>

Sources: UNHS 2002/3 and 2012/13; and Ministry of Finance, Planning and Economic Development, Annual Budgetary Central Government Finance Statistics. Notes: shows total spending per person (for health) and per person aged between 6 and 18 years (for education), based on UNHS population estimates. Public spending includes recurrent and development spending financed by GOU and development partners. Health and education spending are inflated to 2012/13 prices using the respective GDP deflators.

Table 5.1-1 shows those in per capita terms, public spending in education grew at an average rate of 0.7% per year for the entire schooling age group (ages 6-24 years). A similar average growth rate is observed for the ages 6-18 years and ages 19-24 years. The primary school age (6-12 years) experienced the highest average growth rate of 1.2% per annum. The relatively small average growth rates in public per capita spending can be partly attributed to the school-age population that has grown significantly more than the overall population. For example, UNHS 2012/13 estimates indicate that the share of Uganda’s population aged between 6 and 18 years increased from 37.6% in 2002/03 to 40.3% in 2012/13.
The comparison between public and private per capita spending highlights significant differences. For the school age population (6-24 years), private education spending has been growing at a rate faster than the growth in public spending. The trend cuts across all the sub age groups for school age population. This implies increased burden on households to meet education expenditures. Therefore, access to education could have been affected for individuals from poor households. The adverse effects on human capital accumulation can last for generations and hence reducing the likelihood of reaping demographic dividends. The negative growth rate of public spending on education for age group 13-18 is of concern. With introduction of USE, there seems to be shifting of some resources between primary education and secondary education. This may have negative consequences on reproductive health. The adolescent group tend to be more vulnerable than the other age groups and if there is low funding for their education, they may get into risky sexual behaviors leading to pregnancies. This would jeopardize attempts to achieve reduction in birth rate/ fertility, which is a necessary condition for achieving demographic dividend.

5.4 Public and Private Health Investments

Generally, public healthcare spending per person has been growing over the 2002/3-2012/13 period. In per capita terms, public spending on healthcare grew at an average rate of 4.7% (Table 5.1-2), but private spending still exceeds public expenditure. Although there is limited data on public spending by age group, we estimated the per capita expenditure for the ages 13-18 years to shed some light on the adolescent group. The result for public investments on the adolescent group is still lower than private health expenditure and it is also growing at a lower rate. Thus, there is need for the government to increase public healthcare spending on the vulnerable teenagers.

Table 5.1-2: Average Health Spending per Person

<table>
<thead>
<tr>
<th>Sector/Age Group</th>
<th>Type of Spending</th>
<th>2002/3</th>
<th>2012/13</th>
<th>02/3-12/13 Annualized Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>Public spending</td>
<td>19,911</td>
<td>31,573</td>
<td>59%</td>
</tr>
<tr>
<td></td>
<td>Private spending</td>
<td>27,374</td>
<td>72,619</td>
<td>165%</td>
</tr>
<tr>
<td></td>
<td>Total spending</td>
<td>47,286</td>
<td>104,192</td>
<td>120%</td>
</tr>
<tr>
<td>Ages 13-18 years</td>
<td>Public spending</td>
<td>136,710</td>
<td>190,398</td>
<td>39%</td>
</tr>
<tr>
<td></td>
<td>Private spending</td>
<td>108,609</td>
<td>229,145</td>
<td>111%</td>
</tr>
<tr>
<td></td>
<td>Total spending</td>
<td>245,319</td>
<td>419,543</td>
<td>71%</td>
</tr>
</tbody>
</table>

Sources: UNHS 2002/3 and 2012/13; and Ministry of Finance, Planning and Economic Development, Annual Budgetary Central Government Finance Statistics. Notes: shows total spending per person, based on UNHS population estimates. Public spending includes recurrent and development spending financed by GOU and development partners. Health spending FOR 2002/03 are inflated to 2012/13 prices using the respective health sector GDP deflator.
The results presented on public and private investment shows that while there are no longer tuition fees in UPE or USE schools or user fees for public health facilities, it is common for households to spend their own resources – on private service providers or for associated costs such as school uniforms, scholastic materials or transport to medical facilities. Real household spending on education and healthcare has grown significantly over the last decade, at an average annual rate of about 10% and 10.2% respectively (Table 5.1-1 & Table 5.1-2). This is significantly above the growth of public spending and GDP. About 69% of Uganda’s education and health expenditure is financed directly by households, up from 53% a decade ago.

Table 5.1-3). Education spending growth was in fact highest among less-well-off households. Public education spending has barely kept pace with the school-age population and this may have increased the burden on households to use their own resources. In comparison, public spending per person has grown more in the health sector, and the expenses borne by poorer households have not increased as rapidly.

Table 5.1-3: Average Household Education and Health Spending per person by Welfare Quintile

<table>
<thead>
<tr>
<th>Sector</th>
<th>Quintile</th>
<th>2002/3</th>
<th>2012/13</th>
<th>Real annualised growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>Poorest quintile</td>
<td>88,862</td>
<td>230,098</td>
<td>10.0%</td>
</tr>
<tr>
<td></td>
<td>Second quintile (Poor)</td>
<td>11,005</td>
<td>38,253</td>
<td>13.3%</td>
</tr>
<tr>
<td></td>
<td>Third quintile (Middle)</td>
<td>26,473</td>
<td>65,836</td>
<td>9.5%</td>
</tr>
<tr>
<td></td>
<td>Fourth quintile (Rich)</td>
<td>43,909</td>
<td>117,677</td>
<td>10.4%</td>
</tr>
<tr>
<td></td>
<td>Richest quintile</td>
<td>76,169</td>
<td>206,552</td>
<td>10.5%</td>
</tr>
<tr>
<td></td>
<td>Average for all households</td>
<td>88,862</td>
<td>230,098</td>
<td>10.0%</td>
</tr>
<tr>
<td>Health</td>
<td>Poorest quintile</td>
<td>6,181</td>
<td>12,133</td>
<td>7.0%</td>
</tr>
<tr>
<td></td>
<td>Second quintile (Poor)</td>
<td>10,148</td>
<td>21,518</td>
<td>7.8%</td>
</tr>
<tr>
<td></td>
<td>Third quintile (Middle)</td>
<td>15,025</td>
<td>35,340</td>
<td>8.9%</td>
</tr>
<tr>
<td></td>
<td>Fourth quintile (Rich)</td>
<td>24,113</td>
<td>64,878</td>
<td>10.4%</td>
</tr>
<tr>
<td></td>
<td>Richest quintile</td>
<td>69,250</td>
<td>167,266</td>
<td>9.2%</td>
</tr>
<tr>
<td></td>
<td>Average for all households</td>
<td>27,374</td>
<td>72,619</td>
<td>10.2%</td>
</tr>
</tbody>
</table>

Source: UNHS 2002/3 and 2012/13. Notes: shows total spending per person (for health) and per person aged between 6 and 18 years (for education), based on UNHS population estimates. Health and education spending are inflated to 2012/13 prices using the respective GDP deflators.

5.5 Distributional Impacts of Public Spending on Education

Findings on per capita spending by both government and households has shown a relatively increased spending burden to the households. Therefore, it is worth examining further the distribution of government spending. With many competing priorities for public resources and limited fiscal space, improving human development outcomes in Uganda depends crucially on effective targeting and the overall efficiency of public service delivery.
The standard technique for measuring the equity impact of public spending is benefit incidence analysis (BIA). The essence of BIA (see Box 1 in the Appendix) is to reveal which income groups receive the benefits of public expenditure in the education sector. The distribution of benefits depends on both Government behavior – including the level and composition of public spending – and on household behavior, (e.g. whether parents choose to send their children to public schools).

Table 5.1-4 presents the per-student government subsidy (or unit cost) by facility level (focusing on primary and secondary schools). The aim is to illustrate differences in education spending for families with children in primary and secondary schools and examine whether there are any substitution and crowding out effects arising from increased spending on secondary education. Government spending per-Pupil/student has increased over time but remains lower at primary level compared to secondary level. In 2002/03, government spent on average UGX 60,129.80 and UGX 108,321.34 for primary and secondary levels respectively and this increased to UGX 78,916.78 and UGX 262,826.11 respectively in 2012/13. The higher per-unit cost at the secondary level may be attributed to the introduction of USE in 2007. Between 2007/08 and 201/13, government expenditure on secondary level education increased by 81% compared to 62% for the primary level, indicating marked inequality in per-pupil/student subsidy between the two levels, inspite of gross enrolment differentials table 5.1-5 and table 5.1-6.

Table 5.1-4: Per-Pupil/student Government Subsidy for Enrolment by Facility Level (in Ushs), 2002/03—2012/13

<table>
<thead>
<tr>
<th>Type of Sets of Data</th>
<th>Education Level</th>
<th>Cost per student</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNHS II: 2002/03</td>
<td>Primary</td>
<td>60,129.80</td>
</tr>
<tr>
<td></td>
<td>Secondary</td>
<td>108,321.34</td>
</tr>
<tr>
<td>UNHS V: 2012/13</td>
<td>Primary</td>
<td>78,916.78</td>
</tr>
<tr>
<td></td>
<td>Secondary</td>
<td>262,826.11</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations based on UNHS 2002/03, 2012/13; and MFPED data sets. Notes: The per-student subsidy is calculated as total government expenditures (separately for primary and secondary) for each financial year divided by the total education users per facility levels (estimated from the UNHS data set). Public spending excludes development spending financed by GOU and development partners as the focus is on analysing benefits accruing from government recurrent expenditure allocations.

Table 5.1-5: Estimated School Enrolments by Income Quintiles and Facility Level, 2002/03

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Quintiles</th>
<th>2002/03</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Poorest</td>
<td>Poor</td>
</tr>
<tr>
<td>Primary</td>
<td>1,556,578</td>
<td>1,504,692</td>
</tr>
<tr>
<td>Secondary</td>
<td>30,748</td>
<td>55,841</td>
</tr>
<tr>
<td>Total</td>
<td>1,587,326</td>
<td>1,560,533</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations based on UNHS 2002/03
Table 5.1-6: Estimated School Enrollments by Income Quintiles and Facility Level, 2012/13

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Quintiles</th>
<th>2012/13</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Poorest</td>
<td>Poor</td>
</tr>
<tr>
<td>Primary</td>
<td>2,054,139</td>
<td>1,870,176</td>
</tr>
<tr>
<td>Secondary</td>
<td>95,612</td>
<td>171,045</td>
</tr>
<tr>
<td>Total</td>
<td>2,149,751</td>
<td>2,041,221</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations based on UNHS 2012/13

Figure 5.1-2-Panel B). Thus, the distribution of primary education spending in Uganda is pro-poor. In the secondary level, the poorest quintile received 5.2% and the richest 42.7% of benefits from the government in 2002/03. However, this has increased to 9.2% for the poorest and reduced to 31.3% for the richest. This result can partly be attributed to the introduction of USE in 2007, which saw government expenditure on secondary level education increase by 81% between 2007/08 and 2011/13 compared to 62% for the primary level.

Figure 5.1-2: Distribution of Public Education Spending Benefits by population quintiles and facility level (percentage)

Figure 5.1-3  (Panel A and B) present graphically the benefit incidence of the 2002/03 and 2012/13 public spending on education using quintiles based on national population instead of household population. It can be seen from the figures that government spending on primary education is progressive in absolute terms, i.e., pro-poor and pro-rich for the secondary education, as the concentration curve for primary lie above the diagonal (or line of perfect equality). This can be
attributed to the fact that (i) richer households prefer private schooling over public schooling; and (ii) households in the poorer quintiles have more children than those in the richer quintiles. This finding is in line with international empirical evidence, which suggests that expenditure on primary education tends to be pro-poor, whereas expenditure on higher education is more likely to be pro-rich, although the precise level of education at which the rich benefit more varies across countries (cite the literature appropriately to make the comparison made valid).

Figure 5.1-3: Concentration curve of Education Subsidy by population quintiles and facility level (percentages)

Panel A: UNHS 2002/03

Panel B: UNHS 2012/13

Source: Authors’ calculations based on UNHS 2002/03, 2012/13 and MoFPED.

5.6 Utilization and Incidence of Government subsidies in the Health Sector

Figure 5.1-4 shows utilization of public health facilities. In 2002/03, the most frequently used health service was the health unit, with 0.683 visits per individual on average. Hospitals were the least frequently used, with an average of 0.198. The reverse can be observed ten years later in 2012/13, where hospitals are the most frequently used with 0.98 visits per individual on average compared to 0.817 visits per individual for health unit. This can be attributed to supply-side constraints particularly the poor quality of health service provided at the health unit, forcing the rich to use hospitals where the quality of service is expected to be higher. Another possible explanation is that over time, there has been an increase in non-curable diseases such as cancer forcing the rich to use more of the hospital services. Indeed, looking at utilization of health services in 2012/13, one observes a very striking contrast between the distribution of visits to hospitals and the use health units and use of hospital services. The former steadily decreases with income (from an average of 1.043 visits for the poorest
quintile to 0.428 for the richest), whereas the latter increases from an average of 0.542 for the poor to 1.190 for the richest quintile.

**Figure 5.1-4: Utilization of Public Health Facilities**

![Bar chart showing utilization of public health facilities over fiscal years 2002/03 and 2012/13](chart)

Source: Authors' computations based on UNHS 2012/13

In relative terms, the poorest quintile alone accounts for 25.5% of total visits to health units while the richest quintile accounts for 26.3% of visits to hospitals (Figure 5.1-5).

**Figure 5.1-5: Utilization of Public Health Facilities, by Income Status (%)**

![Bar chart showing share of total visits by quintile and health facility type](chart)

Source: Authors’ calculations based on UNHS2012/13 data
Figure 5.1-6). This is an indication that over time, the majority who are poor seek health services at the lower health units than hospitals. Moreover, this seeking behavior of health services may also be attributed to the location of the health facilities, whereby hospitals which may serve the referral role, are mainly located in urban areas as compared to rural areas, where the majority of the poor live. In addition, the distribution of benefits may be attributed to the design of Uganda’s health care delivery mechanism under the health strategic sector plan, whereby the design was intended to offer more of preventive measures than cure. More of HC II and III, which are easily accessible by the poor, are in rural communities.

Figure 5.1-6: Concentration curve of Health Subsidy by population quintiles and facility level (%)

Panel A: UNHS2002/03

Panel B: UNHS2012/13

Source: Authors’ Calculations based on UNHS 2002/03, 2012/13 and MoFPED.

5 The focus of the health care delivery remains less integrated despite an integrated health care delivery comprising of Curative, preventive and promotive services being of the guiding principles of the Second National Health Policy of 2010.
CHAPTER SIX

CONCLUSIONS

The main objective of this paper was to use the National Transfer Accounts (NTA) methodology to assess how Uganda will potentially be able to benefit from the demographic dividend given the current lifecycle behavior of individuals. Other specific objectives included assessing the current dependency and support ratios of individuals by examining their consumption and incomes over their life-cycle; the intra-household transfers as well as transfers between government and individuals and the extent to which these transfers could be used to accelerate achieving the demographic dividend; and assessing the savings and assets accumulation process of individuals and whether the current savings behavior would support the expected growth in per capita income by 2040.

To a large extent this paper finds that the country started experiencing the first demographic dividend since 2002 and it is expected to peak in 2020 when at the same time Uganda is expected to become a middle-income status country. Our findings are similar to some African countries like Nigeria and Senegal whose demographic dividend started periods after the year 2000 but differ from others like Ghana whose demographic dividend started in early 1990.

While this is a positive development, the paper identifies various areas where government need to increase or prioritize its efforts in public spending especially in the health and education sectors if the dividend is to be fully realized. It is clear that there is a disproportionate burden on households incurred on health and education therefore constraining them from saving and wealth accumulation. It is also found that there is disproportionate burden of spending on education and health by poorer households. This would therefore call for better targeting of government programs.
REFERENCES


Racelis Rachel H. and Salas J.M Ian S. (2007) Measuring economic lifecycle and flows across population age groups: data and methods in the application of the National Transfer Accounts (NTA) in the Philippines


APPENDIX

Box 1: Benefit Incidence Analysis

BIA estimates the value of government subsidies, in say, healthcare services in order to assess the real family (household) burden by expenditure. In other words, for service use, benefits are based on the need for social sector services such as healthcare and universal primary and secondary education. Providing insights on the distributional effects of public spending on the education and health sectors for the different population subgroups in Uganda is important because the two sectors are crucial for maintaining a healthy and quality population, and developing the required human resource for effective engagement in profitable economic activities in Uganda.

The essence of BIA is to reveal which income groups capture the benefits of public expenditure in these sectors. The distribution of benefits depends on both government behaviour – including the level and composition of public spending – and on household behaviour (e.g. whether parents choose to send their children to public schools).

Official government data on the level of total public recurrent spending on public education and health sectors was used to compute the per-user unit cost per facility level. This was combined with survey data on household service use/utilisation and welfare to gain insights into the distribution of public social sector spending benefits in Uganda. The approach used to identify the benefit incidence of publicly provided education and health services was the mean subsidy approach, implying that it was assumed that the government subsidy for one unit of education (health) service is the same for all individuals, regardless of income/expenditure level and geographic location within population area. This approach has been widely used in benefit incidence studies. The analysis was done for a ten-year period: 2002/03—2012/13, to assess trends in public funding, subsidy and utilisation of government services. While this study comes at a time Uganda and the rest of the world are implementing the Sustainable Development Agenda (SDGs), we selected the period 2002/03—2012/13 for the analysis of distributional impacts of public spending on education and health. This was done to capture the donor funding influence through the MDGs agenda that focused on the social sectors mainly the education sector (primary and secondary levels) and health. The unit of analysis is an individual of primary and secondary school going age (ages 6—18 years). In generating the health unit/centre variable using the survey data, health centre, community health worker, Home PAK drug distributor, government health unit and health unit NGO were combined. The hospital variable constitutes the government, hospital, and NGO hospital variables.
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