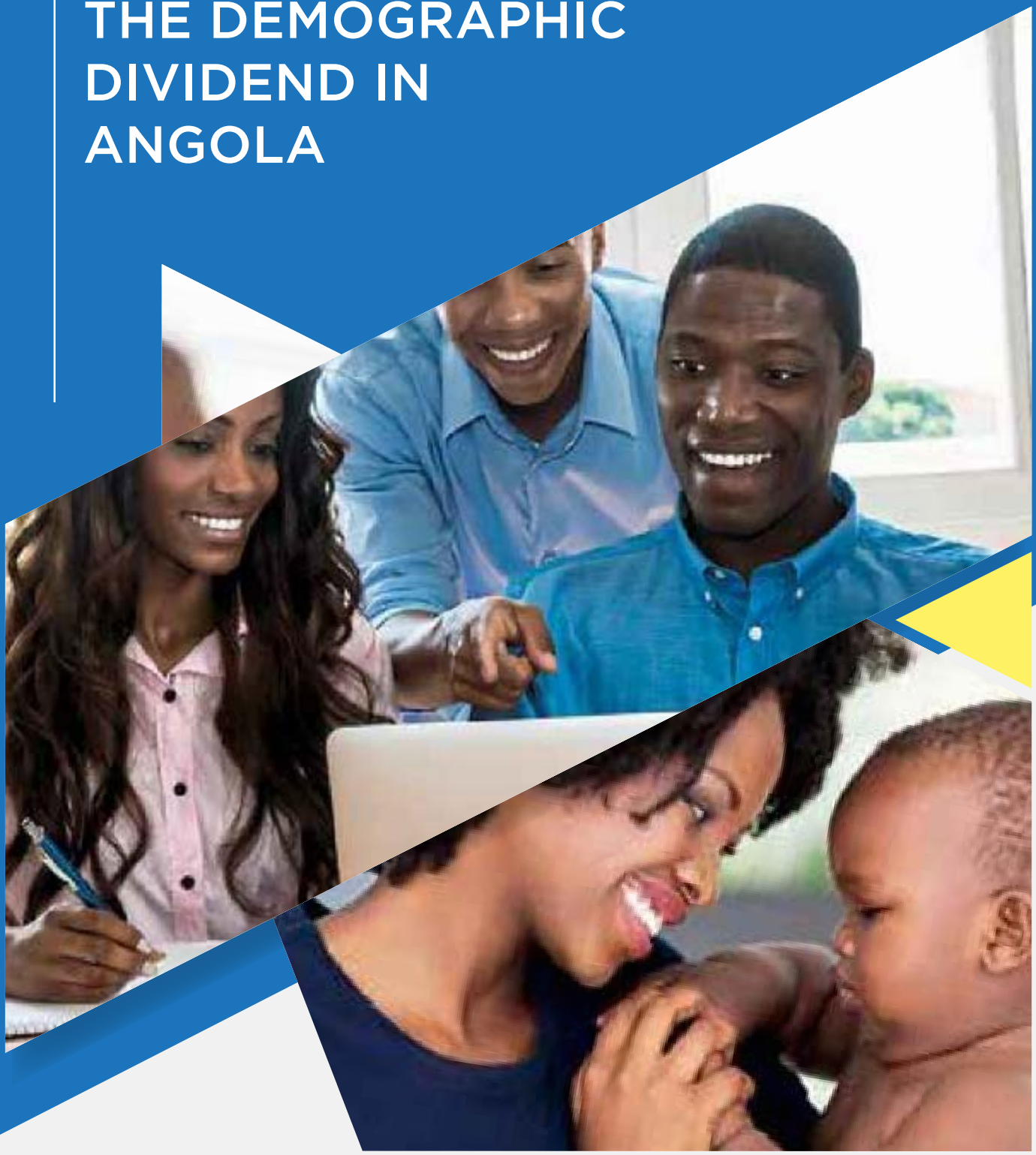
TAPPING THE POTENTIAL OF YOUTH TO REAP THE DEMOGRAPHIC DIVIDEND IN ANGOLA

2019



GOVERNO DE ANGOLA

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Tapping the Potential of Youth to Reap the Demographic Dividend in Angola

2019

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Table of Contents

List of Figures

List of Tables

Acronyms

AfDB	African Development Bank
AFIDEP	African Institute for Development Policy
AIDS	Acquired Immuno-deficiency Syndrome
AUC	African Union Commission
CAHF	Centre for Affordable Housing Finance
DD	Demographic Dividend
DW	Development Workshop
ECE	Early Childhood Education
FP	Family Planning
FPE	Free Primary Education
GCI	Global Competitiveness Index
GDP	Gross Domestic Product
HDI	Human Development Index
HIV	Human Immunodeficiency Virus
HPP	Health Policy Project
IIAG	Ibrahim Index of African Governance
IIMS	Multiple Indicator and Health Survey
ILO	International labour Organisation
IMF	International Monetary Fund
IMR	Infant Mortality Rate
INE	National Institute of Statistics
LMIC	Lower-Middle-Income Country
MDG	Millennium Development Goals
MEP	Ministry of Economy and Planning
MMR	Maternal Mortality Ratio
MINSA	Ministry of Health
MNCH	Maternal Neonatal and Child Health
NCD	Non-Communicable Diseases
PAN-EPT	National Plan of Action for Education for All

PHC	Population and Housing Census
PMTCT	Prevention of Mother to Child Transmission
SADC	Southern African Development Community
SDG	Sustainable development Goals
SSA	Sub-Saharan Africa
TB	Tuberculosis
TFR	Total Fertility Rate
TVET	Technical and Vocational Education and Training
U5MR	Under-Five Mortality Rate
UMIC	Upper-Middle-Income Country
UN	United Nations
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNFPA ESARO	United Nations Population Fund, East and Southern Africa Regional Office
UNICEF	United Nations Children's Fund
UNPD	United Nations Population Division
USAID	United States Aid for International Development
WEF	World Economic Forum
WGI	Worldwide Governance Indicators
WHO	World Health Organization

Introductory Note

The Angola Demographic Dividend study, 2018, was commissioned by the government through the Ministry of Economy and Planning (MEP), and supported by the United Nations Population Fund (UNFPA) Angola Country Office and UNFPA East and Southern African Regional Office (ESARO). The African Institute for Development Policy (AFIDEP) was engaged to provide technical leadership in the implementation of the study.

A Core Technical Team (CTT) with membership drawn from relevant government ministries and agencies, UNFPA, and AFIDEP, and chaired by MEP, provided technical oversight of the project and validated and approved the inception report, final report and policy briefs. MEP convened eighteen members of the Technical Working Group to participate in a 4-day, hands-on Demographic Dividend modelling workshop. The participants were drawn from MEP, Ministry of Health, INE, Ministry of Education, Ministry of Youth and Sports, Ministry of Social Action, Family and Women Promotion, and the Minister of Public Administration, Labour and Social Security. The full list of the workshop participants is provided in Appendix I.

Technical expertise from AFIDEP was provided by Dr. Bernard Onyango, Ms. Eunice Mueni, Dr. Nurudeen Alhassan and Dr. Eliya Zulu. Dr. Tais Santos, a consultant demographer was also instrumental in the conceptualisation and implementation of the study.

The study used the DemDiv modelling tool, an open source programme, to measure the potential impact of the demographic dividend on economic growth and other socioeconomic outcomes in Angola. DemDiv was created by the Health Policy Project (HPP) with support from USAID.

Executive Summary

This report summarises results of a study carried out to assess the potential Demographic Dividend that Angola can earn under different policy scenarios and to determine the policy actions that the country can invest in to optimise its chances of harnessing the *Demographic Dividend*. The demographic dividend refers to the temporary economic benefit that a country can earn from a significant increase in the ratio of working-age adults relative to young dependents that is created by rapid decline in birth rates. The full potential of the demographic dividend can be realised if the fertility declines and change in the age structure is accompanied by sustained investments in education and skills development, health, job creation and good governance.

Population Dynamic and Challenges

Angola's demographic profile is characterised by rapid population growth, that has resulted in a very youthful age structure, and rapid urbanisation. The high population growth rate and high child dependency burden have been created by a long period of high and slowly declining fertility, alongside faster declining child mortality rates. Urbanisation in Angola is driven by people born in urban areas, migration from rural to urban areas, and the physical expansion of urban geographical areas.

The under-five mortality rate in Angola declined significantly in the last few decades, from 262 per 1,000 live births in 1980 to 179 by 2000 and 90 by 2015. However, the total fertility rate (TFR) only declined slightly from 7.4 in 1980 to 6.6 by 2000 and 5.6 during the 2015 Population and Housing Census. The 2015-16 Angolan Multiple Indicator and Health Survey (IIMS) estimates an even higher TFR of 6.2 children per woman. The slow decline in fertility can essentially be accounted for by the low contraceptive use reported among women. It is estimated that only 14% of married women age 15-49 years currently use any form of contraception and just 13% of them use modern contraception.

The sustained high fertility in Angola has resulted in rapid population growth, with the total population more than tripling from 6.8 million in 1970 to 25.8 million in 2014. As a result of the high fertility rate, Angola's population structure is very young with almost half of the population (47%) below 15 years old. This presents a high dependency burden for the country with 100 persons in the working ages 15 to 64 supporting 100 dependents (children below 15 years and elderly persons aged 65 years and above). This high dependency burden poses a challenge to economic growth due to the high costs to the government and households to provide essential needs for children, including their education and health services. It also impedes the ability of the nation and households to save – an important factor that enables investments and capital accumulation and provides an impetus for socio-economic growth.

Economic Trends and Challenges

Angola experienced impressive economic growth after end of the conflict in 2002, with growth in GDP averaging 12.6 % between 2006 and 2010. There was, however, a significant decline in GDP growth between 2011 and 2015, averaging 4.7 percent. Economic growth even slumped to -2.6 percent in 2016 but recovered to -0.1 percent in 2017. The slow economic growth experienced in the last 7 years was a result of sharp and prolonged decline in international oil prices which hit Angola's fiscal revenue.

Angola's economy is reliant on the extractive sector which accounts for 38.3 % of GDP. In a bid to end this dominance, the government has committed to using the agricultural sector as a key driver to economic diversification. The agricultural sector currently employs about 70 % of the economically active population in rural areas and contributes to 7.5 percent of GDP. Despite its growth potential, the agricultural sector in Angola remains underdeveloped.

The country has experienced a period of rapid reduction in poverty, with the incidence of poverty reducing from 68 % in 2000 to 36.6 % in 2015.However, the incidence of poverty is much higher in rural areas (58 %) compared to urban areas (19 %). The main determinants of poverty in Angola include limited opportunities for sustainable employment and regional disparities in access to economic and social infrastructure. The levels of inequality in Angola are quite high, with inequality accounting for 37 % loss in the country's human development index.

Despite the recent growth in non-oil sub-sectors of the economy such as agriculture, fishing and banking, the economy has not generated sufficient jobs to match the rising working population. One of the contributing factors to unemployment is inadequate and poorly skilled human capital. An entire generation's education was severely affected by the civil conflict.

In spite of the forgoing challenges, the economic progress experienced in Angola over the past two decades was facilitated by improving macroeconomic conditions and prudent fiscal and monetary policies. The country's score on the macroeconomic environment pillar of the global competitiveness index increased from 3.61 in 2010 to 5.03 in 2014, resulting in a corresponding jump in rank from 122 out 139 countries to 54 out of 148 countries in the same period. But rising public debt and depreciating exchange rate in the last 2 years have eroded some of the gains in the macroeconomic environment.

Opportunity for Harnessing the Demographic Dividend

If Angola enhances investments to accelerate voluntary decline in birth rates it could benefit from the demographic dividend. The country can exploit its population dynamics to advance its economic prosperity goals if it makes strategic investments to accelerate fertility decline and enhance the quality of its human capital. A rapid decline in fertility from the current levels would change the age structure to one with significantly more working-age people relative to dependents and open a window of opportunity for accelerated economic growth through the demographic dividend. The country could earn a sizable demographic dividend and boost its average incomes as has been done by some East and South East Asian countries such as Malaysia, Indonesia, South Korea, and Thailand.

Methodology and Results

The study involved a review of the country's demographic and economic opportunities and challenges; modelling the potential demographic dividend that the country can harness under different policy scenarios, and identifying key policy options to optimise the chances of maximising the impact of the demographic dividend on economic growth. The modelling is based on four policy scenarios: 1) the ***Business as Usual*** scenario where slow progress in economic reforms and demographic transition prevails; 2) the ***Economic Emphasis*** scenario where the country maximises its economic competitiveness and is decisively aggressive in addressing the economic challenges to development.; 3) the ***Economic + Education Emphasis*** scenario to assess the net impact of maximum investments in the economic sector (Economic emphasis scenario) plus maximum investments in the education sector, while holding the family planning investments at the same level as the ***Business-as-Usual*** scenario; and 4) the ***Combined scenario*** where the country simultaneously prioritises investments in economic reforms as well as the social sectors that enhance human capital development and lead to reduction of birth rates.

The modelling results show that Angola can make big gains to achieve the equitable socio-economic progress envisioned in its long-term development strategy, Vision 2025 and the revision of this strategy to cover the period to 2050. Investing to capture the demographic dividend can be significant impetus to achieving these aims. To reap the dividend, Angola has to however adopt an integrated approach to investments that prioritises both economic reforms and job creation as well as investing in human capital development. The country will need to invest in interventions that slow down its current rapid population growth that threatens to erode gains made in the area of economic growth. This should include providing the necessary education and services and commodities that allow couples to plan for healthy and affordable families. A significant drop in the high fertility rates that prevail in the country will lead to a lower dependency burden and the bulge in the working-age that is favourable for maximising the benefits of the demographic dividend. The analysis of several alternative scenarios shows that only the Combined scenario is capable of achieving this desired transformation in the age structure over the next four decades. Investments in human capital development and economic reforms that occur alongside the fertility decline in this scenario prepares the country to maximise the dividend it can earn since the change in age structure alone would be insufficient to ignite the socio-economic take-off needed in Angola. The people in the working-age need to also be healthy, well-educated and skilled, and have decent jobs in order to maximise the positive impact of increased productivity against a reducing dependency. If this happens, Angola can easily become a prosperous high-income country over the next few decades.

The results show that Angola can earn a massive dividend under the Combined scenario once the population size is applied to the projected GDP. GDP per capita can increase marginally under the Business-as-Usual scenario from the estimated US$ 4,314 in 2014 to US$ 6,326 by 2054. Under the Economic Emphasis scenario, it can increase much faster to a projected to US$ 15,060 by 2054. It could be almost US$ 3,500 higher under the Economic + Education emphasis scenario (US$ 18,488).

However, if integrated investments are made in all sectors including optimal investments in family planning, the income per capita can increase to US$ 24,609 under the Combine Emphasis scenario by 2054. This implies that if the government went beyond a strategic focus on investments in the economic

sector, and embraced integrated implementation that simultaneously focuses investments in the economic sector and in education and family planning, the country could earn an additional US$ 6,121 in GDP per capita in 2054 above what it would earn through an Economic emphasis only strategy. This is the potential demographic dividend that Angola can capture.

Policy Options for Harnessing the Demographic Dividend

Investing to facilitate a slow-down in the rapid population growth

A key first step for Angola to reduce the child dependency ratio and open the window of opportunity for harnessing the demographic dividend is to facilitate the rapid voluntary fertility decline. The interventions to achieve this objective can be guided by the Ministry of Health that promotes the use of FP to increase birth spacing to at least two years, and to reduce unwanted pregnancies as a key element in reducing reproductive health risks. The Ministry of health also supports the community programmes for the distribution of FP commodities, improving access to these commodities and to promote behaviour change on reproductive health. Through these avenues, the Ministry aims to achieving a significant increase in the use of modern contraceptives and to facilitate couples to choose the timing of births and allow them to effectively space births.

Other avenues that are key to achieving the decline in fertility include keeping girls in school and enhancing female education, and reinforcing efforts in reducing child mortality.

The short-term policy actions to increase the pace of fertility decline in Angola should focus on facilitating the increase in the voluntary use of FP and securing sustainable funding for FP programming, while the medium to long-term policy actions should focus on addressing the structural factors that promote keeping girls in school and reducing the child mortality rates.

Creating a healthy work-force

Angola's work force bears a double burden of disease from both communicable and non-communicable diseases, worsened by insufficient and unequal distribution of health workers, health facilities and health financing. Efforts to improve the health of the workforce should focus on reinforcing ongoing interventions aimed at attaining SDG 3 – ensuring the health and well-being for all at every stage of life. These interventions should include improving the effectiveness of the health system, building capacity of the health system to prevent and manage non-communicable diseases, and developing sustainable health financing models, including reinforcing public-private partnership in health care delivery.

Improving education and skills development

The education sector in Angola still has a lot of room for improvement to increase the school participation rates and enhance the quality and relevance of education in line with SDG 4 – ensure inclusive and equitable quality education and promote lifelong opportunities for all. Angola has to invest in developing the skills of its human capital in order to develop the highly skilled and globally competitive labour force necessary for it to achieve its socioeconomic transformation agenda and harness the demographic dividend. In the short-term, the country has to increase access to basic education and improve learning outcomes at all levels. In the long-term Angola should pursue actions that enable it to achieve universal basic education (to include both primary and secondary level), put in place strategies that allow even the adult population to re-skill when necessary and revamp technical and vocational education and training (TVET) for both in-school and out-of-school youth.

Accelerating economic growth and creating quality jobs

Accelerating inclusive economic growth that creates enough decent jobs for the growing youthful working-age population is critical if Angola is to harness the demographic dividend and achieve its long-term development aspirations. The rate at which decent jobs have been created in the last two decades has been slow and not matched the general healthy growth rate of the economy although this has slowed down in the last few years). Angola's chief challenge is to diversify the economy and reduce the reliance on the oil and gas sector that does not have a strong job-creation effect. Already, there are relatively good policy intentions directed towards diversification including the National Development Plan 2018-2022 that seeks to strengthen the economic diversification policy to accelerate economic development and job creation. What is required therefore is to address the bottle-necks to the implementation of these policies intentions.

Strengthening governance, efficiency, and accountability

Governance and accountability are key cross cutting pillar that is central to the success of the other pillars of the demographic dividend. Good governance and entrenching the culture of accountability in all spheres of

development is vital in bridging the policy to implementation gap, ensuring value for money in service delivery, and providing a conducive business environment to attract direct foreign investment, which is critical to expand the private sector and overall capacity of the economy to create ample quality jobs for the youthful labour force. Efforts to improve governance and accountability should focus on reinforcing performance-based accountability mechanisms in government to ensure effective implementation of government policies and programmes. This should include developing and implementing a National Monitoring and Evaluation Framework and ensure that there is a robust integrated performance management system that will serve as a tool for enforcing performance accountability in an integrated manner.

INTRODUCTION

2019

1

Introduction

Angola is classified as a Lower-Middle-Income Country (LMIC) with its per capita Gross Domestic Product (GDP) in 2016 estimated at USD 3,879 (INE, 2018). The country's GDP growth slowed down from an average of 12.6% between 2006 and 2010 to 4.7 percent between 2011 and 2015 (AfDB, 2018). This decline is partly as a result of lower international oil prices which account for more than 95% of Angola's export revenue. The rapid population growth being experienced in Angola is also a factor in the declining GDP per capita. The national population census in 2014 estimated the total population at 25.8 million people (INE, 2015), almost 6 million people more than previous estimates. Angola has recently moved from being ranked as a low human development country in 2015 (placed at 150 out of 188 countries) to a medium human development country ranking 145th out of 188 countries (UNDP, 2018; UNDP, 2016). The country ranking on human development shows that much more effort is required to improve health and life expectancy, increase access and quality of education, and improve the standards of living of all Angolans.

The government recognises that improving the wellbeing of the population and minimising over reliance on oil, which is a key driver of the economy, are critical to achieve Angola's *Vision 2025* goal to "extricate the country from poverty by promoting economic growth, macroeconomic stability and employment" (African Development Bank, 2017). Considering population dynamics in development planning and investing in its people to harness their full potential are important cornerstones for the country's prosperity.

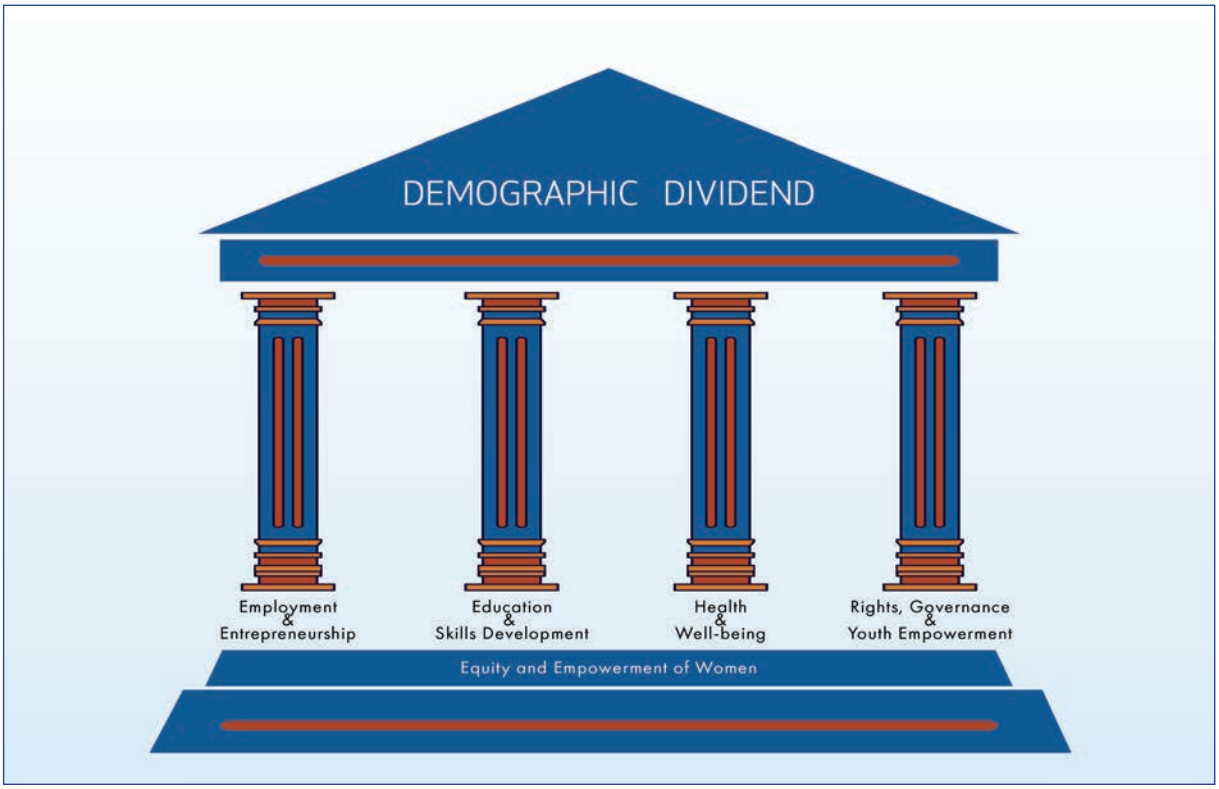
Angola's population more than tripled from 6.8 million in 1970 to 25.8 million by 2014. Population projections show that the total population could reach 41.8 million by 2030 and 67.9 million by 2050 (INE, 2015). This rapid population growth is a consequence of persistent high fertility while child mortality is steadily declining. The under-five mortality rate in Angola declined rapidly from 262 deaths per 1,000 live births in 1980 to 90 deaths by 2015. However, the average number of births per woman only declined marginally, from 7 children per woman in 1980 to 6 births in 2015 (INE, MINSA, MPDT & ICF, 2017; UNPD, 2017). Low use of contraceptives, at only 14%, is a key driver of the persistent high birth rate among Angolan women (INE, MINSA, MPDT & ICF, 2017).

One of the consequences of the high fertility rate is that Angola's population is profoundly youthful, with 47.2% under 15 years and 18.5% between 15 and 24 years (INE, 2015). Overall, 66% of the Angolans are below 25 years while only 2.3 percent are 65 years and above (INE, 2015). In other words, for every 100 Angolans within the theoretical working ages of 15 and 64 years old there are an estimated 100 dependents who are either children below 15 years or elderly persons 65 years and above (INE, 2015). This is a very high dependency burden that has significant implications that can lead to slowing down economic growth. Parents with many children struggle to provide for their education, health and other needs, which undermines the quality of human capital of the next generation of workers. High fertility is also associated with low levels of female education and limited participation of women in the labour force. Governments in high fertility countries also struggle to provide quality education and health services for children and have limited resources for investments to boost economic growth.

Angola therefore requires accelerated and sustained fertility decline in order to shift to a favourable age structure that can propel its envisioned socio-economic transformation This will change the current population age structure from one dominated by dependent children to one dominated by working-age adults. This transformation in the age structure of the population can accelerate economic growth a phenomenon known as the demographic dividend (Bloom, Canning & Sevilla, 2003). The underlying logic is that as fertility and child dependency burden decline and the working-age population bulges, the economy will enhance its productivity. Additionally, households and governments will have more resources to invest per child in education and health, thus enhancing the overall human capital (Canning, Raja & Yazbeck, 2015). Households will also save more, increasing resources for capital accumulation and economic security at old ages. Furthermore, the reduction in fertility promotes higher levels of female education and participation of women in the labour force.

The demographic dividend can last between 20 to 50 years and its magnitude depends on intensive investment in human capital development to increase productivity; investment in mass quality jobs; and the creation of an enabling environment for savings and investments (Lee, Mason & Miller, 2003). It is important to note that the demographic dividend is neither automatic nor guaranteed. Investments

Figure 1.1: African Union Demographic Dividend Pillars



Source: AFIDEP and UNFPA, 2017

that accelerate rapid fertility decline will open the window of opportunity for harnessing the demographic dividend. The demographic dividend is enhanced through reforms and sustained investment to ensure that the working-age population is well educated, healthy, skilled and gainfully employed. It is estimated that between a quarter and a third of the unprecedented economic growth experienced by East Asian countries such as South Korea, Singapore, Taiwan and Malaysia can be attributed to the demographic dividend (Bloom & Williamson, 1998).

The African Union (AU) recognises the opportunity to accelerate socio-economic transformation in the continent through harnessing the demographic dividend. In 2017, the AU designated "harnessing the demographic dividend through investments in youth" as the theme of its annual summit and theme of the year. This shows the recognition of the demographic dividend framework among decision makers at the highest-level of leadership in Africa and its potential contribution towards the realisation of AU's Agenda 2063. The AU *Roadmap to harness the Demographic Dividend through Investments in the Youth* (African Union Commission, 2017) calls on AU member states to domesticate the demographic dividend agenda and enhance their chances of harnessing the dividend by prioritising investments in the following four pillars also depicted in Figure 1.1 above:

1. Employment and entrepreneurship
2. Education and skills development
3. Health and wellbeing (including family planning)
4. Rights, governance and youth empowerment

Thee four pillars are interrelated, and each is integral to the success of the others. As a modification to the AU roadmap pillars, Figure 1.1 includes Equity and Empowerment of Women, presented as a horizontal bar to symbolise the cross-cutting importance of addressing gender inequities to harness the demographic dividend.

1.1 Study Objectives

The primary objective of this study is to assess Angola's prospects for harnessing the demographic dividend and demonstrate priority policy and programme options that the country should adopt to optimise its dividend considering its development aspirations.

The specific objectives of the study are:

1.To review Angola's demographic and economic opportunities and challenges, and assess their implications for the attainment of the country's development aspirations.

2.To assess the prospects of harnessing the demographic dividend in Angola using the DemDiv model.

3.To identify key policy options for optimising chances of earning a maximum demographic dividend in Angola.

1.2 Study Methodology and Approach

The study used a combination of methodologies including desk reviews to collate and interpret secondary data indicators; further analysis of existing data to fill particular evidence gaps; policy scenario modelling to demonstrate the potential demographic dividend that the country can harness under different policy scenarios; and the assessment of policy responses that Angola can adopt to optimise its chances of harnessing the demographic dividend.

1.2.1 Review of Literature and Policy Documents

The study reviewed literature to identify policies and strategies that have helped other countries to harness the demographic dividend. It also reviewed national development plans and strategies to understand the development goals and targets, bottlenecks, tried and recommended solutions for addressing the challenges, and how these link to the demographic dividend.

1.2.2 Analysis of Secondary Data and Indicators

Secondary data and indicators were collated and further analysed to establish past trends and the current status of various development indicators. These data, along with the analysis of the policy framework, were used to set target indicators for the modelling exercise described below. National datasets were used, supplemented with regional and international datasets where national data were not available. The national data were mainly derived from the Multiple Indicator and Health Survey (IIMS, 2015-2016), the Population and Housing Census and National Accounts reports.

1.2.3 Modelling the Potential Demographic Dividend

The DemDiv modelling tool created by the Health Policy Project (HPP) with support from USAID was used to demonstrate the potential demographic dividend that the country can harness under different policy scenarios (Moreland et al., 2014). DemDiv is structured as a two-part model that integrates and projects demographic and economic changes to estimate employment, investment and total factor productivity, which feed into the estimation of GDP and GDP per capita. The model is scenario-and projection-based, comparing the impact of different policy scenarios on future development trajectories. It allows the design of multiple scenarios showing how the combined power of policy investments in family planning, health, education and the economy can generate a demographic dividend. A detailed description of the model, including its limitations is given in Appendix I.

1.2.4 Stakeholder Workshop

The Ministry of Economy and Planning (MEP) convened the Demographic Dividend Technical Working Group comprising over 20 government officials from various sectors. Nineteen of the members of the Technical Working Group participated in a week-long, hands-on modelling workshop held in April 2018, where they were trained on how to set up and run the DemDiv modelling tool (list of participants in the workshop is provided in Appendix II). The participants agreed on the modelling period, policy scenarios used in the model, reviewed the trends data and policy framework and agreed on the baseline and target indicators used in various policy scenarios. After running the model, the participants deliberated and agreed on policy options that the country can explore to harness the demographic dividend. The Technical Working Group was reconvened over two days in November 2018 to validate the final study report.

DEMOGRAPHIC AND SOCIO-ECONOMIC BACKGROUND

2019

2

Demographic and Socio-Economic Background

2.1 Demographic Profile

Angola's demographic profile is characterised by rapid population growth, that has resulted in a very youthful age structure, and rapid urbanisation. The high population growth rate and high child dependency burden have been created by a long period of high and slowly declining fertility, alongside faster declining child mortality rates. Urbanisation in Angola is driven by people born in urban areas, migration from rural to urban areas, and the physical expansion of urban geographical areas.

The under-five mortality rate in Angola declined significantly in the last few decades, from 262 per 1,000 live births in 1980 to 179 by 2000 and 90 by 2015. However, the total fertility rate (TFR) only declined slightly from 7.4 in 1980 to 6.6 by 2000 and 5.6 during the Population and Housing Census (2014). The 2015-16 Angolan Multiple Indicator and Health Survey (IIMS) estimates an even higher TFR of 6.2 children per woman. The slow decline in fertility can essentially be accounted for by the low contraceptive use reported among women. It is estimated that only 14% of married women age 15-49 years currently use any form of contraception and just 13% of them use modern contraception. Fertility rates vary sub-nationally with the 2015 IIMS data showing that women living in urban areas have an average of 5.3 children compared to an average of 8.2 children for women living in rural areas. Provincially, women in Luanda have an average of 4.5 children while those living in Bie' have an average of 8.6 children. Women in the poorest households have 8.5 children on average, compared to 4.0 children among those in the wealthiest households. Similar differences are noted across education categories.

The sustained high fertility in Angola has resulted in rapid population growth, with the total population more than tripling from 6.8 million in 1970 to 25.8 million in 2014. As Table 2.1 shows, the population is projected to increase to 41.8 million by 2030, and to 114.4 million by 2070. As a result of the high fertility rate, Angola's population structure is very young. The median age of the population is 16 years and 47% of the population is under age 15 years. This presents a high dependency burden for the country with 100 persons in the working ages 15 to 64 supporting 100 dependents (children below 15 years and elderly persons aged 65 years and above). This high dependency burden poses a challenge to economic growth due to the high costs to the government and households to provide essential needs for children, including their education and health services. It also impedes the ability of the nation and households to save – an important factor that enables investments and capital accumulation and provides an impetus for socio-economic growth.

Compared to many sub-Saharan Africa countries, Angola is a highly urbanised. The 2014 Population and Housing Census estimates that almost two thirds (63%) of the population lived in urban areas (INE, 2015). The rate of urbanisation was estimated at 5.2 percent in the 2014 Census and as much as 6.9 million people lived in the capital city, Luanda.

Table 2.1: Angola Demographic Estimates and Projections

Population by broad age-groups ('000)	1980	2015	2030	2050	2070
0-14	4,236	12,689	16,876	23,411	36, 437
15-34	2,821	8,435	15,249	23,570	38,514
35-64	1,641	4,890	8,488	18,139	32,766
65+	232	668	1,164	2,808	6,649
Total Population (thousands)	8,930	26,682	41,777	67,928	114,365
Proportion of children and young people in the population (percent)					
0-14	47.4	47.6	40.4	34.5	31.9
10-24 years	31.1	31.2	34.0	30.2	28.3
Median age of population (years)	16.2	16.1	19.0	22.9	25.0
Dependency ratio	100.2	100.2	76.0	62.9	60.4
Total Fertility Rate	7.4	5.5	4.5	3.2	2.9
Under-five Mortality Rate	262	90	65	45	34

Source: INE, 2015; UN Population Division, 2017

The UN estimates that the population living in urban areas will increase from 63% in 2015 to 80% by 2050 (UNPD, 2018). The rapid urbanisation in Angola was initially driven by forced migration during the civil war, when many people ran away from rural to urban areas. The recent urbanisation is driven by economic opportunities available in the urban areas that attracts migrants.

Historically, urbanisation has offered important opportunities for economic and social development, acting as engines of economic growth. However, in African settings including Angola, urban areas struggle to provide an enabling environment for innovation, rapid economic growth and job creation. As a result, many urban residents lack basic social services, including affordable housing, while there are sections of the cities with entrenched poverty and low quality of life. The 2016 UN Habitat report shows that more than half of Angola's urban population (56%) live in slum conditions.

On a positive note, the country reduced the proportion of the urban population living in slums by a third between 2000 and 2014, from 87% to 56% (UN Habitat, 2016). The government recognised the need for housing in urban areas, and the then President announced the first National Housing Development programme in 2008. The programme aimed to build 1 million housing units before 2015 (CAHF & DW, 2016). Even though the public sector exceeded its target of delivering 115,000 dwelling units, the other sectors could not meet their targets. Thus, the shortfall in housing was still estimated to be over 1 million in 2015. The extent to which Angola will benefit from its urbanisation will, therefore, depend on proper planning and how quickly the country can develop proper urban economic infrastructure and stimulate job creation, as well as provide basic social amenities.

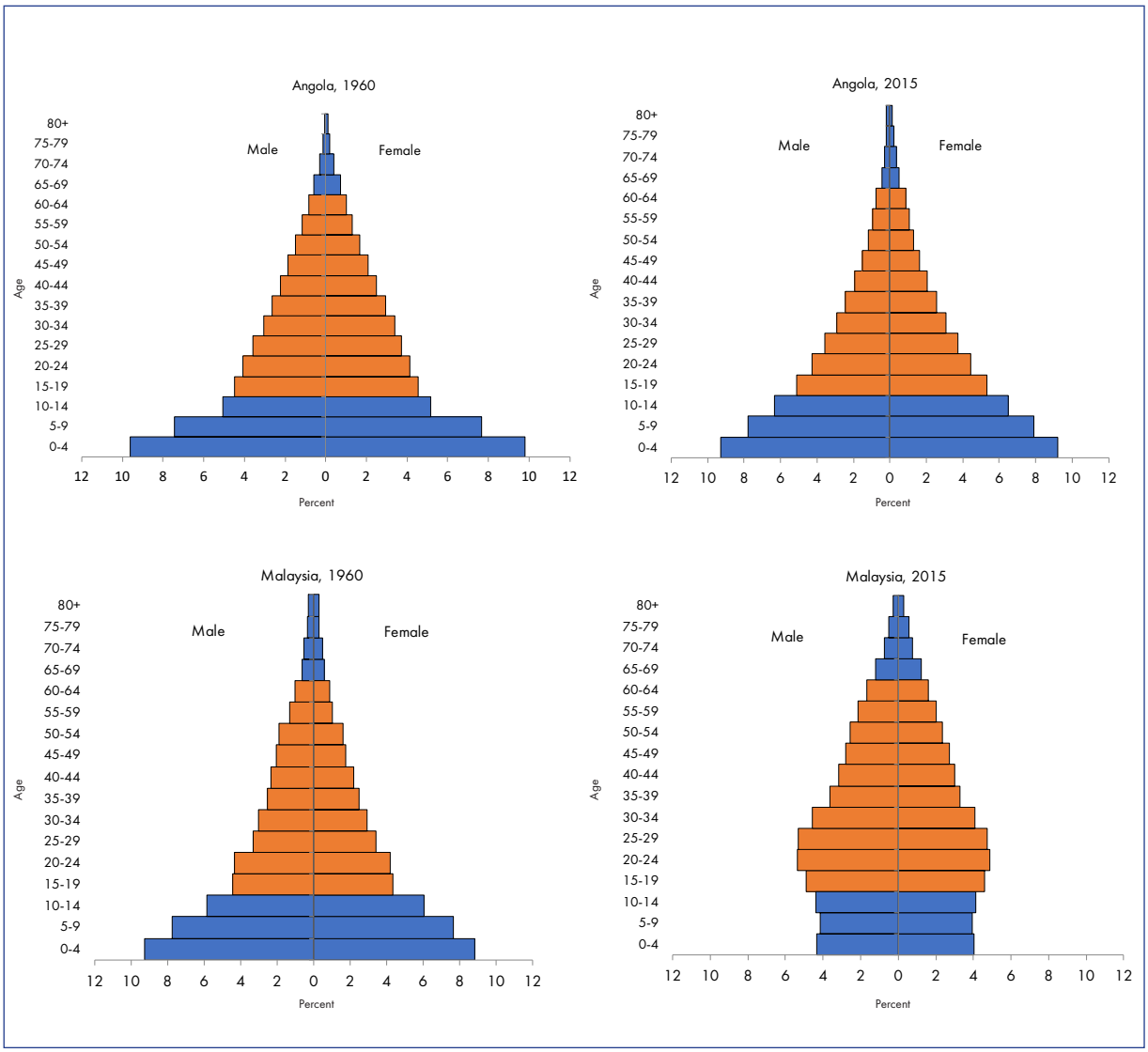
Although the prevailing population characteristics present hurdles to development, Angola can exploit its population dynamics to advance its economic prosperity goals if it makes strategic investments to accelerate fertility decline and enhance the quality of its human capital. A rapid decline in fertility from the current level would change the age structure to one with significantly more working-age people relative to dependents and open a window of opportunity for accelerated economic growth through the demographic dividend. The country could earn a sizable demographic dividend and boost its average incomes as has been done by some East and South East Asian countries such as Malaysia, Indonesia, South Korea, and Thailand. As Figure 2.1 overleaf shows, in 1960, the population pyramids for Malaysia and Angola were very similar and total fertility rate was roughly the same – between 6 and 7 children per woman. While Malaysia's total fertility rate has dropped from 6.2 in 1960 to about 2 children per woman in 2015, Angola's fertility rate during this period has only dropped by one child. The resulting population pyramids in 2015 are therefore quite different, with the one of Malaysia reflecting a much more favourable ratio of working-age population to dependents.

In order for Angola to have a favourable age structure that can propel it's envisioned economic transformation, it is vital to accelerate the rate of fertility decline. As observed in the 2015 IIMS data, fertility rate is still very high and contraceptive use is very low. In order to accelerate the rate of fertility decline, a number of measures can be adopted including increasing modern contraceptive uptake; reducing teenage childbearing; keeping girls in school and improving their progression to secondary school; and accelerating on-going progress in child survival. The teenage fertility rate in Angola is very high, with more than one-third of women age 15-19 years already bearing children. Teenage childbearing is much higher than the national average of 35% within certain segments of the population and in some regions. For example, the proportion of teenagers without any education who had begun childbearing was as high as 58% while among the teenagers in Lunda Sul, 60% had started childbearing. High teenage fertility not only contributes to high total fertility rate, but curtails the potential of girls in education and participation in economic production, thus acting as a hurdle to economic growth.

There is also wide disparity contraceptive uptake among all women in the reproductive age. Modern contraceptive use is higher among sexually active unmarried women (27%) than married women (13%). Among married women, those residing in rural areas are disadvantaged in modern contraceptive use (2%) than women in urban areas (18%). Provincially, only 1 percent of married women in Cuanda Cubango use modern contraception compared to 30% of married in Luanda. In addition, contraceptive use varies by economic status with just 1% of married women in the poorest households using modern contraceptives compared to 31% of those in the wealthiest households. Overall, almost 4 in 10 married women (38%) in Angola who wanted to delay or stop childbearing are not using an effective family planning method and are categorised as having an unmet need for family planning.

Decline in child mortality is a critical precondition for fertility decline because parents typically are assured that the few

Figure 2.1: Angola and Malaysia's Population Age Structure



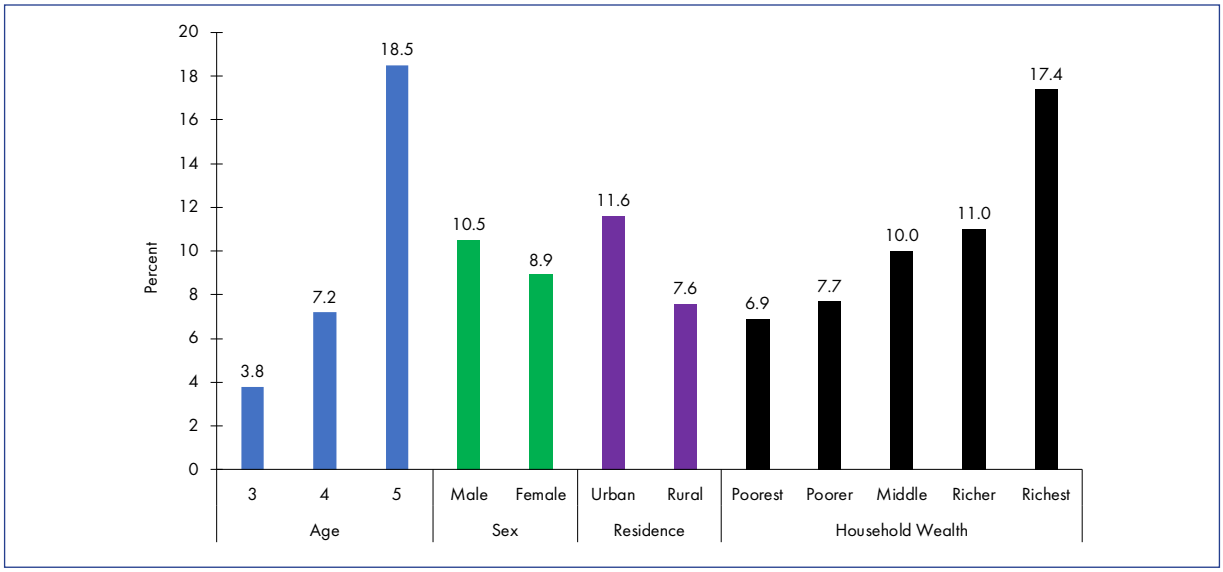
Source: United Nations, Department of Economic and Social Affairs, Population Division, 2017

children they have will have a decent chance to survive beyond childhood. Although Angola has made significant progress in reducing child mortality, the prevailing levels of child mortality are still quite high especially when compared to the levels achieved by Upper- middle- income Countries (UMICs). The infant mortality rate (IMR) declined from 161 deaths per 1,000 live births in 1980 to 65 deaths in 2015. Similarly, the under-five mortality rate declined from 262 deaths per 1,000 live births to 90 deaths over the same period. However, the infant and under-five mortality rates for Angola are still very high when compared to Malaysia where infant and under-five mortality are estimated at 7 deaths and 8 deaths per 1,000 live births respectively. Given that most of the causes of child mortality are known, there is need to step-up target interventions to address the high child mortality rate.

2.2 Education and Skills Development

Angola needs a well-educated and skilled labour force to harness the demographic dividend. Education, training and skills development are the key aspects of developing a globally competitive and productive workforce. Investing in education at all levels, with emphasis on the tertiary level, enables a country to maximise the productivity potential of its citizenry (Barro & Lee, 2013; Oketch, McCowan, & Schendel, 2014). According to the International Labour

Figure 2.2: Enrolment in ECE by Age, Gender, Place of Residence and Wealth



Source: National Institute of Statistics (IBEP 2008-2009)

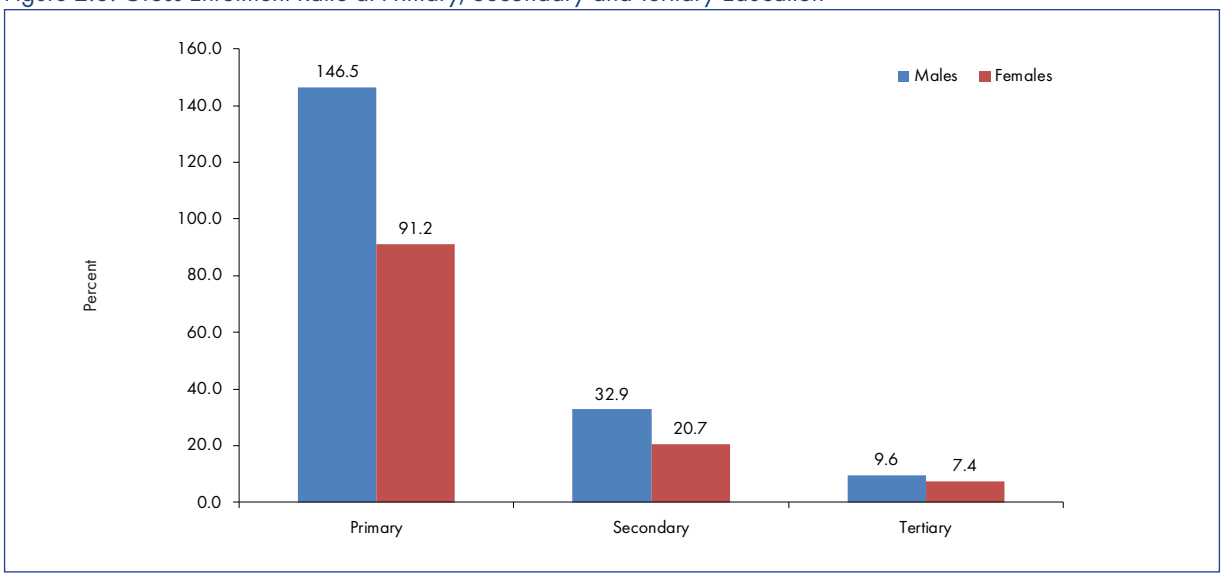
Organisation (ILO), effective skills development requires a holistic approach characterised by continuous pathways of learning; development of core skills; development of professional and technical skills; portability of skills; and employability (Brewer, 2013; ILO, 2014).

Despite the importance of education, Angola's education and skills development sector remains underdeveloped. The country still has no national policy framework on early childhood development education (ECE). This has resulted in low enrolment, with only 9.7 percent of children aged 3-5 years enrolled in ECE programmes. As shown in Figure 2.2 above, there are geographic and economic disparities in enrolment in ECE programmes. For instance, it is estimated that 6.9 percent of children in the poorest households are enrolled in ECE programmes compared to 17.4% of those in the richest households. Angola also has low primary school enrolment for a middle-income country. The net enrolment rate in primary school was estimated at 75% in 2016 (Ministry of Education, 2016). Transition from primary to secondary education is also quite low. The net enrolment rate in lower secondary education is just 27.9% and net enrolment rate in upper secondary education is even lower, at 17.2%. The net enrolment rate in technical education is 33% while gross enrolment in tertiary education is estimated at 8.5 percent (UNESCO, 2015). Angola's education system was severely affected by the conflict for many years, which partly accounts for its current state of underdevelopment.

Gender imbalance is another challenge in the education sector. Angola has not been successful in closing the gender gap at all levels of education. The median years of completed education is 4.9 years for females and 7.2 years for males. Figure 2.3 shows that the gross enrolment ratio at primary education is 91% for females compared to 146% for males. The same is true for gross enrolment ratios at the secondary and tertiary levels, with enrolment for males consistently higher than females at all the levels. The lower enrolment of women at the secondary and tertiary levels, in particular, prevent them from acquiring the skills and training necessary for productive employment and they remain trapped in the agriculture and other types of low-wage employment. For instance, 96% of women employed in the labour force in Angola are unskilled compared to 85% for men.

On the positive side, the government and its partners recognise these challenges in the education sector and have initiated measures to address them. Early childhood education is one of the eleven commitments between the Angolan government and civil society, adopted in 2007, for the realisation of children's rights. UNICEF has also supported the Angolan government to draft a National Early Childhood Development Policy. These efforts culminated in the enactment of the Children's Act, which provides a strong legal basis for early childhood education. The constitution of the Republic of Angola guarantees education as a fundamental human right. Investment in education and skills development has been recognised in Angola's long-term development strategy, Angola 2025, as one of the pillars for economic and social transformation.

Figure 2.3: Gross Enrolment Ratio at Primary, Secondary and Tertiary Education



Source: UNESCO Institute for Statistics

The revised National Plan of Action for Education for All (PAN-EPT) aims to improve access to education at all levels, with net enrolment rate targets set at 90%, 60 % and 40 % at primary, lower and upper secondary education respectively by 2030. According to Ministry of Education data, between 2003 and 2014 the total number of pupils in primary education rose by 108 %, by 470 and 281 % in lower secondary and upper secondary education respectively. These remarkable improvements in pupil enrolment were achieved through substantial government investment in education infrastructure. The number of students enrolled in technical-professional education also increased from 37,500 in 2001 to 147,750 in 2014 (Ministry of Education, 2016). Resource allocation to the education sector increased from USD 1 billion in 2005 to USD 4.7 billion in 2016 (AfDB, 2017). But public spending in the education sector, as a percentage of total government expenditure (7 percent), is below the sub-Saharan Africa average of 18.7 % (Ministry of Education).

Given the central importance accorded to quality human capital for the achievement of Angola's long-term development aspirations, the government has embarked on a major education reform initiative to improve the quality and relevance of education in producing a skilled and globally competitive work force. The education reform introduced substantial changes in the curriculum at the primary and secondary education with corresponding textbooks. The new curriculum introduced materials on subjects such as the environment and work education. There has also been an expansion of teacher training including in-service training for unqualified teachers. Enrolment in teacher training colleges almost doubled, increasing from 37,447 in 2001 to 59,525 in 2012 (Ministry of Education, 2012). To improve quality, Angola also recently joined the Southern African Consortium for Monitoring Education Quality (SACMEQ). Steps are being taken towards the adoption of formative and regular assessment of teacher and student performance.

2.3 Health Status

A healthy workforce is critical to enable countries optimise their economic productivity and earn a substantial demographic dividend. Several studies have documented the impact of health on economic growth. It has been shown that a one-year increase in health expectancy could raise GDP by up to 4 percent (Bloom *et al.* 2004). Investing in health contributes to reducing poverty and improving overall economic growth. For example, intensifying investments in health and specifically in maternal, new-born and child health have a multiplier effect (Wilhelmson and Gerdtham, 2006).

Angola considers its population as its fundamental resource and banks on it for its future development. The country has made very significant improvements in its health status indicators over the last decade. Child mortality has declined markedly, and reduction in maternal mortality, under MDG 5, was one of the goals in which the country achieved the millennium development goals target. Maternal mortality ratio (MMR) declined from 1400 maternal deaths per 100,000 live births in 2006 (Ministry of Planning, 2010) to

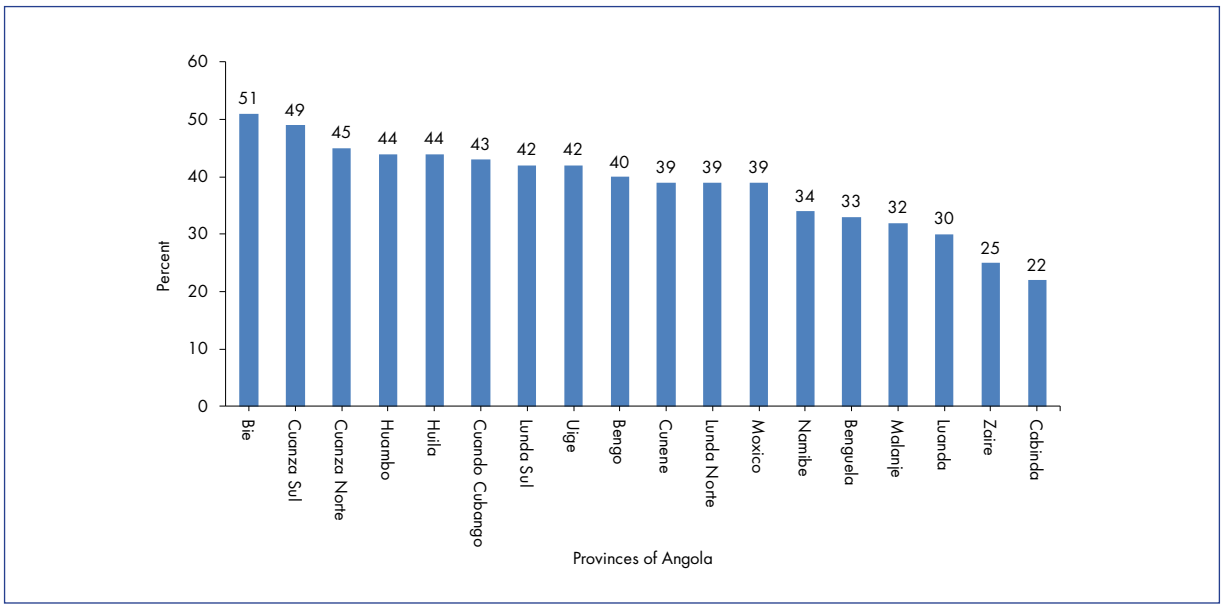
239 maternal deaths per 100,000 live births in 2015 (INE, MINSA, MPDT & ICF, 2017). Similarly, there has been a drop in HIV prevalence (from 2.4 percent in 2009 to 2 percent in 2015) and reduction in incidence of endemic diseases such as malaria and TB. All these achievements are associated with improved access to health services like immunisation through community-based services, integration of maternal and child health services, and improved data collection and utilisation in decision-making. Improved and continuous training of health care providers to offer quality care generally and specifically emergency obstetric care and good management throughout pregnancy and post-partum period has played a key part in observed improvement in maternal health outcomes. This progress has led to an increase in life expectancy at birth, rising from 49 years in 2001 to 60.3 years (57.6 years for male and 63 years for females) in 2014 (INE, 2016).

Despite these achievements, the country still grapples with key health challenges, including high rates of stunting among children below five years and increasing levels of non-communicable diseases. Malnutrition is an underlying factor of child mortality, has severe effects on the cognitive development of children, and affects their productivity later in life. The Multiple Indicator and Health Survey reported that more than one-third (38 %) of children under-five years were stunted in 2015. There were wide variations in stunting by province, with the stunting rate in Bie' reaching 51 % (Figure 2.4). In addition, one in every five children (19 %) were reported as underweight and 5 percent as wasted. Childhood diseases such as malaria, diarrhoea and ARI contribute to poor nutritional outcomes, while nutritional deficiencies reduce resistance to diseases, creating a vicious cycle of cause and effect. The government realises the importance of addressing malnutrition to further reduce child mortality and several initiatives have been put in place, including developing a national food security and nutrition strategy (ENSAN). The National Council for Food Security and Nutrition, a multi-sectoral body directly linked to the presidency, is responsible for implementing the strategy, but implementation has been quite slow.

Beside malnutrition, Angola is confronted with a high burden of communicable diseases such as Malaria and Tuberculosis which contribute to most deaths in the country. Malaria accounts for 60% of under-five hospital admissions, and is the top most killer among children, contributing to 35% of all deaths. The entire Angolan population is at risk of malaria, particularly those in the rural areas. In 2016, about 14% of children 6-59 months tested positive for malaria by rapid diagnostic test (RDT). Reducing malaria prevalence and eventual elimination is a top priority for the government. The general objective of the National Malaria Strategic Plan (2016-2020) is to reduce malaria-related morbidity and mortality by 60% by 2020, from 2012 baseline figures.

Angola is also facing a rising burden of Non-Communicable Diseases (NCDs). The common NCDs in Angola include cardiovascular diseases, chronic respiratory diseases, diabetes and cancers. In 2012, the World Health Organisation (WHO) estimated that a 30-year old Angolan

Figure 2.4: Stunting among Angolan children (<5 years) by province



Source: UNESCO Institute for Statistics

had a 24 % probability of dying from an NCD before his/her 70th birthday (WHO, 2014). The main risk factors for NCDs include harmful alcohol consumption, tobacco use, unhealthy diet and physical inactivity (Naik & Kaneda, 2015). The level of alcohol consumption in Angola in 2012 was estimated at 9.0 litres of pure alcohol per person aged 15 years and above, higher than the global average of 6.2 litres (WHO, 2014). The prevalence of high blood pressure in Angola was estimated at 23.9 % in 2014 which is higher than the global average of 22 % (WHO, 2014). Health services and personnel are currently ill equipped to diagnose and treat NCDs at early stages, coupled with inadequate information to the population on prevention and management of NCDs. Efforts are now gaining steam to train health workers to prevent, diagnose and manage NCDs.

Access to health care in Angola is low as the country struggles to rebuild its health care system after the protracted civil war. According to the National Health Development Plan, only about 45% of the population has access to public health facilities. According to WHO, a country requires a minimum of 4.45 physicians, nurses and midwives per 10000 population for adequate coverage of health care and achievement of the sustainable development goals (SDGs) (WHO, 2016). In Angola, there were 1.0 physicians and 16 nurses and midwives for every 10000 people in 2013, an indication of a serious shortage of health care workers (Macaia & Lapao, 2017). A related challenge is the skewed distribution of health care providers. For example, in 2009 Namibe province had 4.5 doctors and 41.5 nurses per 10000 people, while Benguela had 0.6 doctors and 8.7 nurses per 10000 people (Craveiro & Dussault, 2016). The health care system is comprised of public and private services, and services are available at no cost in public health facilities. However, the poor quality of care in public facilities due to shortage of health care providers and commodities, has resulted in an increasing popularity of the private sector for both primary and specialised healthcare (However, the public sector maintains its dominance in the provision of healthcare of Angolans). To address this shortage, the country has a high presence of medical expatriates, mainly from Cuba to fill in the gap. Other interventions that have been implemented include increased local training of health care providers and developing a community approach through training and deploying of community health workers as part of the health system.

Limited access to safe water and poor sanitation condition are major contributors to the burden of infectious disease, and particularly expose people to water-borne diseases and related ailments. It was estimated in 2012 that 54 % of households use an improved source of drinking water and the country missed the MDG target of 71 % (UNICEF, 2015). Many households especially in rural areas still use high-risk surface sources of water such as rivers, ponds and lakes. In terms of sanitation, Angola has made progress in increasing access to safe sanitation, particularly in urban areas. The use of improved sanitation facilities more than doubled, from 29 % in 1990 to 60 % in 2012. An estimated 87 % of the population in urban areas used improved sanitation facilities in 2012. However, access to improved sanitation in rural areas is still extremely limited with only 20 % of the population having access. More therefore needs to be done if Angola is to achieve universal access to improved water and sanitation facilities for its population, especially the rural population.

2.4 Economic Outlook and Opportunities

Economic reforms including creation of decent jobs, creating an enabling environment for the private sector to operate and improving competitiveness in doing business, are key ingredients for achieving socioeconomic transformation. Angola is classified as middle-income country with vast natural resources especially oil. Angola's long-term development aspiration, Vision 2025, aims to foster peace and national reconciliation, ensure sustainable development, establish an integrated national economy and reduce inequality. The vision is specifically designed to leverage the country's considerable resources and potential to create opportunities for all Angolans by reducing poverty and generating decent jobs for a majority of the population that has not shared the recent economic growth.

Economic Status

Angola has experienced impressive economic growth since the end of the conflict in 2002, with growth in GDP averaging 12.6 % between 2006 and 2010. There was, however, a significant decline in GDP growth between 2011 and 2015, averaging 4.7 percent. Economic growth even slumped to -2.6 percent in 2016 but recovered to -0.1 percent in 2017. The slow economic growth experienced in the last 7 years was a result of sharp and prolonged decline in international oil prices which hit Angola's fiscal revenue. For example, oil revenue declined from 67 % of Angola's total receipts in 2014 to 46 % in 2017. The decline in oil revenue hampered government expenditure and affected job creation in import-dependent sectors such as construction, manufacturing and retail services. As a result of these downward economic

trends, GDP per capita declined to USD 3,308 in 2016, the lowest in a decade.

As mentioned earlier, Angola's economy is dominated by the extractive sector which accounts for 38.3 % of GDP. The government has committed to using the agricultural sector as a key driver to economic diversification. The agricultural sector currently employs about 70 % of the economically active population in rural areas and contributes to 7.5 percent of GDP. Despite its growth potential, the agricultural sector in Angola remains underdeveloped partly due to inadequate agricultural infrastructure. A key goal of Vision 2025 is therefore to promote agricultural transformation by improving productivity and increasing investment in agricultural infrastructure. The service sector has also been growing steadily and currently contributes to 29.3 % of GDP (Figure 2.5).

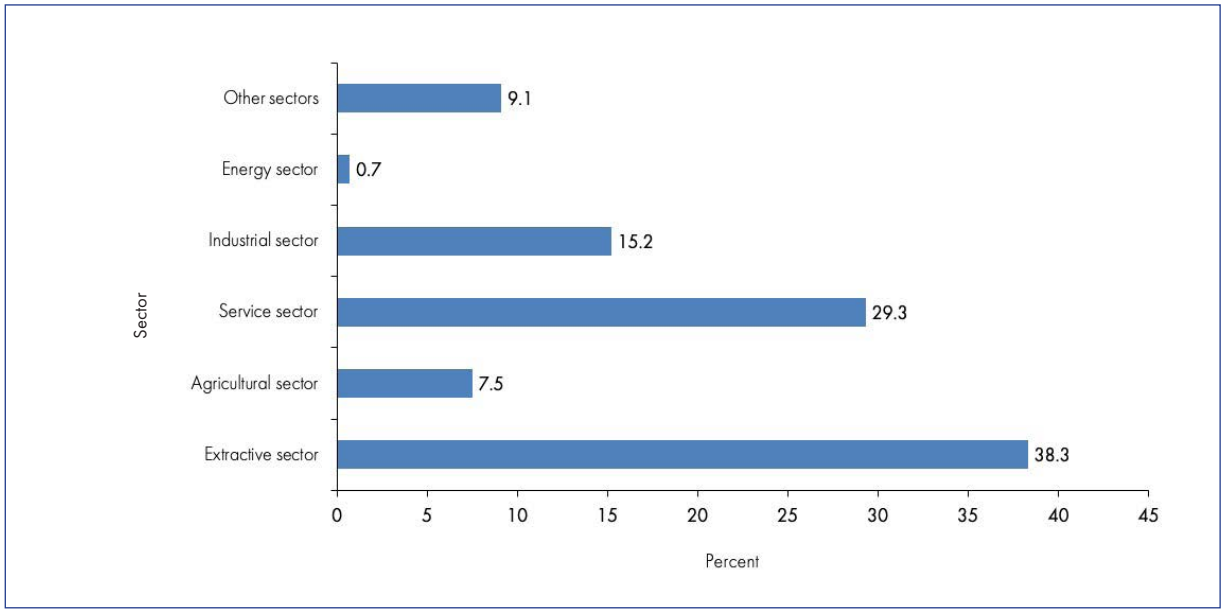
Angola has experienced a period of rapid reduction in poverty, with the incidence of poverty reducing from 68 % in 2000 to 36.6 % in 2015. The incidence of poverty is much higher in rural areas (58 %) compared to urban areas (19 %). Poverty is also higher in the Southern and Eastern regions than in the coastal and highlands which have vast natural resources and a huge agricultural potential. The main determinants of poverty in Angola include limited opportunities for sustainable employment and regional disparities in access to economic and social infrastructure. The levels of inequality in Angola are quite high, with inequality accounting for 37 % loss in the country's human development index.

Despite the recent growth in non-oil sub-sectors of the economy such as agriculture, fishing and banking, the economy has not generated sufficient jobs to match the rising working population. It is estimated that only 600 000 jobs were created between 2009 and 2011, mainly in agriculture, commerce, construction and public service. The level of unemployment in Angola is very high, estimated at 26 % and many of the employed work in low paying jobs in the agricultural sector and other informal sectors. Even though youth employment figures are not readily available, it is understood that the burden of unemployment is skewed heavily towards youth and women. With the growing number of the working-age population the country will face a serious unemployment challenge unless the current levels of unemployment and under-employment are reduced.

One of the contributing factors to unemployment is inadequate and poorly skilled human capital. An entire generation's education was severely affected by the civil conflict. It is estimated that 75 % of teachers never received the required education and training and only 54 % of pupils enrolled in primary school complete this level (MED, 2014). The gross enrolment rate in upper secondary education is only 29 % for males and 17 % for females. This limited enrolment in upper secondary education means that very few students make it up to tertiary level of education.

In 2011, there were only 140 000 students enrolled in colleges and universities around the country. Due to the poor quality of education at the secondary level of education, many students are unable to pursue education in technical fields such as engineering and medicine. To address the

Figure 2.5: Contribution to Gross Domestic Product by Key Sectors of the Economy



Source: UNESCO Institute for Statistics

massive skills shortage, the government has instituted a number of measures including expanding vocational/ technical education and embarking on a programme to build at least one secondary school per province. A total of 34 new technical schools were built and equipped to train students as a measure to the bridge demand for skilled labour (MED, 2014).

In spite of the forgoing challenges, the economic progress experienced in Angola over the past two decades was facilitated by improving macroeconomic conditions and prudent fiscal and monetary policies. The country's score on the macroeconomic environment pillar of the global competitiveness index increased from 3.61 in 2010 to 5.03 in 2014, resulting in a corresponding jump in rank from 122 out 139 countries to 54 out of 148 countries in the same period. But rising public debt and depreciating exchange rate in the last 2 years have eroded some of the gains in the macroeconomic environment.

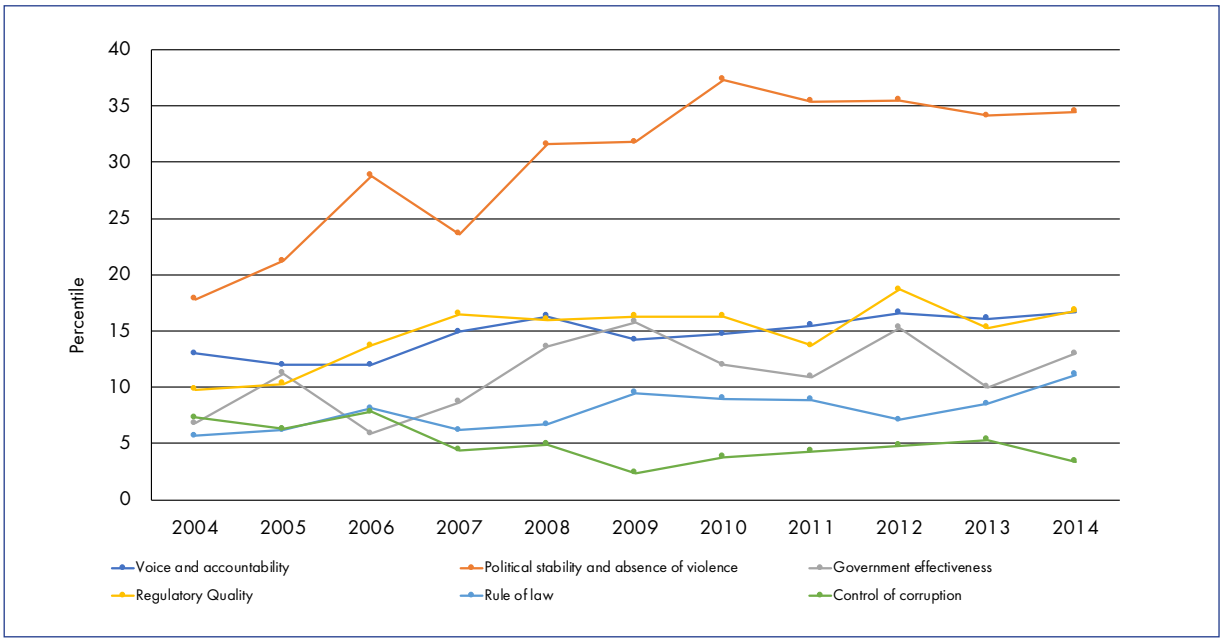
2.5 Governance and Accountability

Good governance and accountability are essential for sustainable and inclusive economic growth. They ensure equitable allocation and distribution of public resources and the efficient delivery of public services, which, among other things, creates a conducive environment for private sector investment and economic growth. However, Angola's performance on global governance and accountability indicators are very poor compared to other middle-income and even low-income-countries in Africa. Figure 2.6 shows Angola's performance on the six key worldwide governance indicators (World Bank, 2015). The country is also one of the ten lowest performing countries on overall governance on the Ibrahim Index of African Governance (IIAG). Angola scored 39.2 out of 100 on the 2016 IIAG and was ranked 45th out of 54 countries (MIF, 2016).

On corruption, the country ranks 167 out of 180 countries on the 2017 corruption perception index, with a score of just 19 out of 100. Even though the 2017 score is an improvement on the scores for 2016 and 2015, it still falls short of the 2013 score of 23 out of 100 (Transparency International, 2018). This trend is worrying and suggests that the country has made insufficient progress in addressing corruption.

But there are improvements in other governance indicators including personal safety, human development and business environment. Angola is the most improved country in the Southern Africa region on the human development indicator of IIAG. For instance, the country scored 63.5 out of 100 on the health sub-indicator of the IIAG (MIF, 2016). The government of Angola recognises the need for transparency and accountability especially in the oil sector, and has initiated a number of measures, though modest, to guarantee openness in the sector. For example, since 2004 the Ministry of Finance has been publishing oil sector revenues and payments on its website. The accounting and reporting processes between agencies in the oil sector has also been strengthen. In spite of these modest improvements, more needs to be done to promote good governance and accountability in Angola.

Figure 2.6: Angola's performance on the worldwide governance indicators



Source: UNESCO Institute for Statistics

MODELLING THE POTENTIAL IMPACT OF THE DEMOGRAPHIC DIVIDEND FOR ANGOLA

2019

3

Modelling the Potential Impact of the Demographic Dividend for Angola

The study used the DemDiv modelling tool (Moreland et al., 2014) to measure the potential impact of the demographic dividend on economic growth and other socioeconomic outcomes in Angola. The modelling was based on four primary policy scenarios[1], selected to demonstrate the net and combined effects on economic growth and other development outcomes when focusing on different configurations of investments in economic and social development. The model gives results for a 40-year projection period. Appendix II gives a summary description of components of the model.

3.1 Model Scenarios

After various considerations including the availability of relevant data, the year 2014 was chosen as the baseline for the projections. Targets for the most optimistic of the policy scenarios were mainly derived from the development targets that Angola would like to achieve over the next few decades, including high human capital development, technology intensive industries, high FDI, high productivity, visionary leadership and good governance, among others. The education attainment target was pegged to the completion of secondary school and some post-secondary school training. Since fertility is still quite high in Angola, use of modern contraception was envisaged to increase from the current estimate of 12.5% to about 60% in 40 years' time. Improved uptake of modern contraception is a key driver in slowing down population growth and shifting the age structure to one favourable for harnessing the demographic dividend. Finally, the economic policy indicators are envisaged in the best-case scenario to improve from the current levels that characterise a factor-driven economy to the average level of efficiency driven economies. Factor-driven economies are those that generally require investments focused on improving basic requirements for growth that include infrastructure, health, and primary education, as well as strengthening institutions and the macro-economic environment. On the other hand, economies that have achieved these requirements have their growth focused on efficiency enhancers such as improving goods and labour market efficiencies, development of financial markets, and technology. The four primary policy scenarios used in the model are as follows:

I. Business-as-Usual scenario: Modelled on a case where the status quo, characterised by the persistence of high child-dependency ratios and relatively modest economic performance, persists over time. The country, though making some progress on most of the economic and social development indicators, would continue to perform well below its full potential. There would be no decisive action to address the widely acknowledged development bottlenecks in order to break away from the business-as-usual culture characterised by heavy reliance on the oil sector that is vulnerable to external shocks and the low quality of human capital. Angola would continue making only modest improvements in all sectors. In general, we assume that economic, education and family planning indicators would improve, but the improvement would be minimal and hence the country would not achieve the targets set out for its envisioned socio-economic transformation.

II. Economic Emphasis scenario: RRepresents a case where the country maximises its economic competitiveness and is decisively aggressive in addressing the economic challenges to development. It would put in place policies, systems, and resources to fully implement the economic programmes necessary to attain the ideals envisioned for its long-term development goals. In this scenario, it is envisioned that Angola would progress from being a factor-driven economy to an efficiency driven economy like was the case of the Asian Tigers when they achieved economic take-off. This scenario represents the best economic case for Angola in terms of reforming the economy to enhance productive efficiency and accelerate economic growth, job creation, and poverty reduction and to diversify its economic base away from the dominant oil and gas sector. On the other hand, under this scenario, there is little emphasis on social investments, and therefore the education and family planning indicators are held constant at the same levels as under the *Business-as-Usual scenario*.

III. Economic + Education Emphasis scenario: This scenario is designed to assess the net impact of maximum investments in the economic sector (Economic emphasis scenario) plus maximum investments in the education sector, while holding the family planning investments at the same level as the *Business-as-Usual* scenario. In particular, we increased the expected years of education from 8.68 years for females and 13.95 for males in 2014 to 14 years to reflect that the females are

[1]Two other iterations were estimated.
[2]Data accessible at http://www.worldpopdata.org

not going to be left behind by their male counterparts. The mean years of education increases from 4.7 years to 8 years by 2054 scenario. In particular, we increased the expected years of education from 8.68 years for females and 13.95 for males in 2014 to 14 years to reflect that the females are not going to be left behind by their male counterparts. The mean years of education increases from 4.7 years to 8 years by 2054.

IV. Combined (Economic + Education + FP scenario: This scenario provides the best policy option for attaining the country's desired socio-economic transformation to become a high- income country. The scenario adopts the best target indicators for economic competitiveness, education, and family planning and it enables assessment of the net impact of maximum prioritisation of family planning and education beyond effects of prioritisation of economic reforms. In practical terms, it is the *Economic + Education Emphasis* scenario plus maximum emphasis to improve FP. From the low modern contraceptive use of only 12.5% observed in the 2015/16 IIMS, the target in 2054 is set at 60% which is 6 percent above the average for Southern Africa region which has the highest modern contraceptive use (Southern Africa is followed by North Africa at 46%).[2] The *Combined scenario* entails determined commitment and action to develop high-quality human capital in Angola, comparable to UMICs and high-income countries. The scenario envisions enabling women and their partners to avoid unintended pregnancies through universal access to effective methods of contraception. Furthermore, there are comprehensive reforms of the educational system resulting in increased years of schooling completed and access to quality education. These are critical to enhance the skills level and innovation of the labour force. Increasing completed years of schooling helps to keep girls in school, prevent early marriage and childbearing, and reduce fertility rate. For the education indicators, we assumed that for Angola to be economically competitive the country should achieve universal secondary education and a large proportion of the school-going population should attain at least two years of post-secondary training. As the ideal case, the *Combined scenario* should provide the best possible socio-economic development outcome for Angola.

The specific indicators used in the DemDiv model are presented in summary in Table 3.1. For each variable, we indicate the baseline value and the values used in the four policy scenarios. The meanings of the variables are defined in Appendix IV.

Education Indicators

For economic growth to take root, countries have to nurture pools of well-educated workers who are able to perform complex tasks and adapt rapidly to their changing environment and the evolving needs of the production system. In this model, we use two indicators to show the impact of education on development; expected years of schooling and the observed mean years of schooling for males and females.

The *Expected Years of Education* refers to the total number of years of schooling a child who is of primary school entry age today can expect to receive over their lifetime, assuming that the probability of her/him being enrolled in school at future ages is equal to the current enrolment rate at those ages. We adopted the expected years of schooling provided by the UNDP Human Development Report 2014 for Angola. These were 8.68 years for females and 13.95 years for males.

The *Mean Number of Years of Schooling* is the average number of years of schooling for the adult population 25 years and older. We adopted the figures from the Human Development Report 2014: 4.7 years for both males and females.

The big difference between expected years of schooling and mean years of schooling that favour the former is a clear indication that school attendance rates are much better for the younger generations in Angola than they were for the older generations. It also shows that education attainment for males is currently much higher than for females and therefore policy actions should target narrowing this gap.

Compared to UMICs and high-income countries, expected years of education in Angola, especially for the females, is quite low. Given that Angola is starting at low levels, it is realistic to assume that universal tertiary education may not be attained in 40 years but it is ideal to pursue a target of at least two years of post-secondary education on average for all young people in the future as well as the attainment of gender parity in education at all levels.

Table 3.1: Baseline and Target Indicators for Modelling Policy Scenarios

Policy Scenario	Ref Year	Intervention Policy Area													
		Education					Family Planning				Economic				
		Expected Years Female	Expected Years Male	Mean Years Female	Mean Years Male	Mean Years (Male & Female)	CPR Modern Methods (Married women)	CPR Traditional methods (Married women)	PPI (Months)	Sterility (Percent All Women 45-49)	Labour Market Flexibility	ICT Use	Financial Market Efficiency	Public Institutions	Imports as % of GDP
Baseline	2014	8.68	13.95	4.70	4.70	4.70	12.5	1.1	13.3	3	3.51	1.35	2.30	2.54	34.64
Business as Usual	2054	10.28	13.97	5.69	5.69	5.69	26.8	0.8	13.3	2	3.54	1.63	2.70	2.86	38.02
Economic Emphasis	2054	10.28	13.97	5.69	5.69	5.69	26.8	0.8	13.3	2	3.60	2.30	3.63	3.59	45.90
Economic + Education Emphasis	2054	14.00	14.00	8.00	8.00	5.69	26.8	0.8	13.3	2	3.60	2.30	3.63	3.59	45.90
Combined Emphasis (Economic +Education + FP)	2054	14.00	14.00	8.00	8.00	5.69	60.0	0.8	13.3	2	3.60	2.30	3.63	3.59	45.90
Data Source		UNDP HDR 2014					Angola Demographic and Health Survey,2015/16				World Economic Forum, Global Competitiveness Report 2014 data (the baseline for imports provided by MEP)				

Thus in 2054, under the *Combined and Econ + Education Emphasis* scenarios (where optimum investments are made in education training and skills development), the *expected years of schooling* for both females and males is set at 14 years. Under the *Business-as-Usual* and *Economic Emphasis* scenarios, where minimal investments are made in the sector, the target is set at 10.28 years for females and 13.7 years for males.

The *mean years of schooling* for both females and males is set to rise to 8 years in 2054 under the *Combined and Econ + Education Emphasis* scenarios, where optimum investments are made in education training and skills development. This is equivalent to the average of countries where expected years of education today is 14 years. Under the *Business-as-Usual* and *Economic Emphasis* scenarios where minimal investments are made in the sector, the variable is set at 5.69 years for both males and females informed by the experience of countries that have already achieved the target level for expected years of education.

Family Planning Indicators

In this category, we focus on three indicators: the *Contraceptive Prevalence Rate (CPR)*, the Period of *Postpartum Infecundability (PPI)* and *Sterility*. Family planning is a very important intervention for fertility rate decline since it enables women and their partners to prevent unplanned births.

Contraceptive Prevalence Rate: This analysis incorporates the use of both modern and traditional contraception among married women and those in union. The model assumption for contraceptive effectiveness is 95 % for modern methods and 50 % for traditional methods. The baseline contraceptive use levels for 2014 were 12.5% and 1.1 percent for modern and traditional methods, respectively based on the observed levels during the Angola 2015/16 IIMS. The use of modern contraceptives Angola is very low compared to the regional average of 54%. Further, the 2015/16 IIMS recorded that 38% of the married women or those in union have unmet need for FP. Women with unmet need are those who want to stop or delay childbearing but are not using any method of contraception. Therefore, there is a lot of room for improvement over the next few decades if more investments are made to expand access to FP information, services and supplies.

Taking this into account, we set the modern contraceptive prevalence rate in 2054 at 60% for the *Combined Scenario*. In the other three scenarios, an assumption is made of very slow progress because of inadequate investments in FP resulting in a modern contraceptive prevalence rate of only 27% although this is more than double the baseline value and is 30% of the progress needed to achieve the best option under the *Combined scenario*.

Traditional methods at 1.1 percent are assumed to decline overtime due to continued emphasis on use of effective modern methods. However, since this is a relatively low level and we expect that there will still be some level of use of traditional methods, we assume the use of traditional methods will decline to 0.8 percent for all four scenarios by 2054.

Postpartum Infecundability (PPI): The PPI is the duration after giving birth when a woman is not susceptible to pregnancy due to lactational amenorrhea and/or postpartum sexual abstinence. The 2015/16 IIMS value in Angola for PPI was 13.3 months. This is the value used for the baseline in the model. Due to the counteracting effects of campaigns on exclusive breastfeeding for the first six months after birth, the increasing participation of women in formal employment and an expected continuation in decline in the period of postpartum sexual abstinence, the PPI is projected not to change over the next 40 years for any of the scenarios.

Sterility: This is measured by the percentage of women in union who remain childless at the end of their reproductive years (ages 45–49). The percentage of Angolan women who were childless in the 45–49 age group was 3 in 2015/16. We assumed that better health outcomes in the future could lead to sterility declining marginally to 2 under all scenarios over the next few decades.

Economic and Governance Indicators

The DemDiv economic sub-model captures a number of indicators to reflect the general economic situation and the extent to which the country has an enabling environment and infrastructure to promote job creation, economic productivity, and investments. These indicators were used as inputs to project the performance of the economy on a set of outputs, particularly GDP, GDP per capita, per capita investment, capital formation and employment.

Baseline estimates of output variables were obtained from official national statistics, except for the capital stock and capital stock depreciation rate, which were derived from the model dataset developed by the International Monetary Fund [IMF] (IMF, 2017). The share of imports to GDP was obtained from MEP.

[3] http://www3.weforum.org/docs/GGGR16/WEF_Global_Gender_Gap_Report_2016.pdf

The rest of the economic indicators were sourced from the Global Competitiveness Index (GCI), a cross-country database compiled by the World Economic Forum (WEF)[3]. Competitiveness is defined as the set of institutions, policies and factors that determine the level of productivity of a country, and hence the level of prosperity that can be reached by the economy. It is a mix of economic indicators and the results of a survey of business leaders to measure how attractive a country is for investment. Although it does not cover every country in Africa, there is general convergence between it and the World Bank's ***Ease of Doing Business Index***. The database assesses the strengths and weaknesses of national economies by analysing the efficiency of various sectors and their contributions to productivity of the economy over time. The GCI database has many indicators/components that are grouped into 12 pillars of competitiveness. Each indicator, with the exception of imports as a percentage of GDP, is presented on a scale of 1 to 7, with 7 as the best performance. Indicators from four pillars are used in the DemDiv model which are: ***Institutions (1st pillar), Labour Market Efficiency (7th pillar), Financial Market Development (8th pillar), and Technological Readiness (9th pillar)***.

The 12 GCI pillars are further organised into three sub-indices in line with three main stages of development: basic requirements (factors), efficiency enhancers, and innovation and sophistication factors. The three sub-indices are given different weights in the calculation of the overall index, depending on each economy's stage of development, as represented by its GDP per capita and share of exports represented by mineral raw materials. Angola is classified as a factor driven economy expected to transition to an efficiency driven economy as the next step. 60% of the weight is given to variables classified under the basic requirements (factors) stage. These include institutions, infrastructure, macroeconomic environment, health and primary education. The efficiency enhancers include higher education and training; goods market efficiency; labour market efficiency, financial market development, technological readiness and market size. For a detailed description see appendix IV.

The 2014 figures for Angola were used as the baseline for GCI variables (World Economic Forum, 2015). Under the ***Business-as-Usual*** scenario, the country will continue to perform below its full potential and attain about 30 % of the improvement it requires to catch up with the GCI indicators average for the innovation driven economies. The ***Economic Emphasis*** scenario thus pegs Angola's target to the GCI indicators for these innovation driven economies with the exception of "ICT Use" that is increased by more than 50% from the baseline value.

Labour Market Flexibility: This falls under the 7th pillar on Labour Market efficiency. Flexibility creates a positive effect on worker performance and on the attractiveness of the country for talent and high-quality skills. This pillar is critical for ensuring that workers are allocated to their most effective use in the economy (based on their skills) and provided with incentives to give their best effort in their jobs. Labour market flexibility enables shifting of workers from one economic activity to another rapidly and at low cost and allows for wage fluctuations without much social disruption. It provides for equity in the business environment between women and men. The components that make up this pillar include cooperation in labour-employer relations, flexibility of wage determination, hiring and firing practices, redundancy costs and effects of taxation incentives on work.

Angola's labour market flexibility baseline index is 3.51. For this indicator, we set the target for the best scenario as 3.60, which corresponds to average of the efficiency driven economies. We assume that under the ***Business-as-Usual***, the index will increase to 3.54, representing 30 % of the increase the country needs to make to reach the best option. Both the ***Combined and Econ + Education Emphasis*** are set at the same value as the ***Economic Emphasis*** scenario value projected for 2054.

Financial Market Efficiency: The 8th Pillar, financial market development, deals with allocation of national resources and foreign direct investments (FDI) in the different sectors. An efficient financial sector should channel resources to those entrepreneurial or investment projects with the highest expected rates of return rather than only to those who are politically well-connected. To ensure financial efficiency, economies require sophisticated financial markets that can make capital available for private-sector investment from a sound banking sector, well-regulated securities exchanges, venture capital, etc. The banking sector therefore needs to be trustworthy and transparent and appropriately regulated to protect investors and other actors in the economy at large. The constituent components of this sub-pillar include: availability and affordability of financial services; local equity market financing; ease of access to loans; and venture capital availability.

As in many countries in SSA, financial market efficiency in Angola is in its early stages of development, yet it is a fast-growing sector. With the right policy measures in place, the country can expect rapid growth in the sector and the

concomitant enhancement of economic growth that these developments can foster. The target for the best scenario is set at 3.63, which is the 2014 average for the efficiency driven economies. Under the ideal conditions, we assume that the financial market efficiency index will increase from the baseline value of 2.30 to 2.70 under the Business-as-usual scenario. This represents a 30 % improvement compared to the desired value of 3.63 for the ***Economic, Combined and Econ + Education Emphasis*** scenarios.

ICT Use: The technological readiness pillar (9th pillar), measures the agility with which an economy adopts existing technologies to enhance the productivity of its industries, with specific emphasis on its capacity to fully leverage information and communication technologies (ICTs) in daily activities and production processes for increased efficiency and enabling innovation for competitiveness. ICT use constitutes proportion of the population using internet, the number of fixed broadband internet subscriptions per 100 people, internet bandwidth (kb/s per user) and the active mobile broadband subscriptions per 100 persons.

While Angola's baseline score for this measure is quite low at 1.35 out of 7, it is acknowledged that the ICT sector is a fast-developing area and uptake could over the next 40 years improve significantly as the country becomes more integrated in the global economy and ICT becomes central to doing business and to everyday life. Another important consideration is that ICT plays a big role in the change in total factor productivity (TFP), which in turn affects GDP. This is based on regression equations in the model that showed that, of the three factors influencing TPF; institutions, financial market efficiency and technological readiness, ICT had the highest coefficient, almost double the impact of institutions on TPF. As such, ICT use is given a lot of weight in change of GDP in the model. An assumption is made that under the ***Economic, Combined and Econ + Education Emphasis*** scenarios, the will be an improvement by 58% from the baseline level to reach at least 2.30 in the next four decades. Under Business-as-Usual scenario, it is assumed to improve to 1.35, which is a 30 % improvement compared to the difference between baseline and the best target of 2.30.

Public Institutions: This pillar represents the accountability mechanisms and strategies that have been laid out to promote and protect both local and foreign investments. The legal and administrative framework in which individuals, firms and governments interact to generate wealth determines the institutional environment. The effective functioning of public institutions influences investment decisions and the organisation of production. Government attitudes toward markets and freedoms and the efficiency of its operations are key. Excessive bureaucracy and red tape, overregulation, corruption, dishonesty in dealing with public contracts, lack of transparency and trustworthiness, inability to provide appropriate services for the business sector, and political dependence of the judicial system can impose significant economic costs to businesses. These would significantly slow the process of economic development.

Proper management of public finances also falls under this pillar and is critical for ensuring trust in the national business environment. The components of this sub-pillar are: i) property rights and intellectual property protection; ii) ethics and corruption that includes diversion of public funds, public trust in politicians, irregular payments and bribes in awarding of contracts, taxation payments, and favourable judicial decisions; iii) undue influence that affects judicial independence and favouritism in decisions involving government officials; iv) government efficiency that includes wastefulness of government spending, burdens of government regulation, efficiency in legal frameworks in settling disputes and challenging regulations and transparency in government policymaking; v) security (business cost of terrorism/crime/violence, and reliability of police services).

Angola aspires to achieve good governance to enhance performance and improve the translation of policies to good programme outcomes and is mainstreamed in the development strategies. Inclusion of an indicator on public institutions together with economic indicators is thus in line with the country's ideals. The 2014 score on public institutions for Angola is 2.54. The target under the Economic, Combined and Econ + Education Emphasis scenarios is assumed to improve to match the average score of efficiency driven economies in 2014 hence a target of 3.59. Under Business-as-Usual, the target for 2054 is set at 2.86 - a 30 % improvement compared to the difference between baseline and the Economic Emphasis target of 3.59.

Under the GCI, Angola is classified under stage one with a basic factor driven economy. Out of the 144 economies ranked in the 2014, Angola ranked 137th for Sub-index A (Basic requirements including ***Public institutions*** [140/144]). It ranked 140th under Sub-index B (Efficiency enhancers that includes ***Labour market flexibility*** [137/144], ***Financial market efficiency*** [139/144], and ***ICT use*** [120/144]). Therefore, Angola has a lot of room for improvement in order to become a more globally competitive economy as

it ranks low relative to other economies on most of the key parameters that measure competitiveness.

Share of Imports as a Percentage of GDP: High levels of imports, as a percentage of GDP, can undermine socioeconomic development, capital formation and prospects for mass creation of jobs in the local economy. Imports as a percentage share of GDP in Angola in 2014 were estimated at 34.6%. An increase in imports is not necessarily bad, especially if the imports contribute to production and value addition. On the other hand, it could be a major disadvantage to the economy if most of the imports are in fact consumer goods. The target of 45.9% for the share of imports as a percentage of GDP in 2054 was applied to the model (based on the average of the efficiency driven economies) for the ***Economic, Combined*** and ***Econ + Education Emphasis*** scenarios. 38.02 % was applied for the ***Business-as-Usual*** scenario - a 30 % improvement compared to the difference between baseline and the *Economic Emphasis* target.

Other Baseline Indicators

Table 3.2 lists the other DemDiv model inputs that are used as baseline indicators for various outputs of the model. All data were drawn from national data sources and official reports. Where unavailable, international data validated by credible international organisations including the IMF, ILO and the Southern African Development Community (SADC) were applied.

3.2 Modelling Results

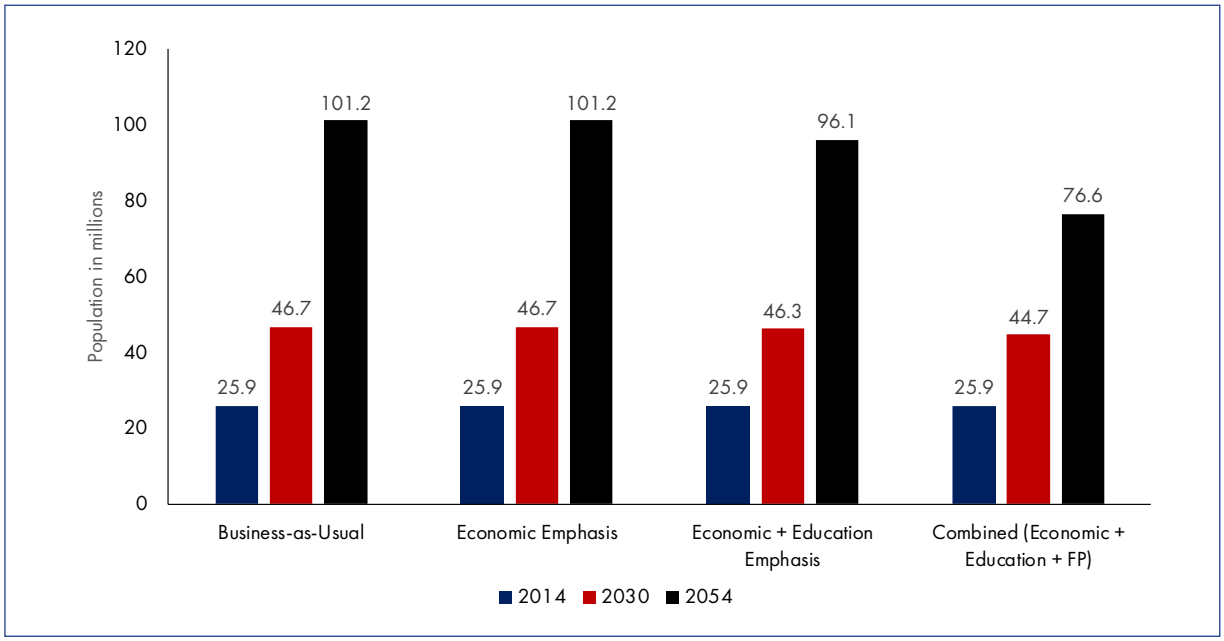
The results presented here show 40-year projections up to the year 2054. The results provide direction on the impact

Table 3.2: Baseline Values for Model Output Indicators

Category	Indicator	Base Year Value (2014)	Data Source
Health	Percentage married or in union (female)	55.5	Angola IIMS 2015/2016
	Total fertility rate (TFR)	6.2	
	Percentage of high-risk births (Percent)	31.2	
	Infant mortality rate (IMR)	44	
	Under-five mortality rate (U5MR)	68	
	Maternal mortality ratio (MMR)	239	
	Female life expectancy	63.0	RGPHE, 2014
	Female-male life expectancy difference	5.6	
	Contraceptive Effectiveness Modern Methods	0.95	Assumptions
	Contraceptive Effectiveness Traditional Methods	0.5	
Economic	Capital formation per capita	2,259	IMF, 2017
	Initial employment	5,442,685	RGPHE, 2014
	Initial employment growth rate (Percent)	2.6	5-year SADC average 2012/13 to 2016/17 calculated from ILO dataset
	GDP per capita (USD)	4,314	SADC Statistical Yearbook 2015
	Ratio of capital stock to pop 15+	40,096	IMF Investment and Capital Stock Dataset, 2017
	Initial GDP growth rate (Percent)	4.1	Contas Nacionais "Provisórias". Pag. 2
	Capital stock growth rate (Percent)	11.0	Computed
	Labour Force Participation Rate	0.52	RGPHE, 2014
	Capital stock depreciation rate (Percent)	4.0	Constant
	Primary education costs as % of GDP per capita	6.5	National estimate

Source: Modelling Results

Figure 3.1: Population Size by Policy Scenario



Source: Modelling Results

of government investment policies based on our scenario assumptions and therefore the actual outcomes over this period could be higher or lower depending on other factors that influence development in general.

Population Size and Structure

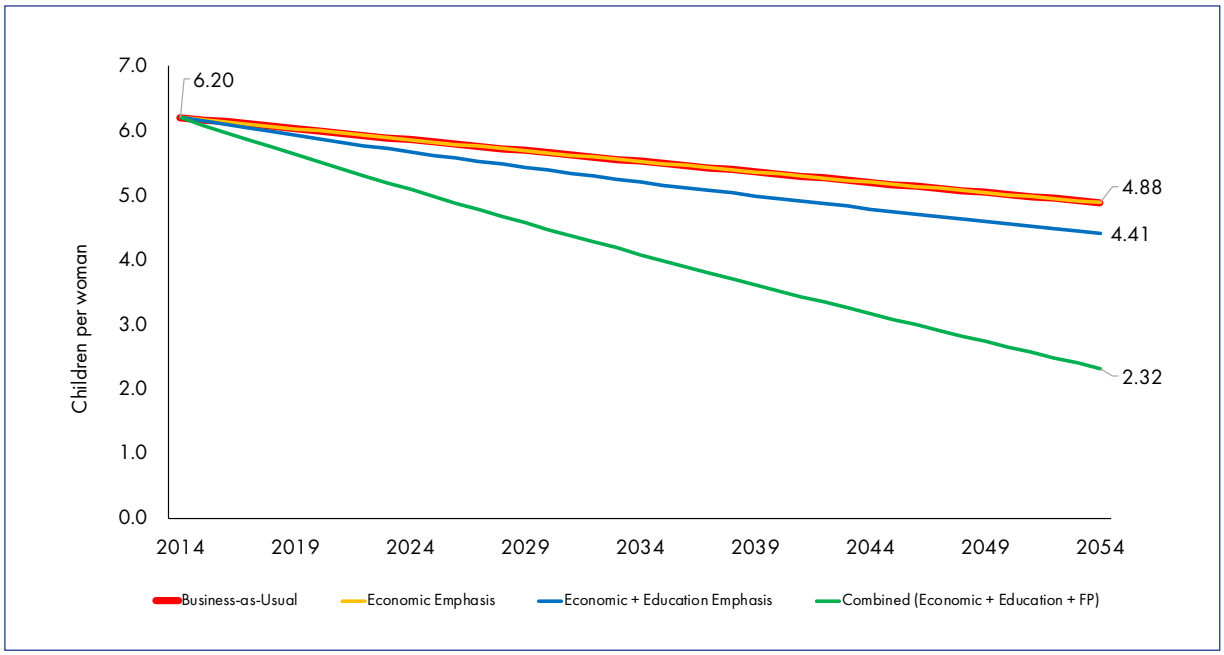
The starting point to earning the demographic dividend is the transformation of the age structure from one dominated by child dependents to one dominated by the working-age population. Figure 3.1 shows the population projections under all the four scenarios. The baseline population for Angola in 2014 was 25.9 million people. Population size under the Business-as-Usual and Economic Emphasis scenarios are the same in 2030 and 2054, at 46.7 million and 101.2 million people, respectively because the underlying assumptions of investments and outcomes in education and FP are the same. However, the population size will be slightly smaller under the Economic + Education Emphasis scenario, rising to 46.3 million by 2030 and 96.1 million in 2054 – only 4 million less than under Business-as-Usual scenario at the end of the projection period. However, it is under the Combined scenario, influenced by the significant increase in the use of modern contraceptives from 12% in 2014 to 60% in 2054, that there will be a major slow-down in the population growth in the long-term. Under this scenario, Angola's population is projected to increase to 44.7 million by 2030 and 76.6 million by 2054. The projected total population in 2054 under the Combined scenario is 24.6 million people fewer than under the Business-as-Usual scenario. This is a very big difference and is almost the same size as the population in 2014. So, while the population is set to increase almost three times over the forty period under the Combined scenario, it will increase almost four times under the other scenarios.

The main driver to the difference in the population growth under the four scenarios over the projection period is the pace of the fertility decline. Although the fertility transition will happen under all four scenarios, it will be much faster under the Combined scenario mainly as a result of the rapid increase in modern contraceptive use under this scenario. From the baseline of 12%, the target for modern contraceptive use under the Combined scenario is 60%, compared to 26.8% under the other three scenarios. While education is also a driver of fertility and increase in education is expected to reduce fertility levels, the change in expected years of education over the projection period is marginal and therefore does not have the same impact as change in FP on TFR and by extension on the total population. Figure 3.2 overleaf shows that under the Business-as-Usual and Economic Emphasis scenarios, TFR will reduce from 6.2 in 2014 to 4.88 in 2054. It will reduce to 4.41 under the Economic + Education Emphasis scenario, and will decline to 2.32 under the Combined scenario. The pace of the decline in fertility is a key determinant of the age-structure. The East and South East Asian countries that underwent a fast demographic transition over a few decades that facilitated

the favourable age structure for them to harness substantial demographic dividends all experienced a quick drop in fertility towards replacement level fertility (2.1).

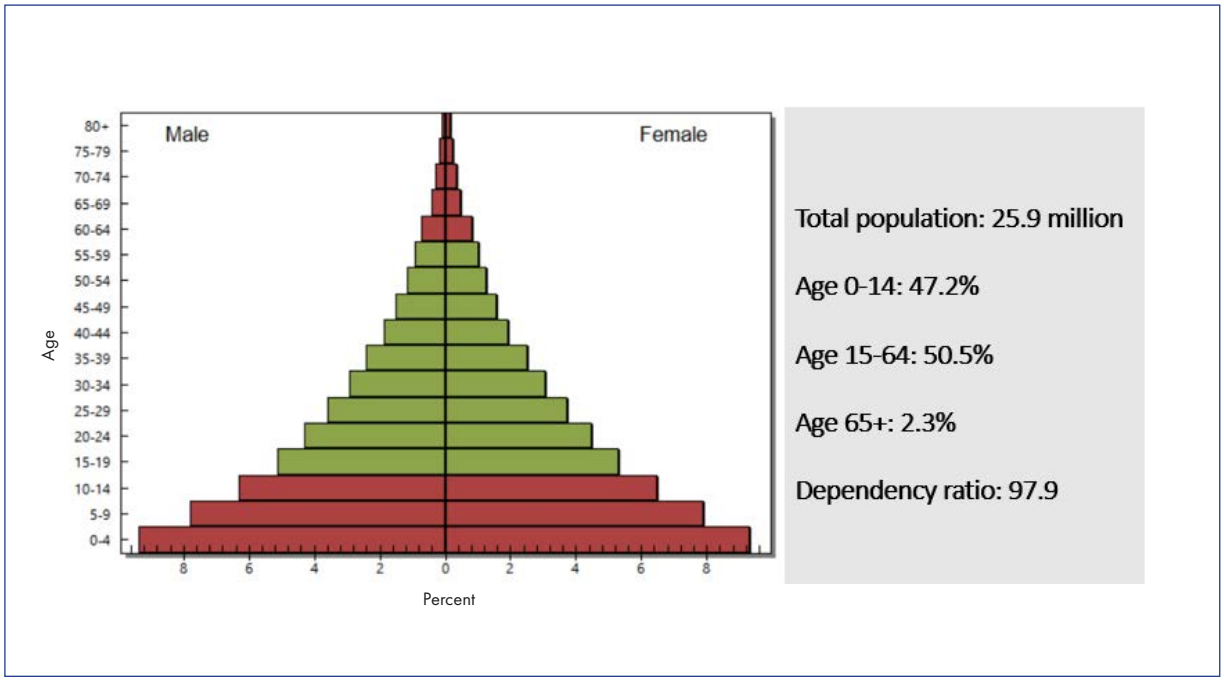
Figure 3.3 below illustrates the 2014 baseline age-sex distribution also known as the population pyramid and key population features in Angola. Figures 3.4 – 3.6 in relation, show the projected age-sex distribution of Angola's population in 2054 for each of the four policy scenarios.

Figure 3.2: Projected change in TFR by scenarios, 2014-2054



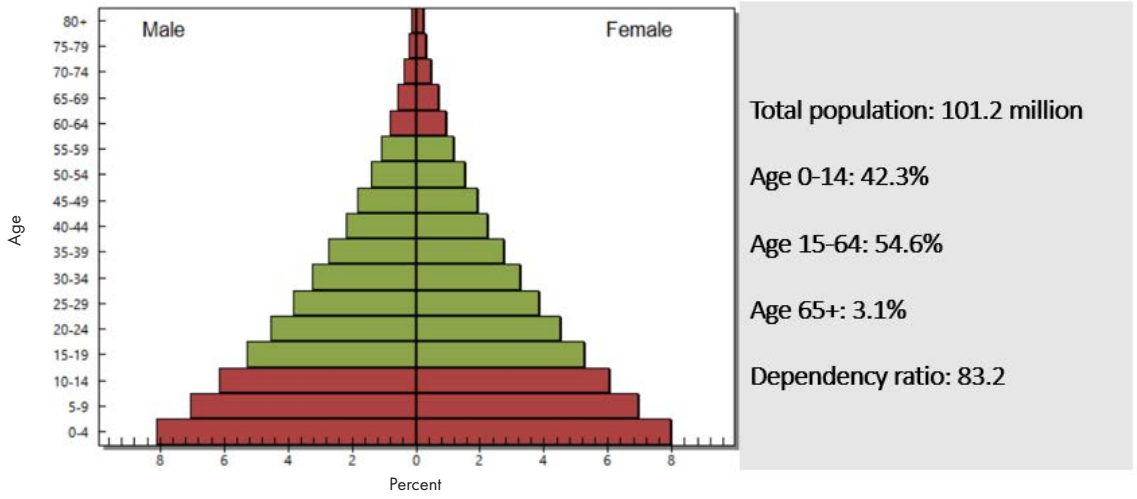
Source: Modelling Results

Figure 3.3: Baseline Population Pyramid and Key Features, 2014



Source: Modelling Results

Figure 3.4: Population Pyramid for the Business-as-Usual and Economic Emphasis scenarios, 2054



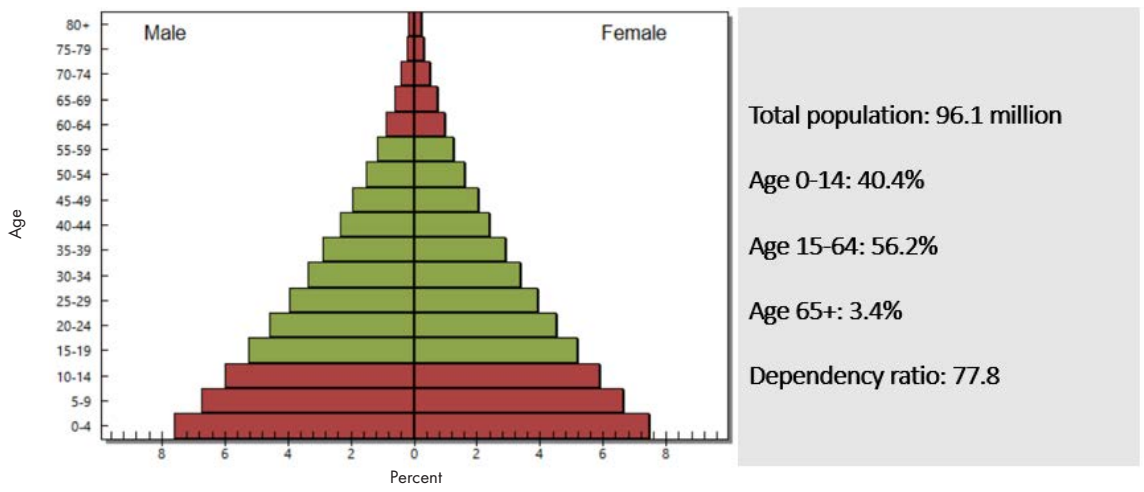
Source: Modelling Results

The population pyramid under Business-as-Usual and Economic Emphasis scenarios (Figure 3.4) will be the same. In both cases, TFR declines from 6.2 in 2014 to 4.88 children per woman in 2054. The population below 15 years under these two scenarios will constitute 42.3% of the total population, which is only 4.9 percent lower than in 2014. Those in the theoretical working-ages 15-64 will increase slightly from 50.5% in 2014 to 54.6% by 2054 while the dependents age 65+ will increase from 2.3 percent to 3.1 percent over the same period. This will result in a lower though still very high dependency burden of 83.2 dependents for every 100 people of working-age in 2054 compared to 97.9 dependents for every 100 people of working-age. Female life expectancy will increase by 3.6 years to 69.6 years over the same period for the two scenarios as a result of declining mortality due to improved health outcomes. Nevertheless, the significant dependency burden under these two scenarios will leave Angola facing similar challenges to the present situation including high poverty rates, high cost of social services due to the demand from many children at school and those requiring health care services and limited economic growth.

The population pyramid under the Economic + Education Emphasis scenario in 2054 will still be quite broad based and characterised by a high level of child dependency (Figure 3.5 overleaf). Under this scenario in which TFR will have declined to 4.41, the population below 15 years will be constituting 40.4% of the total population. Those in the theoretical working-ages 15-64 will form 56.2% of the population, while dependents age 65+ will contribute to 3.4 percent of the total population. The dependency burden will still be relatively high but lower than in 2014 with 77.8 dependents for every 100 people of working-age in 2054 compared to 97.9 dependents in 2014 for every 100 people of working-age. Female life expectancy will have increased to 70.9 years.

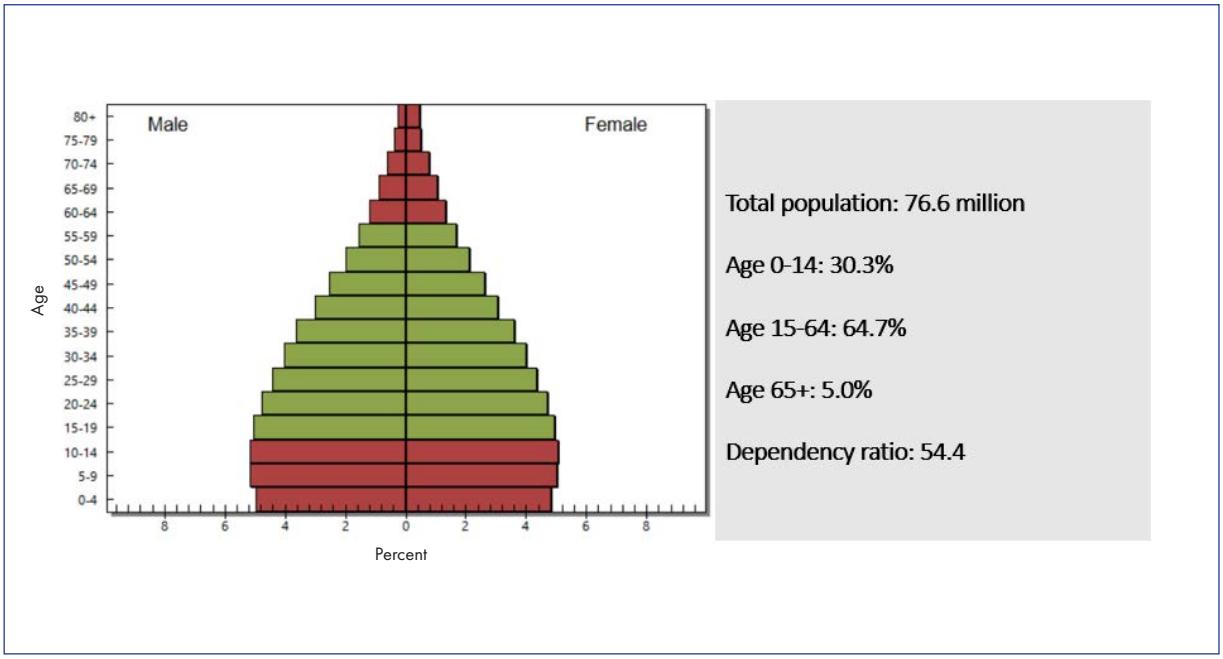
The population pyramid under the Combined scenario (Figure 3.6 overleaf) however, represents the best opportunity among the four scenarios for Angola to capture the demographic dividend. Under this scenario where TFR will have reached 2.3 by 2054 and therefore approaching replacement level, the dependency burden will be much lower and a clearly defined bulge in the working ages, favourable for harnessing the demographic dividend will have developed. The population below 15 years under the Combined scenario will decline to 30.3% - about 17% lower than in 2014. Angolans in the theoretical working-ages 15-64 will have significantly increased from 50.5% in 2014 to 64.7% by 2054 while the dependents age 65+ will increase from 2.3% to 5%. As a result of these changes, the dependency burden will be much lower with 54.4 dependents for every 100 people of working-age compared to 97.9 dependents

Figure 3.5: Population Pyramid for the Economic + Education scenarios, 2054



Source: Modelling Results

Figure 3.6: Population Pyramid for the Combined (Economic + Education + FP) scenario, 2054



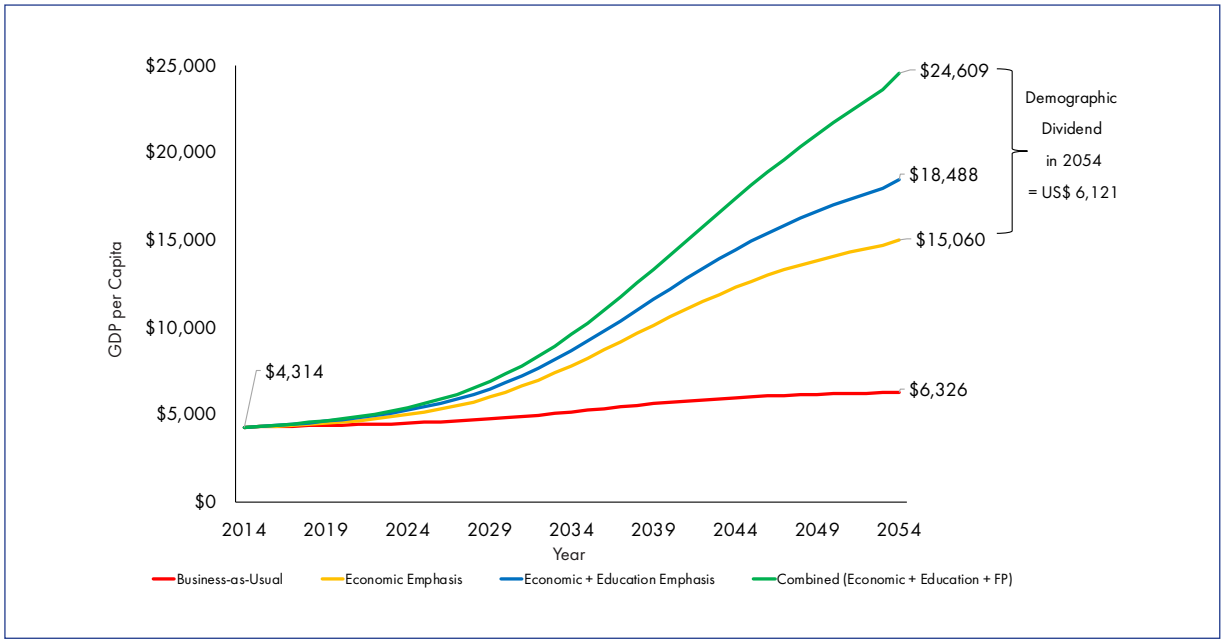
Source: Modelling Results

for every 100 people of working-age in 2014. Improvements in the quality of life will also be reflected in the increased life expectancy with the female life expectancy improving to 82.4 years - a 19-year increase from 63 years in 2014.

Growth in Per Capita GDP

GDP is the key result from the DemDiv model that illustrates the potential impact of the demographic dividend under the different policy scenarios. In particular, the difference in GDP

Figure 3.7: Growth in Per Capita Gross Domestic Product by Policy Scenario in US$



Source: Modelling Results

per capita between the Economic Emphasis scenario and the Combined scenario, estimates the demographic dividend that can be earned through a strategy of optimal integrated investments in multiple dimensions of socio-economic development relative to an economic emphasis strategy. Again, the results below are not prescriptive, but rather indicative of the extent of the effects of various investments options by the government. The actual GDP and GDP per capita to be realised depend on actual investments. Thus, it can be higher or lower than the model outcome.

The results show that GDP will rise from the 2014 level of US$ 115 billion to US$ 640 billion in 2054 under the Business-as-Usual Scenario. An Economic Emphasis scenario will result in significant gain in economic productivity with the GDP projected to rise to US$ 1,524 billion by 2054. This is more than 2.3 times the projection under Business-as-Usual. Yet this is still overshadowed by the result when in addition to the Economic Emphasis, there is a focus on investing in education (Economic + Education Emphasis scenario) where GDP will increase to US$ 1,777 billion in 2054. Angola could harness the highest GDP under the Combined scenario where there is a focus in FP in addition to the focus in investments in the economic and education sectors. It is the integrated and simultaneous focus of policy action and investments under the Combined scenario that could earn Angola GDP of US$ 1,884 billion in 2054.

The results show that Angola can earn a massive dividend under the Combined scenario once the population size is applied to the projected GDP. As Figure 3.7 above shows, GDP per capita can increase marginally under the Business-as-Usual scenario from the estimated US$ 4,314 in 2014 to US$ 6,326 by 2054. Under the Economic Emphasis scenario, it can increase much faster to a projected to US$ 15,060 by 2054. It could be almost US$ 3,500 higher under the Economic + Education emphasis scenario (US$ 18,488).

However, if integrated investments are made in all sectors including optimal investments in FP, the income per capita can increase to US$ 24,609 under the Combine Emphasis scenario by 2054. This implies that if the government went beyond a strategic focus on investments in the economic sector, and embraced integrated implementation that simultaneously focuses investments in the economic sector and in education and family planning, the country could earn an additional US$ 6,121 in GDP per capita in 2054 above what it would earn through an Economic emphasis only strategy. This is the potential demographic dividend that Angola can capture.

It is therefore under the Combined scenario that Angola would have a good chance of achieving its long-term development goal to promote human development and the well-being of Angolans, promote a fair and sustainable development,

and ensure rapid but equitable economic growth. But the task is not easy. The economic growth achieved under the Combined scenario translates into an average economic growth rate of 7% over forty years while slowing down the population growth rate from more than 3.5% in 2014 to less than 2% by 2054. The implication is that the country has to move fast to address the development challenges currently faced, so as to lay structures for economic take-off. This will require concerted and integrated efforts from all sectors and all players in the economy, including the private sector.

This analyses also explored two more scenarios; one on projected GDP per capita when maximum investments are made in education and FP but it is business-as-usual in the economic sector, and another with maximum investments in the economy and FP but it is business-as-usual in the education sector. The results showed that focusing on education and FP only will increase income per capita to US$ 7,553 by 2054. This is a lacklustre performance that improves only slightly on the Business-as-Usual scenario outcome. The second additional scenario that focuses on Economic emphasis in addition to maximum investments in FP but neglects investments in education would result in a GDP per capita of US$ 16,774 by 2054. This is slightly higher than the Economic Emphasis scenario result (US$ 15,060) but below both the Economic +Education Emphasis scenario (US$ 18,488) and the Combined scenario (US$ 24,609). These results further emphasise the need for the integrated investments approach in all the relevant sectors to develop quality human capital but also ensure economic reforms to create jobs for the labour force which together result to faster and higher economic growth.

Human Development Index

The Human Development Index (HDI) is a composite measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and having a decent standard of living, measured using life expectancy at birth, years of schooling, and per capita gross national income. Under the Business as Usual scenario, HDI would increase from 0.54 at baseline to 0.62 by 2054 improving its rank by HDI score from 149 to 129 based on the 2014 global rankings. In 2014, Tajikistan was ranked 129th. The HDI score could improve to 0.67 under the Economic Emphasis scenario, 0.74 under the Economic + Education Emphasis scenario, and 0.82 under the Combined scenario. Based on the 2014 global rankings, these would be equivalent to Angola rising to the 116th, 83rd and 46th positions respectively. To put this into perspective, the countries ranked 116, 83 and 46 in 2014 were South Africa, Algeria and Latvia respectively. Latvia is ranked by the World Bank among the High-Income countries of the World and is a member of the European Union. Therefore, through the Combined scenario strategy, Angola can aspire to attain both a high income and high human development country ignited through harnessing the demographic dividend.

Working-age Population and Job Creation Challenge

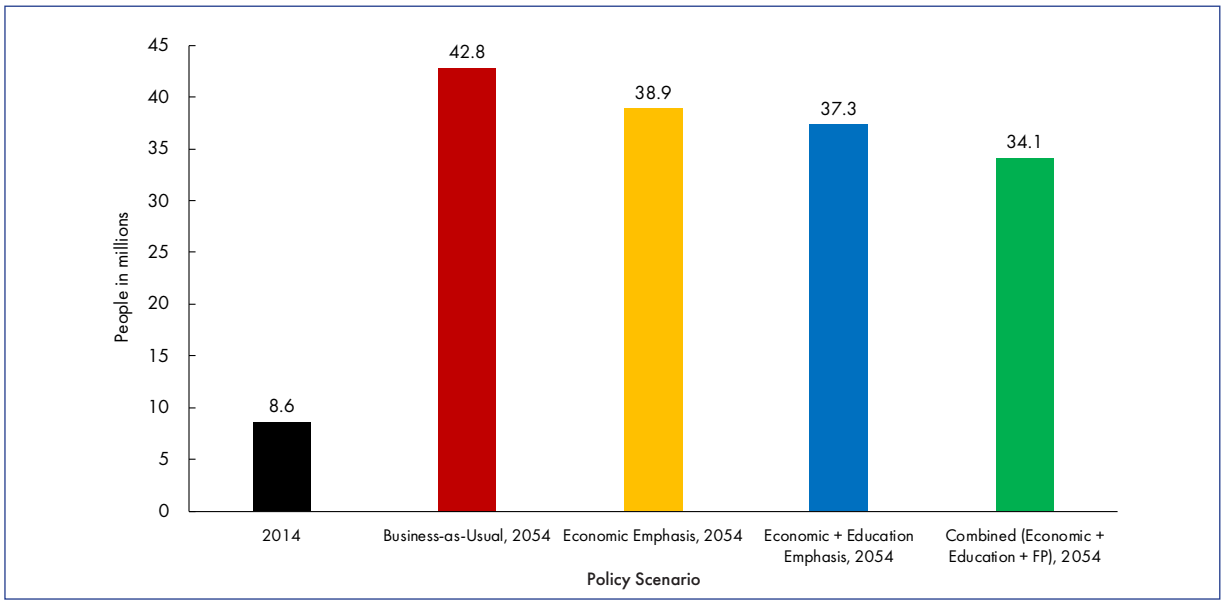
Although Angola has experienced fairly rapid growth in the last one and half decades, this growth has not been accompanied by a commensurate pace in the increase of decent jobs for Angolans. This is partly because the growth has been driven by the oil and gas sector that is not labour intensive, moreover, economic growth has slowed down considerably in the last five years. A slow jobs growth rate means that Angola will have to grapple with increasing numbers of unemployed people annually, especially if the population growth rate does not come down to under 3 percent soon. To reduce the proportion of the unemployed, the rate at which jobs are created in the country should surpass 4 percent annually for a sustained period.

This jobs challenge is one aspect of the DemDiv model attempts to model, though crudely, as the gap between the population in employment and the population in the working ages 15+ over the projection period. The projections consider both the changing age structure and the employment growth rate.

With an initial employment growth rate of estimated at 2.6 percent (this is the 5-year SADC average 2012/13 to 2016/17 calculated from ILO dataset) at baseline, the model results show that the country will continue to grapple with a significant demand for job-creation under all the four policy scenarios that are characterised by significant increase of the working-age population aged 15 years and above. It is important to note that this is a theoretical demonstration of the unemployment challenge since in fact many people in the population between 15 and 24 years are supposed to still be in school and therefore not looking for jobs.

In 2014, the gap between the population 15+ and the employed population was 8.6 million. With the projected population growth, this gap will increase to 42.8 million by 2054 under the Business as Usual scenario, 38.9 million under the Economic Emphasis scenario, and 37.3 million under the Economic + Education Emphasis scenario. At 34.1 million, the gap will be smallest under the Combined scenario, as a result of the slower population growth and

Figure 3.8: Projected Gap between employment and the population age 15+



Source: Modelling Results

more jobs created from the more robust investments and economic growth achieved under this scenario (Figure 3.8).

However, the numbers are a pointer that irrespective of the scenario, Angola is faced with an unprecedented challenge to create enough jobs for its rapidly growing labour force. Although the model is not able to measure the type of jobs created (whether decent or not), it is clear that high quality jobs, not limited to the oil and gas sector that is the main driver of the economy, subsistence agriculture or temporary constructions jobs, will be required to improve the general living standards of the population and ignite a socio-economic transformation of the nation.

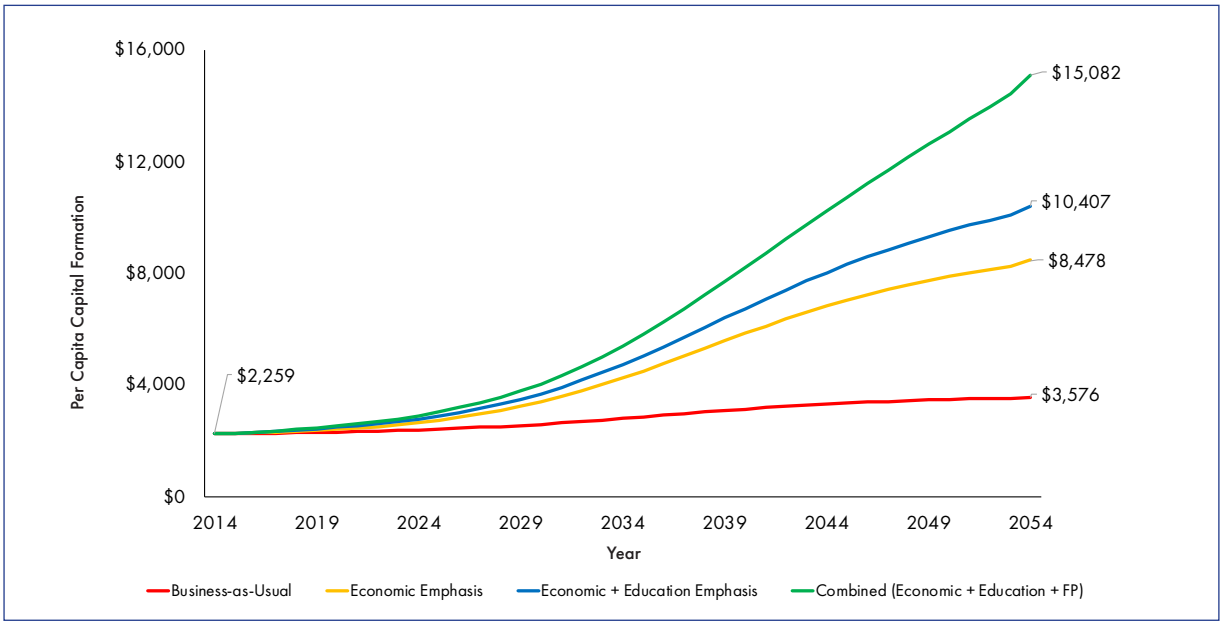
Capital Formation and the Second Demographic Dividend

For Angola to maximise its demographic dividend, the country has to focus not only in slowing down its population growth rate and transforming its population age structure to one with more working-age people, but also invest in developing its human capital through quality education and health care, and ensuring job-oriented economic reforms. The temporary working-age bulge leads to the first demographic dividend. This is however transient, and as the demographic transition begins to tend towards ageing, the first demographic dividend can turn negative with increasing dependency burden from the aging population, slowing down economic growth. A second demographic dividend can occur if, because of longer life expectancy and the need to save for longer retirement, there is an increase in savings and investments by the working-age cohort (Bloom, Canning, & Graham, 2003; Bloom, Canning & Sevilla, 2001; Bloom & Williamson, 1998).

The second dividend evolves, as the first dividend is waning, when there is a reduction in the working-age cohort due to population ageing (Mason, 2005). A country must have in place the right policies and a well-developed financial sector to incentivise savings and investments if it is to reap the second demographic dividend (Canning et al., 2015). Unlike the first demographic dividend, the second dividend is not transitory, in that a permanent increase in capital and per-capita income could accrue as a result of population ageing (Lee et al., 2003). To ensure that the country benefits from the second demographic dividend, it should foster a culture of savings and investments. This also entails attracting external investors in the country, by having a productive and skilled labour force, coupled with a favourable business environment. Increased investments, both domestic and foreign, will drive development of economic infrastructure and capital formation, which boosts economic productivity. Harnessing the first demographic dividend and maximising the second demographic dividend can therefore go a long way in providing Angola with a real stimulus for achieving the socio-economic transformation it envisions by 2054.

Figure 3.9 overleaf shows projections in per capita capital formation under the four policy scenarios. Fixed capital formation measures how much of the new value added in

Figure 3.9: Projected Per Capita Capital Formation by Policy Scenario in US$



Source: Modelling Results

the economy is invested in fixed assets (less disposals of fixed assets) by the business sector and governments, rather than consumed. The results show that the per capita capital formation could rise from US$ 2,259 at baseline, to US$ 3,576 under the Business-as-Usual scenario, US$ 8,478 under the Economic Emphasis scenario, US$ 10,407 under the Economic + Education Emphasis scenario, and US$ 15,082 under the Combined scenario by 2054.

Summary of Results

The modelling results show that Angola can make big gains to achieve the equitable socio-economic progress envisioned in its long-term development strategy, Vision 2025 and the revision of this strategy to cover the period to 2050. Investing to capture the demographic dividend can be significant impetus to achieving these aims. To reap the dividend, Angola has to however adopt an integrated approach to investments that prioritises both economic reforms and job creation as well as investing in human capital development. The country will need to invest in interventions that slow down its current rapid population growth that threatens to erode gains made in the area of economic growth. This should include providing the necessary education and services and commodities that allow couples to plan for healthy and affordable families. A significant drop in the high fertility rates that prevail in the country will lead to a lower dependency burden and the bulge in the working-age that is favourable for maximising the benefits of the demographic dividend. The analysis of several alternative scenarios shows that only the Combined scenario is capable of achieving this desired transformation in the age structure over the next four decades. Investments in human capital development and economic reforms that occur alongside the fertility decline in this scenario prepares the country to maximise the dividend it can earn since the change in age structure alone would be insufficient to ignite the socio-economic take-off needed in Angola. The people in the working-age need to also be healthy, well-educated and skilled, and have decent jobs in order to maximise the positive impact of increased productivity against a reducing dependency. If this happens, Angola can easily become a prosperous high-income country over the next few decades.

The DemDiv modelling results are summarised in Table 3.3 on page 31.

Table 3.3: Summary of Modelling Results per Policy Scenario

Indicator	Baseline (2014)	Business-as-Usual (2054)	Economic Emphasis (2054)	Economic + Education Emphasis (2054)	Combined (Economic + Education + FP) (2054)
Total Population (millions)	25.9	101.2	101.2	96.1	76.6
Population <15 (percent)	47.2	42.3	42.3	40.4	30.3
Dependency ratio (population age 0-14 and 65+ for every 100 people in the working ages 15-64	97.9	83.2	83.2	77.8	54.4
Total fertility rate (number of children per woman)	6.20	4.88	4.88	4.41	2.32
Life expectancy at birth (female)	63.0	69.6	69.6	70.9	82.5
GDP per capita (US$)	4,314	6,326	15,060	18,488	24,609
Human Development Index (HDI) score	0.54	0.62	0.67	0.74	0.82
Gap between employment and the population age 15+ (millions)	8.6	42.8	38.9	37.3	34.1
Capital formation per capita (US$)	2,259	3,576	8,478	10,407	15,082

Source: Modelling Results

POLICY OPTIONS FOR HARNESSING THE DEMOGRAPHIC DIVIDEND IN ANGOLA

2019

4

Policy Options for Harnessing the Demographic Dividend in Angola

for harnessing the demographic dividend, estimate the magnitude of the dividend it can earn under different policy scenarios, and identify policy options that the country can adopt to harness the demographic dividend in line with its long-term socio-economic development aspirations. Below we highlight the policy options identified by the Core Technical Team and through the review of various policy and programme documents. Efforts to improve the health and ultimate productivity of the work force should adopt a life-course approach that recognises that poor child health and malnutrition has long term effects on schooling, earning capacity, and general well-being.

4.1 Accelerating Fertility Decline

Angola has one of the highest fertility rates in the SADC region and as a result the population growth rate is very high. If the population growth rate does not slow down considerably, the country will have to contend with a large population of children below 15 years old for a long time and this will be a major barrier to the transformation of the age structure to one favourable for harnessing the demographic dividend. Therefore, a key first step for Angola to reduce the child dependency ratio and open the window of opportunity for harnessing the demographic dividend is to facilitate the rapid voluntary fertility decline. The interventions to achieve this objective can be guided by the Ministry of Health that promotes the use of FP to increase birth spacing to at least two years, and to reduce unwanted pregnancies as a key element in reducing reproductive health risks. The Ministry of health also supports the community programmes for the distribution of FP commodities, improving access to these commodities and to promote behaviour change on reproductive health. Through these avenues, the Ministry aims to achieving a significant increase in the use of modern contraceptives and to facilitate couples to choose the timing of births and allow them to effectively space births.

Other avenues that are key to achieving the decline in fertility include keeping girls in school and enhancing female education, and reinforcing efforts in reducing child mortality.

The short-term policy actions to increase the pace of fertility decline in Angola should focus on facilitating the increase in the voluntary use of FP and securing sustainable funding for FP programming, while the medium to long-term policy actions should focus on addressing the structural factors that promote keeping girls in school and reducing the child mortality rates.

Below are priority policy options for accelerating fertility decline in Angola classified by strategic objectives:

I. To increase the availability and quality of FP services:

a) An urgent review and update of FP standards and procedures to align with the needs of the country and to support efforts to revamp FP programming in the country.

b) The acquisition and distribution of FP commodities to all levels of health facilities.

c) Integrate FP in the training curriculum of all community and public health agents.

d) Development of a package of training material on sexual and reproductive health including FP for health workers.

II. To stimulate the demand for FP products and services:

a) Develop a communication strategy for the promotion of FP.

b) Provide an essential package for Information, Education and Communication (IEC) material on FP in all health facilities.

III. To strengthen the availability of financial resources to improve FP services sustainably:

a) Secure a dedicated budget line for FP in the national budget (Orçamento Geral do Estado, OGE).

b) Develop a business case for FP in Angola that can be used for advocacy with decision-makers on the benefits derived from FP that would enhance socio-economic development.

c) Map and engage potential funders including in the private sector. They should also be provided with the business case for FP that gives a clear cost-benefit analysis to gain their support.

IV. To address medium to the long-term structural and community barriers to fertility decline:

a) Scale up mass education campaigns for the empowerment of women, including community education on the benefits of educating girls beyond primary and secondary school levels. This will help address the teenage pregnancies and early marriage incidences.

b) Strengthen management of post-partum health complications and intensify interventions to improve breastfeeding to reduce neonatal mortality.

c) Strengthen multi-sectoral collaboration in implementing FP programmes involving all relevant government sectors, the private sector, and the communities.

4.2 Creating a Healthy Workforce

Angola's work force bears a double burden of disease from both communicable and non-communicable diseases, worsened by insufficient and unequal distribution of health workers, health facilities and health financing. Efforts to improve the health of the workforce should focus on reinforcing ongoing interventions aimed at attaining SDG 3 – ensuring the health and well-being for all at every stage of life. These interventions should include improving the effectiveness of the health system, building capacity of the health system to prevent and manage non-communicable diseases, and developing sustainable health financing models, including reinforcing public-private partnership in health care delivery.

I. To focus on both infectious and non-communicable diseases:

a) Reinforce efforts in addressing communicable diseases including HIV/AIDs, Malaria and diarrhoeal diseases and emerging threats like Yellow fever

b) Enhance health education to sensitise Angolan people on prevention of emerging non-communicable diseases and strengthen the capacity of the health care system to manage these diseases, as articulated in the NCD policy

II. To enhance the effectiveness of the health system and services:

a) Conduct regular recruitment and training of community health workers to replace those leaving the programme.

b) Address the health workforce shortage, particularly for specialised care. This should ensure adequate number of personnel are recruited, trained, equitably deployed and incentivised.

c) Develop a robust health financing strategy to ensure sustainable funding of the health sector and to move Angola towards achieving affordable Universal Healthcare (UHC). These efforts should also include the cultivation and reinforcement of public-private partnerships in health care delivery and financing and develop accountability mechanisms that leverage synergies and eliminate inefficiencies.

4.3 Improving Education and Skills Development

The education sector in Angola still has a lot of room for improvement to increase the school participation rates and enhance the quality and relevance of education in line with SDG 4 – ensure inclusive and equitable quality education and promote lifelong opportunities for all. Angola has to invest in developing the skills of its human capital in order to develop the highly skilled and globally competitive labour force necessary for it to achieve its socioeconomic transformation agenda and harness the demographic dividend. In the short-term, the country has to increase access to basic education and improve learning outcomes at all levels. In the long-term Angola should pursue actions that enable it to achieve universal basic education (to include both primary and secondary level), put in place strategies that allow even the adult population to re-skill when necessary and revamp technical and vocational education and training (TVET) for both in-school and out-of-school youth.

I. To improve access to education:

a) Facilitate and enforce mandatory free education to the 9th grade (up to the first cycle of secondary education).

b) Expand the capacity to absorb the rising school-age population – build more schools and more classrooms in existing schools, equip the schools and improve the general quality of infrastructure.

c) Train and hire adequate numbers of professional teaching and management staff.

d) Promote and implement alternative education pathways including TVET for both in-school and out-of-school youth. Angola can invest heavily in TVET including constructing more TVET centres and rebranding the programme to be market-oriented, lucrative and attractive to young people and the society at large.

e) Improve access to and quality of tertiary education institutions, paying particular attention to development of advanced practical skills surrounding innovation, science and technology, and leadership as a backbone for building a globally competitive labour force.

II. To improve the quality and relevance of teaching and learning:

a) Reform school curricula to conform to the present and future development needs of the country. Ensure

[4] Education for All Global Monitoring Report Policy Paper 06, February 2013 http://unesdoc.unesco.org/images/0021/002199/219998E.pdf

that an effective on-going mechanism for review of the school curriculum is in place to inform both short-term and long-term changes. Curriculum reform should also include training curriculum of teachers.

b) Increase the education budget to 20% (with 50% devoted to primary education) in line with recommendations from UNESCO[4].

c) Put in place measures to improve retention and efficiency in the school system and therefore reduce repetition and drop-out rates.

d) Ensure all in-service teachers are trained in learner-centred pedagogies, improve the quality of pedagogical training and provide adequate resources for pedagogical learning and training.

e) Conduct regular surveys on skills (needs and deficits) to inform addressing the mismatch between skills available in the labour force and the needs of industry.

III. To strengthen the governance and effectiveness of the education system:

a) Improve the quality of teaching and learning indicators to improve evaluation of learning outcomes.

b) Provide professional training for all policy managers, school managers and school inspectors for all education levels.

c) Develop and implement a robust national system for education evaluation.

d) Enhance governance and performance monitoring measures including the strengthening the school inspection units. Explore use of ICT to improve evidence-informed decision making through enhanced data gathering (of enrolment, assessments and performance) and use.

IV. To achieve equity in education attainment and learning:

a) Put in place measures to reduce regional difference in education and training outcomes including implementing a needs-based allocation of resources in the sector.

b) Promote gender equity at all levels of education and ensure there are measures in place to prevent school-dropout of girls for reasons such as child marriages and unplanned pregnancies.

c) Align implementation of education at the sub-national levels with the national education policies.

4.4 Accelerating Economic Growth and Creating Quality Jobs

Accelerating inclusive economic growth that creates enough decent jobs for the growing youthful working-age population is critical if Angola is to harness the demographic dividend and achieve its long-term development aspirations. The rate at which decent jobs have been created in the last two decades has been slow and not matched the general healthy growth rate of the economy although this has slowed down in the last few years). Angola's chief challenge is to diversify the economy and reduce the reliance on the oil and gas sector that does not have a strong job-creation effect. Already, there are relatively good policy intentions directed towards diversification including the National Development Plan 2013-2017 that sought to strengthen the economic diversification policy to accelerate economic development and job creation. What is required therefore is to address the bottle-necks to the implementation of these policies intentions.

The following policy options are therefore recommended to accelerate both inclusive economic development and job creation:

a) Promote manufacturing in the country and the diversification of exports.

b) Improve the business environment and competitiveness including reducing the costs of starting a business (both financial and bureaucratic) and improving physical infrastructure and financial services to facilitate business in all parts of the country.

c) Fully develop the agricultural sector to harness its massive potential, and this should include the promotion of agri-business especially for the youth and women.

d) Support private investments by eliminating bureaucratic bottlenecks that stifle growth of the sector.

e) Incentivise and promote entrepreneurship. This should include the effective promotion of micro, small and medium enterprises.

f) Operationalise the legislative decree 30/11 and the presidential decree 42/12 that provide tax incentives to promote business.

g) Put in place measure to formalise the large informal economy.

h) Promote workplace readiness programmes including internship, mentorship and on-job training Programme

i) Provide opportunities for greater involvement of youth in entrepreneurship and job creation, including optimisation of the empowering role of information technology

4.5 Strengthening Governance, Efficiency and Accountability

Governance and accountability are a key cross cutting pillar that is central to the success of the other pillars of the demographic dividend. Good governance and entrenching the culture of accountability in all spheres of development is vital in bridging the policy to implementation gap, ensuring value for money in service delivery, and providing a conducive business environment to attract direct foreign investment, which is critical to expand the private sector and overall capacity of the economy to create ample quality jobs for the youthful labour force. Efforts to improve governance and accountability should focus on:

a) Reinforcing performance-based accountability mechanisms in government to ensure effective implementation of government policies and programmes. This should include developing and implementing a National Monitoring and Evaluation Framework and ensure that there is a robust integrated performance management system that will serve as a tool for enforcing performance accountability in an integrated manner. The performance-based accountability principles should also be extended to the private sector.

b) Entrench ownership of the country's development vision and shared responsibility in achieving the development aspirations in all layers of government, the private sector, other non-government entities, and the citizenry.

c) Enforce measure to enhance the accountability in use of public resources and in-service delivery in nation building, which are critical for attracting long term foreign direct investment

CONCLUSION

2019

5

Conclusion

Angola's demographic profile has been characterised by rapid population growth as a result sustained. This has led to the total population more than tripling from 6.8 million in 1970 to 25.8 million in 2014. As a result of the high fertility rate, Angola's population structure is very young with almost half of the population (47%) below 15 years old. This high dependency burden poses a challenge to economic growth due to the high costs to the government and households to provide essential needs for children, including their education and health services. It also impedes the ability of the nation and households to save – an important factor that enables investments and capital accumulation and provides an impetus for socio-economic growth.

However, if Angola enhances investments to accelerate voluntary decline in birth rates it could benefit from the demographic dividend. The country can exploit its population dynamics to advance its economic prosperity goals if it makes strategic investments to accelerate fertility decline and enhance the quality of its human capital. A rapid decline in fertility from the current levels would change the age structure to one with significantly more working-age people relative to dependents and open a window of opportunity for accelerated economic growth through the demographic dividend. The country could earn a sizable demographic dividend and boost its average incomes as has been done by some East and South East Asian countries such as Malaysia, Indonesia, South Korea, and Thailand.

This study shows that Angola can make big gains to achieve the equitable socio-economic progress envisioned in its long-term development strategy, Vision 2025 (and the revision of this strategy to cover the period to 2050) if it invests to capture the demographic dividend. To reap the dividend, Angola has to adopt an integrated approach to investments that prioritises both economic reforms and job creation as well as investing in human capital development. The country will need to invest in interventions that slow down its current rapid population growth that threatens to erode gains made in the area of economic growth. This should include providing the necessary education and services and commodities that allow couples to plan for healthy and affordable families. A significant drop in the high fertility rates that prevail in the country will lead to a lower dependency burden and the bulge in the working-age that is favourable for maximising the benefits of the demographic dividend.

The analysis of several alternative scenarios shows if integrated investments are made in all sectors including optimal investments in family planning, the income per capita can increase to US$ 24,609 under the Combine Emphasis scenario by 2054. This implies that if the government went beyond a strategic focus on investments in the economic sector, and embraced integrated implementation that simultaneously focuses investments in the economic sector and in education and family planning, the country could earn an additional US$ 6,121 in GDP per capita in 2054 above what it would earn through an Economic emphasis only strategy. This is the potential demographic dividend that Angola can capture.

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2019

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Appendix I: Description of DemDiv Model

DemDiv addresses the complexity of the demographic dividend by linking age structure with social and economic development, enabling policymakers to quantify the changes that would be required to successfully achieve a demographic dividend. The model allows for comparisons of several different scenarios to show the varying benefits of different combinations of investments. It is structured as a two-part model that projects demographic and economic changes with equations to estimate employment and investment, along with an estimation of gross domestic product (GDP) and GDP per capita.

The model allows the user to design a logical story showing how the combined power of specific policy investments in family planning, education, and the economy can generate a demographic dividend that is not possible under the status quo. The model projects how these policy investments, together with population change, can contribute to growth in income per capita. Users can choose to design different scenarios to see the effects of different policies by manipulating the following variables:

- Family planning
- Girls' education
- Public sector governance
- Labour market efficiency
- Financial market efficiency
- Trade policy
- ICT infrastructure

The main outputs are:

The model is Excel-based but is linked to the Spectrum suite of population-based models. It comes with a database of nearly 90 countries of the main variables for the initial year.

Demographic Model	Economic Model
Population by age and sex Dependency ratio Infant and under-five mortality Total Fertility rate Life expectancy at birth Population growth rate	Labour force by age and sex Employment Investment GDP per capita GDP growth rate

Model Limitations (as identified by developers)

1. The statistical relationships that underlie the behavioural equations (e.g., TFP, employment, investment, and child mortality) were estimated using international cross-sectional data and are assumed not to change over time. In addition, the cross-sectional relationships are assumed applicable to any country in the dataset. Thus, for variables where country specific data is not included in the 'control' worksheet of the excel file, the results for the base year will be the default value in the model. This includes variables like dependency ratio, HDI etc.

2. Some linkages between population growth and the economy have not been incorporated into the model. These include childcare effects on labour supply, population-induced technical progress ("Boserup" effects), and the role of land in production, among others.

3. The economic model is a single-sector model. A two- or three-sector model that accounts for shifts in production, demand, and labour supply among multiple sectors (most obviously, agriculture and non-agriculture) may capture more sophisticated dynamics. In low-income countries, subsistence agriculture may serve as a default industry that absorbs excess labour, keeping absolute unemployment rates low, but also providing low wages and low productivity that do not generate significant economic growth. In developing DemDiv, we opted for a simpler model because of the ease of communicating its structure and results to users.

4. While the model includes equations to estimate two important factors of production—employment and capital—it is a partial equilibrium model and so does not model the labour and capital markets as would be the case with a computable general equilibrium model.

Other practical limitations

1. The model does not allow inclusion of gender dimensions in it, with only the education data differentiated by sex

2. The model uses the theoretical working-age population, and assumes that all the population 15+ is working, which is not the case given that most of the young people finish school by 22 years. This means that the dependency burden is underestimated.

Appendix II: Angola DD Modelling Workshop Participants' List

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Appendix III: Summary of Characteristics of Policy Scenarios for Demographic Dividend Modelling for Angola

Scenarios	Descriptions
Business-as-Usual	A business as usual scenario where there is slow progress – about 30% of the difference between the improvement by 2054 under the best-case scenario (Economic +Education + FP) and the baseline values for most of the scenario input variables.
Economic Emphasis	Emphasis is on the economic policies and the 2054 targets for these variables see Angola graduate to the average level of the efficiency driven economies. Education and FP inputs same as under Base scenario.
Economic + Education Emphasis	In addition to economic emphasis, the target for education is to see the expected years of education in Angola rise to 14 years for both boys and girls. FP inputs under this scenario remain same as the Base scenario.
Combined (Economic + Education + FP)	This is the best-case scenario where there is emphasis on investments in both the economic sector but also in the social sectors (Education and FP). Economic policy targets in 2054 match the average of efficiency driven economies, expected years of education target post-secondary training and use of modern contraceptives rise from on 12% in 2014 to 60% by 2054

Appendix IV: Model Input Variables Used in the DemDiv Model for Angola

Policy Area/Indicator	Description of Indicator/ Variable	Effects on Demographic Dividend
Demographic Model		
1. Family Planning	Contraceptive prevalence rate (proportion of women using modern contraception)	Reduces unplanned births and overall fertility rate; reduces child dependency ratio
		Improves maternal and child health by reducing high-risk births; improves overall health of the labour force
2. Period of Postpartum Infecundability	Duration (in months) after giving birth when women are not ovulating, and therefore not susceptible to conception, due to breastfeeding and/or postpartum sexual abstinence	Longer periods of postpartum sexual abstinence lower fertility rate, especially in population where contraceptive use is low in the postpartum period.
3. Sterility	The proportion of women who are not able to have children by the time they reach the end of their childbearing span (measured as the proportion of women aged 45-49 who are childless)	High levels of sterility can reduce fertility rate. This indicator is not likely to change that much, and does not have a big impact on fertility rate, except in contexts with high levels of sexually transmitted infections.
4. Education	Number of years of schooling	Delays marriage and start of childbearing.
		lowers fertility rate Improves health seeking behaviour and key for having a healthy workforce.
		Improves skills, innovation and overall productivity of workers.
Economic Model		
Labour Market Flexibility	Measurement (on a scale of 1-7) of labour market flexibility, including factors such as labour-employer relations, wage flexibility, hiring and firing practices and effects of taxation.	Policies and reforms in the labour market help attract FDI and crate an enabling environment for optimising productivity of the labour force.
Information and Communication Technologies (ICT) Use	Measurement (on a scale of 1-7) of use and capacity of Internet and mobile phone infrastructure	Measurement (on a scale of 1-7) of use and capacity of Internent and mobile phone infrastructure.
Financial Market Efficiency	Measurement (on a scale of 1-7) of efficiency of financial markets, including factors such as availability and affordability of financial services, financing through local equity market, ease of access to loans and venture capital availability.	Efficiency of financial markets facilitates movement of funds and investments and promotes investments by local and foreign investors.
Imports as a Percentage of GDP	Imports as percent of GDP. Total imports refer to the sum of total imports of merchandise and commercial services.	As economies advance, they specialise in industries and sectors where they have a comparative advantage and import products that they are not well placed to produce. At the early stages of economic transformation and industrialisation, level of imports increases and falls and this may fall as developing countries develop capacity to produce a lot of the products that they import.

Governance and Accountability		
Public Institutions	Measurement (on a scale of 1-7) of public institution strength, including factors such as property rights, division of powers, corruption, regulatory burdens, transparency, waste in government spending and public safety.	Strong public institutions help enforce accountability in use of public resources, service delivery, and protection of public and private property and investments and in ensuring public safety, all key ingredients for promoting investments and economic productivity.