THIRD EDITION

REPUBLIC OF LIBERIA

Economic Update

Investing in Human Capital for Inclusive and Sustainable Growth

June 2022

WORLD BANK GROUP

1818 H Street NW
Washington DC 20433
Telephone: 202-473-1000
Internet: www.worldbank.org

Cover photo: © Dominic Chavez / World Bank

Cover design: Sergio Andres Moreno / World Bank

THIRD EDITION

REPUBLIC OF LIBERIA

Economic Update

Investing in Human Capital for Inclusive and Sustainable Growth

June 2022

WORLD BANK GROUP

Preface and Acknowledgments

This is the third edition of the Liberia Economic Update (LEU), a series of annual reports that assesses recent economic developments in Liberia and assists the government and its development partners in identifying emerging issues and addressing persistent challenges. It presents a broad overview of Liberia's macroeconomic context, assesses the macro-fiscal and growth outlook over the short and medium terms, and sheds light on the state of human capital in Liberia. The objectives of the series are to (i) strengthen the analytical underpinnings of development policy in Liberia, and (ii) contribute to an informed debate on policy options to enhance macroeconomic management and accelerate progress on the World Bank Group's twin goals of eliminating extreme poverty and promoting shared prosperity.

The third edition of the Liberia Economic Update was prepared by a World Bank team led by Gweh Gaye Tarwo (Economist) with valuable contributions from Mamadou Ndione (Senior Economist), Martin Elias De Simone (Education Specialist), Paul Andres Corral Rodas (Senior Economist), Mack Capehart Mulbah (Senior Social Protection Specialist), and Binta Beatrice Massaquoi (Education Specialist). The analysis also benefited from the advice provided by Kathleen G. Beegle (Research Manager, peer reviewer), Kemoh Mansaray (Senior Economist, peer reviewer), and Amina Coulibaly (Senior Economist, peer reviewer). Aurelien Kruse (Lead Economist), Francisco Carneiro (Practice Manager), Khwima Nthara (Country Manager, Liberia), and Pierre Laporte (Country Director, Ghana, Liberia, and Sierra Leone) provided overall guidance.

Irene Sitienei (Program Assistant) and Joseph Koilor (Team Assistant) provided administrative support to the team. Michael Sahr (External Affairs Officer) helped with external communications.

In addition, the team greatly benefited from consultations with key policy makers and analysts in Liberia, including officials from the Ministry of Finance and Development Planning, the Central Bank of Liberia, and the Liberia Institute of Statistics and Geo-Information Services (LISGIS).

 The report is based on information current as of June 15, 2022. The World Bank team welcomes stakeholder feedback on the content of the Liberia Economic Update. Please direct all correspondence to Gweh Gaye Tarwo (gtarwo@worldbank.org).

Abbreviations and Acronyms

AE	Advanced Economies
AQE	Accelerated Quality Education for Liberian Children
CBL	Central Bank of Liberia
COVID-19	Coronavirus
CPR	Contraceptive Prevalence Rate
CSA	Civil Service Agency
CWON	Changing Wealth of Nations
DHS	Demographic and Health Survey
DSA	Debt Sustainability Analysis
EAP	East Asia and Pacific
ECA	Europe and Central Asia
ECD	Early Childhood Development
ECE	Early Childhood Education
ECOWAS	Economic Community of West African States
EGRA	Early Grade Reading Assessment
EMIS	Education Management Information Systems
FDI	Foreign Direct Investment
GAR	Gross Attendance Rate
GDP	Gross Domestic Product
GEP	World Bank Global Economic Prospects
GoL	Government of Liberia
HC	Human Capital
HCI	Human Capital Index
HCP	Human Capital Project
HCW	Human Capital Wealth
IMF	International Monetary Fund
LAC	Latin America and the Caribbean
LD/L$	Liberian Dollar
LEU	Liberia Economic Update
LHCAR	Liberia Human Capital Assessment Report
LISGIS	Liberia Institute of Statistic and Geo-Information Services
M2	Broad money
MFDP	Ministry of Finance and Development Planning
MNA	Middle East and North Africa
MoE	Ministry of Education
MOH	Ministry of Health
NAR	Net Attendance Rate
NPL	Non-performing loans
OECD	Organization for Economic Co-operation and Development
PFM	Public Financial Management
PPP	Purchasing Power Parity
RMNCAH	Reproductive, Maternal, Neonatal, Child, and Adolescent Health
SAR	South Asia
SDGs	Sustainable Development Goals
SDR	Special Drawing Rights
SSA	Sub-Saharan Africa
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
US$	United States dollar
USAID	United States Agency for International Development
WBG	World Bank Group
WHO	World Health Organization


UNMIL 1

Table of Contents

Executive Summary **10**
Recent Economic Development **16**
Global and Regional Economic Context 17
The Liberian Economy 18
Economic Growth and Poverty 18
Monetary and Financial Sector Developments 21
Fiscal Developments 22
The External Sector 25
Macroeconomic Outlook and Risks 27
Human Capital Development in Liberia **32**
Introduction 33
Assessing the Wealth of Liberia through a Human Development Lens 33
Raising the Productivity of Future Workers—The Human Capital Index 37
Definition and Measure of Human Capital 37
Human Capital Outcome in Liberia 38
Conclusion and Recommendations **51**
References **52**
Annex **54**

LIST OF BOXES AND FIGURES

BOXES

Box 1: Rising Fuel and Food Prices: Implication for Inflation and Food Security in Liberia 28

TABLES

Table 1: Selected Macroeconomic Indicators, 2019–23 25
Table 2: Estimates of Liberia's Wealth (US$ millions) 54
Table 3: Estimates of Liberia's Wealth Per Capita (US$) 55

FIGURES

Figure 1: Global and Regional Economic Growth, 2019–22 17
Figure 2: Evolution of Selected Commodity Prices (Liberia's main imports and exports) 18
Figure 3: The Trend in Key Output (volume) and Real GDP 19
Figure 4: Trend in Real GDP Per Capita and Poverty, 2014–24 20
Figure 5: Price Developments, 2019–22 21
Figure 6: Inflation and Exchange Rate Development, 2019–21 22
Figure 7: Fiscal Indicators, 2019–22 23
Figure 8: Sources of Government Revenue 23
Figure 9: Composition of Expenditures (%) 24
Figure 10: Public Debt Stock, 2016–21 (percent of GDP) 24
Figure 11: Remittance Inflows and Outflows, 2016–21 26
Figure 12: Composition of Export Value 27
Figure 13: Composition of Import Value (percent of total import value) 27
Figure 14: Decomposition of Growth in Liberia from 1964 to 2019 30
Figure 15: Wealth and Wealth per capita in Liberia (1995–2018) 35
Figure 16: Human Capital per capita in Selected ECOWAS Countries (2018 constant US$) 35
Figure 17: Human Capital and Human Capital per capita (1995–2018) 36
Figure 18: Liberia Hunan Capital Index in 2020 39
Figure 19: Human Capital Index Liberia and Selected ECOWAS Countries 39
Figure 20: Human Capital Gender Parity Index in Liberia and Selected ECOWAS Countries 40
Figure 21: Trend and Drivers on Human Capital in Liberia 40
Figure 22: Probability of Survival to Age Five in Liberia and Selected ECOWAS Countries 41
Figure 23: Human Capital Losses due to Prevalent Under-five Mortality Rates in Liberia 42

Figure 24: Learning-Adjusted Years of School in Liberia and Selected ECOWAS Countries 43
Figure 25: Human Capital Losses due to Poor Education in Liberia 43
Figure 26: The Prevalence of Overage Students in Primary School, by county 44
Figure 27: The Prevalence of Overage Students in Secondary School, by county 45
Figure 28: Fraction of Children Under Five Not Stunted, in Selected ECOWAS Countries 47
Figure 29: Adult Survival Rate in Liberia, in Selected ECOWAS Countries 47
Figure 30: Human Capital Losses due to Poor Health in Liberia 48
Figure 31: Human Capital and Human Capital per capita (1995–2018) 56
Figure 32: Produced, Human, and Natural Capital in Liberia (constant 2018 billion of US$) 56
Figure 33: Produced, Human, and Natural Capital in Liberia per capita (constant 2018 US$) 56
Figure 34: Component Contribution to HCI Frontier by Countries in SSA 57

Executive Summary

RECENT ECONOMIC DEVELOPMENT AND OUTLOOK

Liberia's economy is still recovering from years of poor economic and social performance. Owing in part to repeated exogenous shocks, including the Ebola outbreak, the collapse of iron ore and rubber prices, the drawdown of United Nations (UN) peacekeeping forces, and the COVID-19 pandemic, the economy contracted by an average of 0.4 percent per year between 2014 and 2020, and per capita gross domestic product (GDP) fell by 12.3 percent cumulatively. As a result, the poverty rate is projected to have risen to 51 percent in 2021, wiping out nearly half of the gains made post-conflict, when the poverty rate declined from 64 percent to 42 percent between 2007 and 2014. The recent increase in poverty experienced by the country has occurred due to health crises. The COVID-19 pandemic alone is projected to have worsened poverty by 2.3 percentage points. Meanwhile, recovery in private consumption per capita, fueled by a buoying economy in 2021 and beyond, is likely to push the poverty rate below 50 percent.

The rebound in global and domestic activity and higher prices of Liberia's main exports helped improve the country's economic performance in 2021. Improved external demand, higher prices for exports, and the resumption of normal domestic activity boosted output in various sectors of the Liberian economy, especially mining and agriculture. Real GDP growth recovered to 4.2 percent in 2021 after contracting by 3.0 percent in the previous year. Growth is expected to reach 4.5 percent in 2022 and an average of 5.0 percent per year in the medium term, underpinned by a positive global and regional outlook, significant tailwinds for mining, the government's plan to scale up public investment spending, and the implementation of structural reforms.

The government's fiscal position improved in 2021 due to strong revenue growth and tight expenditure management. The fiscal deficit narrowed to 2.9 percent of GDP in 2021, down from 3.8 percent of GDP in 2020, while the primary deficit fell by 0.6 percentage points to 2.0 percent of GDP. The fiscal deficit will remain at 2021 levels in 2022 as the national budget for the year targets not only a significant increase in revenue but also a scale-up in domestically financed public investment spending. The projected increase in domestic revenues reflects an increase in both tax and nontax revenue, thanks to increased trade and income tax revenues and royalties and rents from the mining sector.

The appreciation of the Liberian dollar, coupled with prudent fiscal and monetary policies, helped stem inflation in 2021. Headline inflation fell to a single digit for the first time in five years. Headline inflation moderated to 7.9 percent in 2021, down

from 17.4 percent in 2020. Nevertheless, the soaring global food and fuel prices are expected to reverse the declining trend in inflation in 2022; but inflation is projected to remain in the single digits as the government's commitment to regulate the prices of some commodities (such as fuel, rice, and transport) helps mitigate the pressure on domestic prices.

Liberia's current account deficit widened despite stronger export growth. As domestic activity picked up, increased exports (for example, gold and iron ore) were offset by the surge in imports. The current account deficit increased from 16.3 percent of GDP in 2020 to 17.7 percent of GDP in 2021, owing primarily to a rising trade deficit. The primary income deficit was 6.1 percent of GDP, 1.1 percentage point higher than in 2020. Meanwhile, the current transfers surplus declined to 13.8 percent of GDP, from 14.9 percent in the previous year, despite higher remittance inflows. Foreign direct investment and capital grants were the primary sources of funding for the current account deficit. In the medium term, the current account deficit will hover around 16 percent of GDP.

Liberia's medium-term outlook is positive but subject to significant downside risks and uncertainties. The economy is projected to expand by 4.5 percent in 2022 and reach an average of 5.5 percent growth from 2023 to 2024 (World Bank, 2022b). Per capita GDP will return to precrisis levels by 2023. Non-mining growth is projected to reach 4.2 percent per year, while growth in mining is expected to accelerate to 9.0 percent from 2023 to 2024. The positive outlook is underpinned by significant tailwinds for mining, the government's planned scale-up of public investment, and the implementation of structural reforms in key sectors, including agriculture and energy. On the downside, there are risks and uncertainties related to the path of the pandemic at home and abroad, the war in Ukraine, and the upcoming general elections in 2023.

INVESTING IN HUMAN CAPITAL FOR INCLUSIVE AND SUSTAINABLE GROWTH

The medium-term outlook can be sustained in the long run if the country reduces progressively but steadily the triple gaps (productivity, infrastructure, and human capital) that constrain economic growth. Liberia continues to face significant development challenges on the heels of low overall productivity and economic efficiency; huge infrastructure gaps in terms of roads, electricity, water, and telecommunications; and inadequate level of human capital. Significant investments in people are required for Liberia to transition to an economic path that reliably provides inclusive and sustainable growth as well as broad-based improvements in poverty and social outcomes. In other words, well-educated people are critical for sustainable development. Unfortunately, this is very often a neglected ingredient in national development strategies.

Liberia's human capital outcomes are among the worst in the world.[1] The Human Capital Index (HCI) estimates Liberia's performance is as low as 0.32, performing better than only three countries in the world—namely, the Central African Republic (0.29), Chad (0.30), and South Sudan (0.31)—out of 174 countries assessed. An HCI of 0.32 implies that a child born today in Liberia may reach only 32 percent of her productivity potential due to shortfalls in education and health. The HCI considers five variables that could be grouped into three components—survival, school, and health—that are likely to affect the earnings of the future generation of workers. By 2020, the human capital gap in Liberia was mainly driven by poor education (contributing 50 percent), poor health (12 percent), and survival (7 percent).

The loss of human capital due to poor education has been growing. With the survival rates and health conditions that prevailed in 2000, 41 percent of future productivity loss was attributable to the poor education system in Liberia. By 2020, 50 percent of Liberia's loss of human capital was due to poor education, an increase of 9 percentage points. School enrollment rates have broadly declined during the period under review, yielding a lower number of years of schooling that a child born today can expect to have received by the time she reaches age 18.

Poor schooling causes the highest loss of human capital in Liberia. This factor results in 61 percent of the loss in human capital that Liberia could aspire to with children's full survival to age five and full health. Low expected learning-adjusted years of schooling is the main driver of the poor outcome in education. A child born in Liberia today can expect to obtain only 2.2 years of effective quality schooling by age 18, given the prevailing pattern of enrollment rates and current scores in harmonized tests from major international student achievement testing programs.

The loss of human capital due to poor health reflects the combined effects of the prevalence of stunting and health risks in the country. A child born in Liberia today has a 70 percent chance of reaching her fifth birthday without being stunted, a level comparable to Liberia's neighbors Guinea and Sierra Leone, but lower than in countries like Ghana and Senegal. Although the stunting rate has been declining during the last decade, 10 percent of children under five in Liberia are severely stunted; and it has the sixth- and eighth-highest stunting rates among the 16 countries that typically comprise the West Africa region.

1 Human capital refers to the knowledge, competence, and ability of people to perform labor in theory. It is proxied by the years in school and returns on schooling

Liberia loses 7 percent of the human capital it could aspire to, with complete education and full health, to the under-five mortality rate. The productivity interpretation of the survival rate is very straightforward, as the mortality rate is a direct loss of human capital. The expected future productivity of a child born today is reduced by a factor equal to the survival rate, relative to the benchmark where all children survive. In Liberia, the probability that a child born today survives past age five is estimated at 0.93. In other words, of 100 children born, 93 will survive to the age of five, while seven will not. Meanwhile, there are large disparities of survival to age five across regions or counties in Liberia. According to the Demographic and Health Survey (DHS) 2020 the survival rate is relatively high in counties such as Bong, Nimba, Lofa, and River Cess, where the under-five mortality rates are the lowest, whereas it is low in counties such as Grand Cape Mount, Sinoe, and Grand Bassa, where the under-five mortality rates are the highest. The survival rates are slightly higher for girls than for boys, a common pattern across countries. Of course, when disaggregated by income levels, various statistics reveal wide national disparities. Compared to neighboring Economic Community of West African States (ECOWAS), the loss of human capital due to under-five mortality is higher in Liberia than in Senegal, Ghana, The Gambia, and Togo, but lower than in Nigeria, Sierra Leone, Guinea, Mali, Benin, Niger, and other countries.

The factors contributing to Liberia's low human capital (HC) outcomes are multiple and complex. Some of the factors leading to Liberia's low human capital outcomes are weak governance, ineffective service delivery, demographic pressures, and low and inefficient social spending. The disconnects among government agencies responsible for HC development result in unresponsive, suboptimal service delivery. On the heels of weak governance, ineffective service delivery tends to hinder higher HC accumulation by generating low-quality and unequal provision of social services. Liberia's current demographic profile presents an opportunity for the country to tap into its demographic dividend and grow its HC and economy, but it also entails a considerable risk if this opportunity is not catalyzed with the right policies. Without a significant decline in fertility, Liberia might face an ever-growing population base and ever-larger youth cohorts—with children further exposed to health risks, malnutrition, stunting, and lower public and private educational investments. Furthermore, social spending remains low and inefficiently managed.

Despite these negative trends, Liberia has shown some progress in access to education and improvement of health outcomes over the last few decades, but gaps in complete education and full health are huge. Liberia has experienced a steady decline in infant mortality, with a significant increase in child survival rate, up from 0.81 in 2000 to 0.93 in 2019. According to the United Nations Children's Fund (UNICEF 2020), the basic vaccination coverage among children ages 12 to 23 months has improved since 2013, rising 10 percentage points—from 55 percent to 65 percent in 2020. Similarly, the number of students enrolled in the education system (from early childhood to upper secondary education) increased fivefold, from 300,000 in 1981 to 1.5 million by 2015. However, much of this progress was achieved through services provided by nongovernmental organizations.

Improving the HCI would require significant interventions in the education sector. Gains in both the length of schooling and the effectiveness of learning would help improve the schooling component of the HCI. A special focus on overage education would be needed to boost the expected number of years of schooling in the country. Liberia will also need to invest urgently in education statistics. The production and dissemination of reliable education statistics will be essential for effective education sector management and for monitoring progress toward national and global education targets.

The government has already made some strides in investing in its people, and more can be done. Liberia should now move much more deliberately toward direct investments in high-impact programs, on both the demand and supply sides; increase investments; and target resources to priority regions to significantly improve the standards of living of all Liberians. Investing in human capital will be crucial for Liberia to grow faster, reduce poverty, and deliver substantial social benefits in the long term. This will require:

- Improving governance and building synergies among government agencies involved in human capital development.
- Improving the level and efficiency of social spending, especially education spending.
- Designing, adopting, and implementing a special program to eradicate overage education in Liberia.
- Investment in education statistics—education management information systems (EMIS)—to inform sector policies and interventions.
- Instituting regular learning outcome measurements aligned with international standards.
- Building and retaining capacity within the education and health workforce to enhance quality-of-service delivery in the education and health sectors.
- Harnessing demographic dividends through investments in skills development and health care, and instituting policies to slow fertility.

All this can be done only if the country continues to ensure overall macroeconomic stability, underpinned by prudent monetary and fiscal policies, to foster growth and create an enabling environment for reform implementation.

CHAPTER 1

RECENT ECONOMIC DEVELOPMENT

Key message

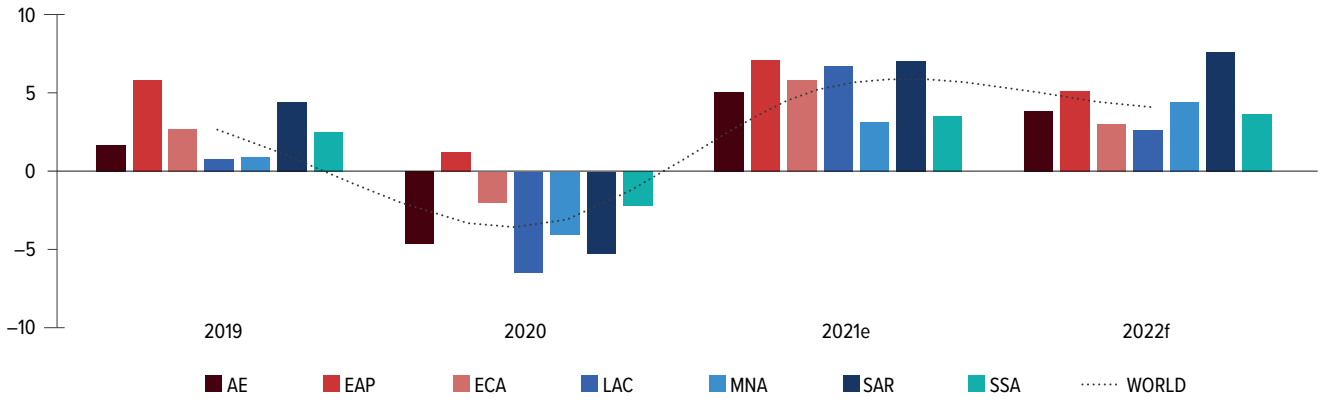
Liberia's economy is still recovering from the years of poor economic and social performance from 2014 to 2020. Growth is estimated at 4.2 percent in 2021 after two consecutive years of contraction. Prudent fiscal and monetary policies also helped stem inflation to a single digit in 2021, while the government's fiscal position improved due to strong revenue growth and tight expenditure management. However, conditions in the financial sector remain challenging as the average nonperforming loan ratio tops 20 percent. Despite stronger export growth in 2021, the current account deficit has widened and is expected to remain elevated in the medium term. Although the pace of global economic recovery is expected to slow in the near term, Liberia's medium-term outlook is promising, with the economy expected to expand by 4.5 percent in 2022 and to reach an average of 5.5 percent in 2023–24, underpinned by significant tailwinds from mining, the government's planned scale-up of public investment, and the implementation of structural reforms.

Global and Regional Economic Context

The global economy rebounded in 2021, following a deep recession in 2020. According to the World Bank Global Economic Prospects (GEP) report, global growth is estimated at 5.5 percent in 2021 as the lifting of pandemic-related restrictions helped boost demand in developed economies and emerging markets. All regions experienced growth in 2021, led by East Asia and the Pacific (7.1 percent), South Asia (7.0 percent), and Latin America and the Caribbean (6.7 percent). Growth rebounded to 5.8 percent in Europe and Central Asia, 5.0 percent in advanced economies, and 3.1 percent in the Middle East and North Africa. In Sub-Saharan Africa, economic output expanded by 3.5 percent, after contracting by 2.2 percent in 2020. Nevertheless, the resurgence of the COVID-19 pandemic, as well as the associated supply constraints, slowed global activity in the second half of the year. Due to slower vaccine progress, inadequate policy response, and lingering consequences of the pandemic, recovery in emerging markets and developing economies (EMDEs) was weaker and more fragile than in advanced economies. Vaccine coverage remains highly uneven around the world, with very low rates in low-income countries. By end-2021, over 75 percent of people in advanced economies had received at least one vaccine dose compared to about 55 percent in EMDEs.

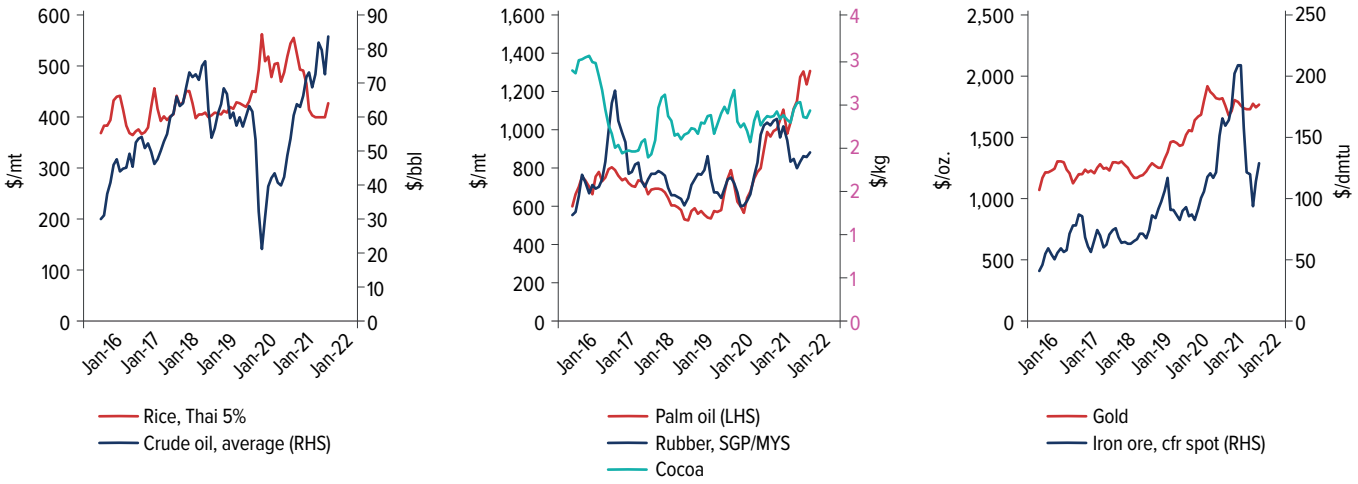
Commodity prices soared in 2021, surpassing pre-pandemic levels for some commodities. The rise in commodity prices, led by energy and metal, partly reflected

Figure 1: Global and Regional Economic Growth, 2019–22



Source: World Bank, Global Economic Prospects .
Note: AE = Advanced Economies; EAP = East Asia and Pacific; ECA = Europe and Central Asia; LAC = Latin America and the Caribbean; MNA = Middle East and North Africa; SAR = South Asia.

Figure 2: Evolution of Selected Commodity Prices (Liberia's main imports and exports)



Source: World Bank Commodity Markets Outlook.
Note: RHS = right hand side; LHS = left hand side.

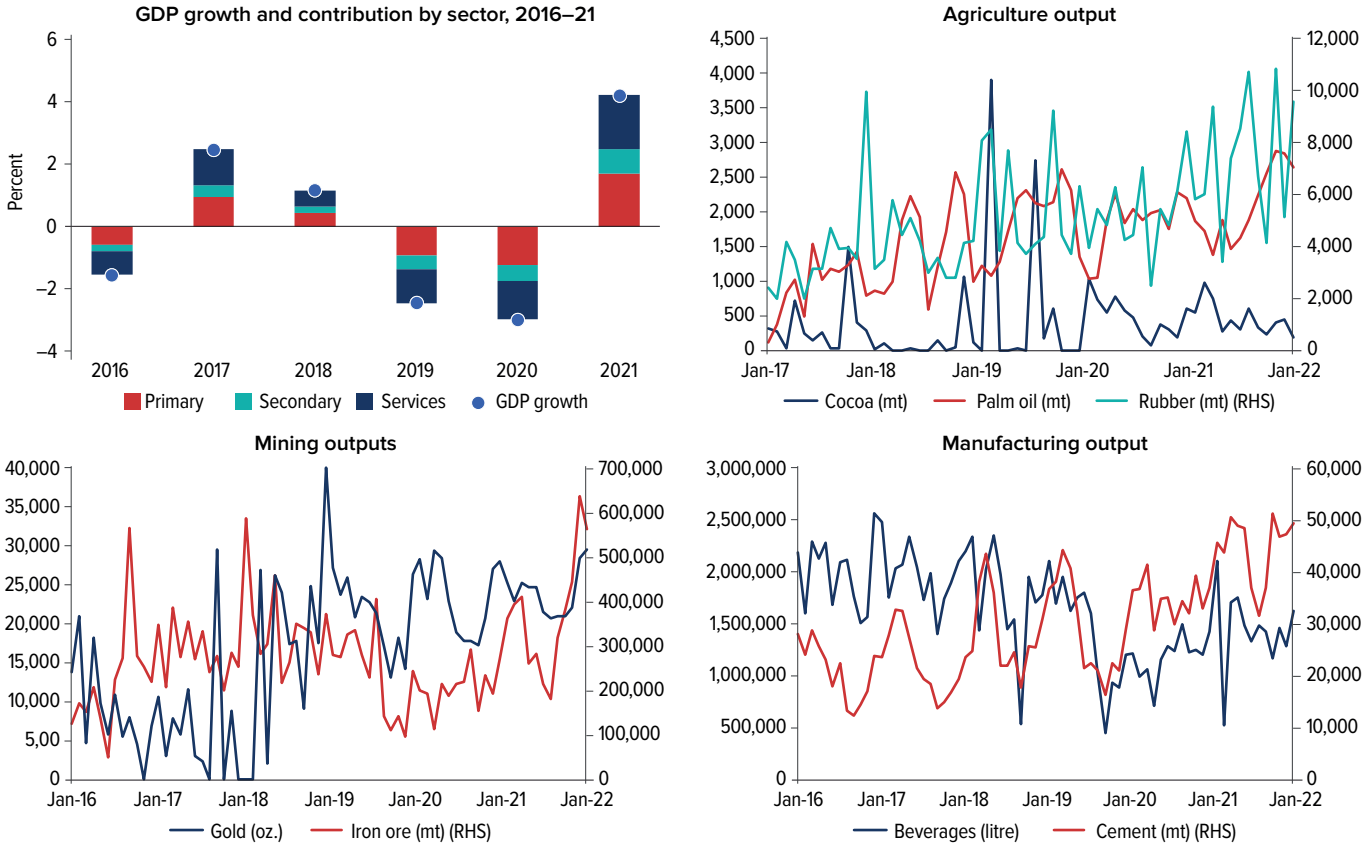
the recovery in demand in 2021 as the pandemic eased. Crude oil prices increased to an average of US$69.10 per barrel in 2021, up from an average of US$59 per barrel from 2014 to 2020 as global oil demand increased. This trend is expected to continue in 2022, with additional inflationary pressures for Liberia and other oil-importing countries. In 2021, Liberia benefited from higher prices of mining and agricultural exports. The prices of Liberia's main exports—iron ore and rubber, which together accounted for 52 percent of the country's exports in 2021—increased by 49 percent and 20 percent, respectively, while gold prices rose by a modest 2 percent. The prices of other agricultural exports—palm oil and cocoa—also increased significantly in 2021. Meanwhile, the average price of rice, a major merchandise import for Liberia, fell by 7.0 percent in 2021 and is expected to decline further in 2022. Rice accounts for 47 percent of imported food and 13 percent of total imports in Liberia.

The Liberian Economy

ECONOMIC GROWTH AND POVERTY

After contracting by 3.0 percent in 2020, GDP growth recovered to 4.2 percent in 2021. Growth in 2021 reflects improved external demand, higher prices for Liberia's exports, and the resumption of normal domestic activity. Growth was driven by the secondary sector, growing by 8.1 percent, and accelerated by an increase in mining output (17.6 percent). The production of gold and iron ore increased by 79 percent

Figure 3: The Trend in Key Output (volume) and Real GDP



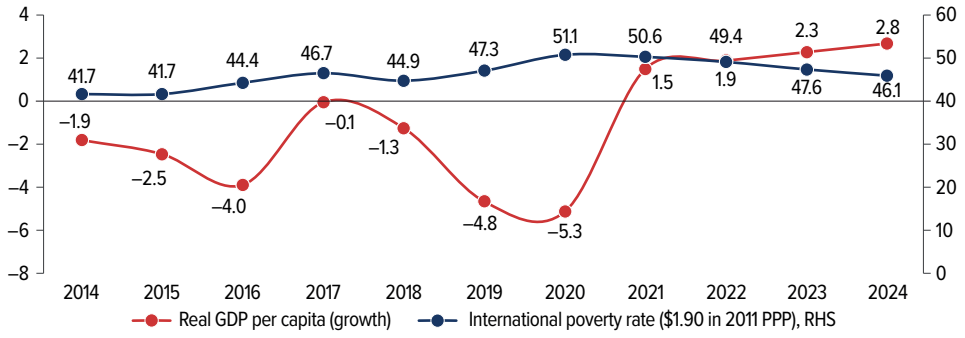
Source: Liberian authorities, IMF, and World Bank staff.

and 3 percent, respectively, reflecting favorable international prices and demand. Agriculture output grew by 3.3 percent, boosted by rubber and crude palm oil production. The production of rubber and crude palm oil expanded by 38 percent and 12 percent, respectively. Cement, beverages, and electricity production all increased significantly, reflecting the materialization of pent-up demand and activity in the services sector. Growth in services recovered to 3.0 percent, following a contraction of 8.6 percent in 2020. On the demand side, gradual recovery in private consumption, public spending (consumption and investment), and improved external demand for Liberian exports were the main drivers of growth.

Liberia's economy is still recovering from years of poor economic and social performance. Between 2014 and 2020, the economy contracted by an average of 0.4 percent per year, and per capita GDP fell by 12.3 percent cumulatively, owing in part to repeated exogenous shocks such as the Ebola outbreak, the collapse of iron ore and rubber prices, the drawdown of UN peacekeeping forces, and the COVID-19 pandemic. As a result, by 2021, the poverty rate is projected to have risen to 51 percent, wiping out nearly half of the gains made postconflict, during which poverty rate declined from 64 percent to 42 percent between 2007 and 2014.[2]

2 The two surveys – Core Welfare Indicator Questionnaire (CWIQ) survey conducted in 2007 and the 2014 Household Income and Expenditure survey (HIES) are not comparable based on differenced in methodology. However, they are indicative of the existing levels of poverty in 2007 and 2014.

Figure 4: Trend in Real GDP per capita and Poverty, 2014–24



Source: World Bank staff estimates.

The recent increase in poverty experienced by the country has occurred due to health crises. At already low levels, GDP per capita in the country between 2014 and 2016 dropped by 6.5 percent—these years correspond to the latest microdata on welfare in the country. Consequently, poverty at US$1.90 a day per capita (in 2011 purchasing power parity [PPP]) increased from 41.7 to 44.4 percent. Inequality during the period also worsened, as measured by the Gini index, from 33.2 to 35.3. The deterioration in poverty and inequality reflected the negative impact of two large shocks: the Ebola crisis (2014–16) and the drop in global commodity prices. The rapid spread of the Ebola virus was initially challenging to contain due to the weakness of the health care system and the highly contagious nature of the disease. The situation was exacerbated by the fall in commodity prices, especially rubber and iron ore, two of Liberia's main exports.

Although recent survey microdata on welfare is unavailable, living standards likely worsened during the COVID-19 crisis. However, even before the pandemic, living standards were already on a downward trend. Between 2016 and 2019, GDP per capita fell by 6 percent, which is expected to have worsened living standards and increased poverty in the country. In 2020, during the height of the COVID-19 pandemic, GDP per capita fell by an additional 6 percent. Projections that assume that the shocks were equally distributed across all Liberians, regardless of their welfare status, suggest that between 2016 and 2020, poverty may have increased by nearly 7 percentage points, from 44.4 to 51.1 percent.

The COVID-19 pandemic alone is projected to have worsened poverty by 2.3 percentage points. Poverty projections made before the start of the COVID-19 pandemic compared to forecasts made in 2022, once the pandemic's impact has been considered, can offer a glimpse of the COVID-19 pandemic's impact. In the absence of survey data, it is difficult to ascertain the overall effect, but the pandemic is expected to have negatively affected employment, particularly nonfarm employment in urban areas. During phone surveys conducted during the pandemic, nearly 80 percent of households reported worrying about running out of food. The pandemic has instigated a dire situation that is only worsened by the war in Ukraine, which puts additional pressure on global food prices. Liberians devote 67 percent of their budget to food purchases, and higher prices could push many more into poverty. Added food insecurity increases poverty risk today and puts at risk the human capital accumulation of the young, hindering future poverty reduction efforts.

MONETARY AND FINANCIAL SECTOR DEVELOPMENTS

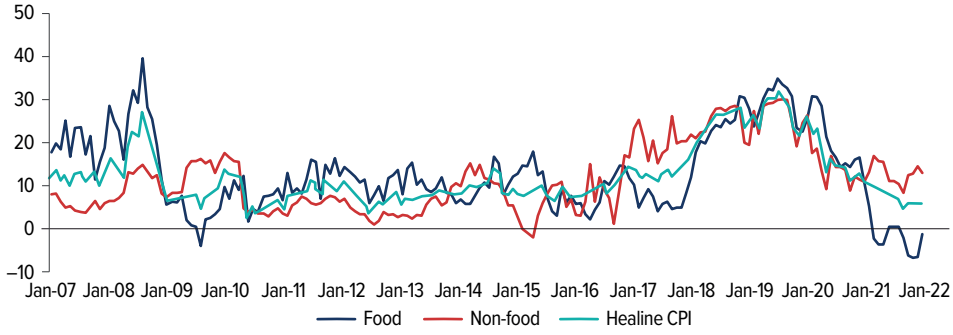
Headline inflation is down to a single digit for the first time in five years. Annual average inflation fell to 7.9 percent in 2021 from 17.4 percent in 2020, due to the appreciation of the Liberian dollar and prudent fiscal and monetary policies. The Central Bank of Liberia (CBL) maintained policy rates at 20 percent in 2021, well above the inflation rate. The CBL's restrictive monetary policy, supported by a nominal appreciation of the Liberian dollar, helped advance disinflation in 2021. Headline inflation declined consistently during the year, from 12.9 percent in January to 4.4 percent in October 2021. However, the declining trend has reversed since November 2021, reflecting the rising global fuel prices. Headline inflation reached 9.5 percent in March 2022, following the hike in retail prices of gasoline (by 26 percent) and diesel (by 32 percent) by the government in early March.

In 2021, the Liberian dollar strengthened against the US dollar. Higher net remittances and export receipts, coupled with a shortage of the Liberian dollar (L$) banknotes and monetary tightening, drove the appreciation of the exchange rate. As of end-December 2021, the Liberian dollar had appreciated by 11.7 percent year-over-year (y/y) against the U.S. dollar. To help limit disruptive cash shortages and promote confidence in the financial sector, the CBL began implementing a currency changeover in 2021. In May 2021, the National Legislature authorized CBL's request to print L$48.7 billion for three years (2021, 2022, and 2024). By December 2021, the new Liberian dollar banknotes, amounting to US$4.0 billion, were introduced to the public through commercial banks.

Broad money (M2) growth slowed from 20.4 percent in 2020 to 11.3 percent in 2021. M2 growth was weak in 2021 due to the shortage of Liberian dollar banknotes and the tightening of monetary policy. The pace of increase of currency in circulation also slowed to 10.9 percent in 2021, down from 26.6 percent in the previous year. Meanwhile, currency outside banks remained high, at L$22.4 billion, down from L$23.9 billion at the end of 2020—while the US dollar's proportion of M2 remains notably high, at 68 percent, compared to the Liberian dollar's 32 percent.

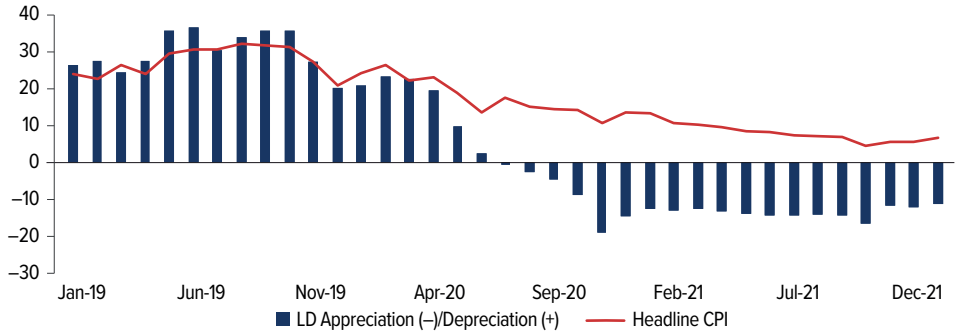
Private sector credit expanded for the second year in a row as the pandemic eased and domestic activity took off. Credit to the private sector expanded by

Figure 5: Price Developments, 2019–22
(12-month percent change)



Source: World Bank Staff, based on CBL data.

Figure 6: Inflation and Exchange Rate Development, 2019–21
(12-month percent change)



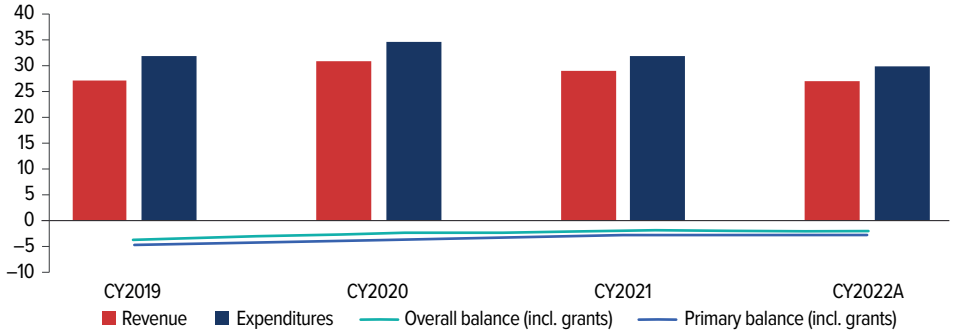
4.4 percent in 2021, following a 5.5 percent growth in 2020. The key drivers of credit growth were trade finance, personal loans, and loans to the services sector. Meanwhile, access to credit and bank accounts remains very low, while confidence in the banking sector is also weak. Mobile money has evolved as a major driver of financial inclusion in Liberia since it was introduced in 2011. The share of mobile money account holders who actively use the accounts has increased substantially, from 21 percent in 2019 to 27 percent by 2021.

Conditions in Liberia's financial sector remain challenging. The wide spread between interest rates for commercial lending (12 percent) and for deposit (2 percent) suggests that there is considerable inefficiency in the financial sector. Additionally, the high level of dollarization limits the CBL's effectiveness. The banking industry points to an increase in nonperforming loans (NPL) in 2021. Although capital and liquidity requirements were being met, the share of nonperforming loans rose to 22.7 percent of total gross loans in December 2021, up from 21.6 percent in December 2020. The capital adequacy and liquidity ratios stood at 31.8 percent and 42.3 percent, respectively—well above the minimum regulatory requirements, while in terms of profitability, the return on equity and return on assets stood at 18.5 and 3.4 percent, respectively, in December 2021, up from 7.2 percent and 1.2 percent, respectively, in December 2020. Reducing the volume of NPLs would require strict monitoring and enforcement of regulatory and reporting requirements by the CBL.

FISCAL DEVELOPMENTS

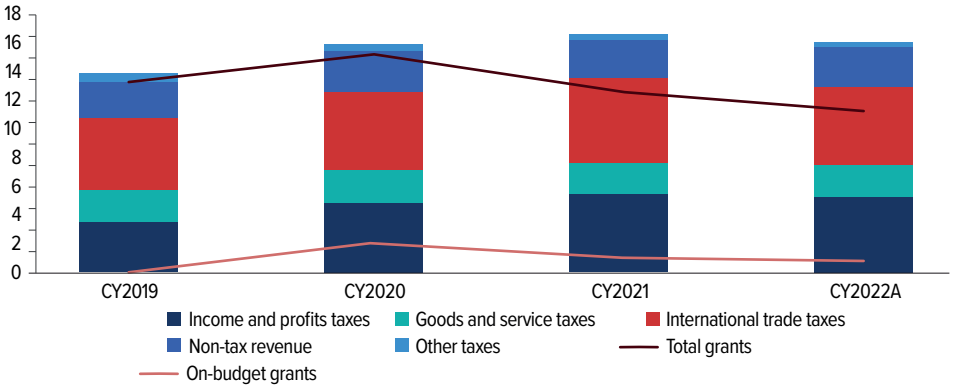
In 2021, the government's fiscal position improved. The overall fiscal deficit fell from 3.8 percent of GDP in 2020 to 2.9 percent of GDP in 2021, while the primary deficit fell by 0.6 percentage points to 2.0 percent of GDP. Due to strong revenue growth and tight expenditures management, both indicators have steadily improved since 2019. In nominal terms, overall revenue and grants increased by 7.6 percent in 2021, thanks to a considerable increase of 19.8 percent in domestic revenue. The increase in domestic revenue collection was led by taxes on international trade (25.5 percent) and direct taxes (23.8 percent). Meanwhile, government spending climbed by 5.3 percent on the back of increased spending on goods and services, despite successful limitation of the wage bill. The fiscal framework was financed through disbursements of concessional external loans and credits from development partners.

Figure 7: Fiscal Indicators, 2019–22
(% of GDP)



Source: GoL, IMF/World Bank staff estimates.
Note: A = Approved budget.

Figure 8: Sources of Government Revenue
(% of GDP)



Source: GoL, IMF/World Bank staff estimates.
Note: A = Approved budget.

Domestic revenue has been steadily rising since 2019 as the government implements its Domestic Resource Mobilization Strategy. In 2021, domestic revenue increased to 16.7 percent of GDP, up from 13.9 percent in 2019, owing to significant tax revenue growth. Liberia's tax-to-GDP ratio rose by 2.7 percentage points of GDP, to 14.0 percent in 2021 from 11.3 percent in 2019. From 2019 to 2021, international trade taxes contributed an average of 43 percent of total tax revenue, followed by income and profit taxes (28 percent) and goods and services taxes (18 percent). Nontax revenue, on the other hand, increased from 2.5 percent of GDP in 2019 to 3.0 percent in 2020, before falling to 2.7 percent in 2021, due to a lower-than-expected mining bonus.[3] Also, total grants fell to 12.7 percent of GDP in 2021, from 13.5 percent in 2019.

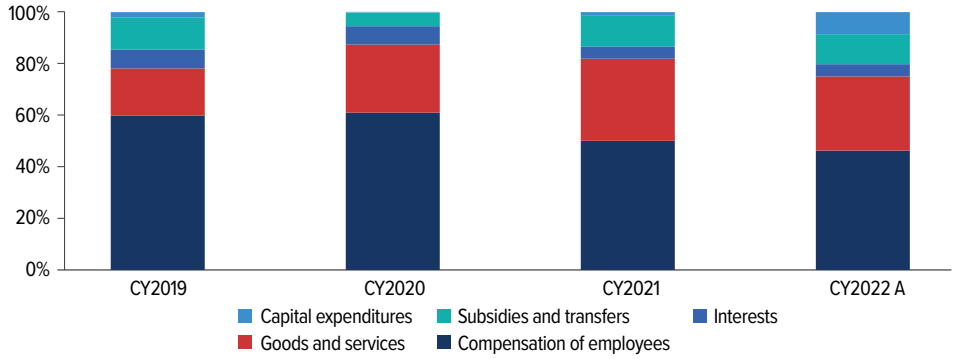
Despite successful efforts to contain the public sector wage bill, total expenditures increased by about 5 percent in nominal terms in 2021. The increase in public spending was driven by a rise in government consumption spending during the year. The provision of goods and services accounted for 31 percent of on-budget expenditures in 2021, up more than 13 percentage points from 2019. The public sector wage bill declined by 8.7 percent, or 2.2 percentage points of GDP, in 2021 and now accounts for 52 percent of domestic revenues, down from 64 percent in 2019.

3 The ratification of the Arcelor Mittal Agreement with the government of Liberia was delayed.

On-budget capital expenditures also increased by 0.3 percentage points of GDP in 2021.

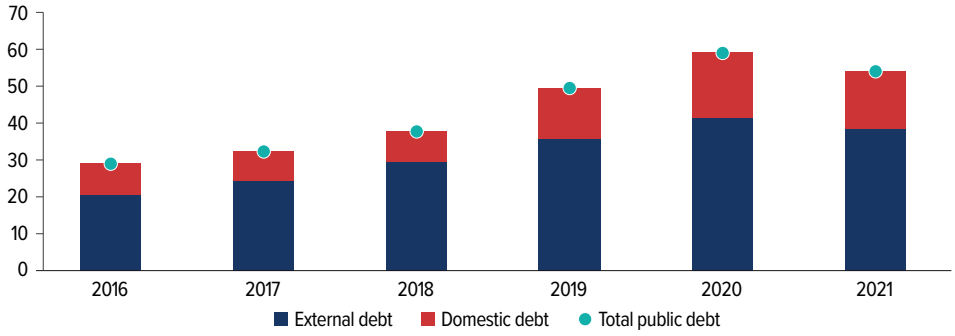
Liberia's public debt burden declined in 2021. The total public debt decreased from 58.3 percent of GDP in 2020 to 53.4 percent of GDP in 2021. In nominal terms, the stock of public debt increased by 4.0 percent, reflecting an increase in external borrowing. External debt accounted for 71.0 percent of the total public debt stock, including a US$1,194 million debt to multilateral lenders, a US$63 million debt to bilateral lenders, and a US$51 million debt to commercial lenders. Domestic debt accounts for the remaining 29 percent, which mostly consists of US$382 million of government borrowing from the CBL and US$48 million of commercial bank-held sovereign bonds. Both represent restructured, securitized, and fully recognized legacy debt in 2019.[4] In addition, banks hold local currency government bonds worth US$35 million that were issued by the government to fund the 2018 budget. A preliminary Debt Sustainability Analysis (DSA) suggests that the overall risk of debt distress remains high but is moderate for external debt.

Figure 9: Composition of Expenditures (%)



Source: GoL, IMF/World Bank Staff estimates.
Note: On-budget Central Government Expenditures.

Figure 10: Public Debt Stock, 2016–21 (percent of GDP)



Source: GoL, IMF/World Bank Staff estimates.

4 The stock of domestic debt to the CBL has declined from US$487 million in the last DSA in 2020, after removing old International Monetary Fund (IMF) loans, which are also included in the external debt, from this consolidated debt of the government of Liberia (GoL) to the CBL.

Table 1: Selected Macroeconomic Indicators, 2019–24

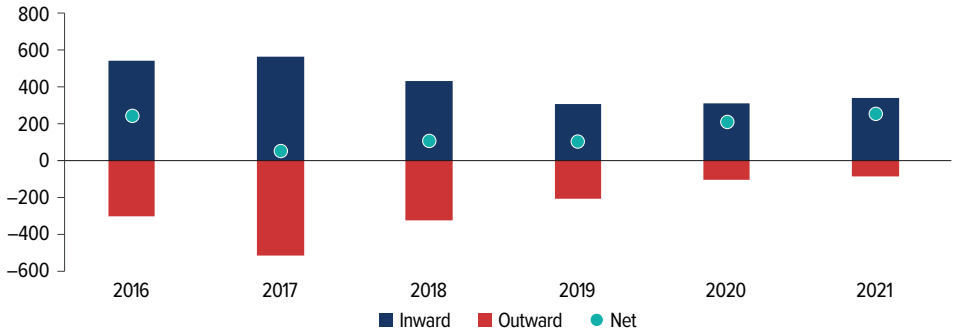
	2019	2020	2021	2022	2023	2024
	(Annual percentage change)					
Real sector						
Real GDP growth (annual percent change)	–2.5	–3.0	4.2	4.5	5.5	5.6
Mining	13.2	2.0	17.6	9.1	9.0	6.2
Non-mining	–4.7	–3.8	1.9	3.6	4.8	5.5
Inflation						
Consumer prices (annual average)	27.0	17.4	7.9	8.2	6.9	7.0
Consumer prices (annual average)	20.3	13.1	5.5	10.7	8.2	5.2
	(Percent of GDP)					
Central government operations						
Total revenue and grants	27.3	31.3	29.4	27.3	27.4	27.8
Domestic revenue	13.8	16.0	16.7	16.0	17.1	17.1
Tax revenue	11.3	13.0	14.0	13.3	13.5	13.6
Nontax revenue	2.5	3.0	2.7	2.7	3.6	3.5
Grants	13.5	15.3	12.7	11.3	10.3	10.7
Total expenditure	32.2	35.1	32.3	30.2	30.1	29.6
Current expenditure	21.4	24.5	22.8	20.4	18.6	18.7
Compensation of employees	8.8	10.9	8.7	7.8	7.4	7.3
Goods and services	9.6	11.2	10.9	9.6	8.2	8.3
Interest payments	1.1	1.3	0.9	0.8	0.7	0.7
Subsidies and grants	1.8	1.0	2.1	2.0	2.1	2.2
Social benefits	0.1	0.1	0.2	0.2	0.2	0.2
Capital expenditures	10.8	10.6	9.5	9.8	11.5	10.9
Overall balance	–4.8	–3.8	–2.9	–2.9	–2.7	2.0
Primary balance	–3.8	–2.6	–2	–2.1	–2	–1.3
Memo:						
Total public debt	48.9	58.3	53.4	51.6	51.6	50.7
External debt	35.2	40.9	37.6	37.8	37.5	38
Nominal GDP	3080	3037	3483	3829	4064	4230

Source: Liberian authorities, IMF, and World Bank staff estimates and projections.

THE EXTERNAL SECTOR

Liberia's current account deficit widened despite stronger export growth. The current account deficit widened from 16.3 percent of GDP in 2020 to 17.8 percent in 2021, mainly due to a higher trade deficit. While exports increased by 5.2 percentage points of GDP, on the back of higher volumes and export prices (for gold, iron ore, and so forth), imports also surged with the easing of the restriction in international trade. Trade in services remained in deficit but showed improvement. The income account recorded a deficit of 6.1 of GDP, up by 1.1 percentage points from 2021, while the surplus in current transfers was 13.8 percent of GDP, compared to 14.9 percent in 2020 despite higher remittance inflows. The current account deficit was financed mainly

Figure 11: Remittance Inflows and Outflows, 2016–21



Source: CBL, World Bank staff calculations.

by foreign direct investment (FDI) (7.3 percent of GDP) and disbursement for projects financed by development partners (5.7 percent of GDP).

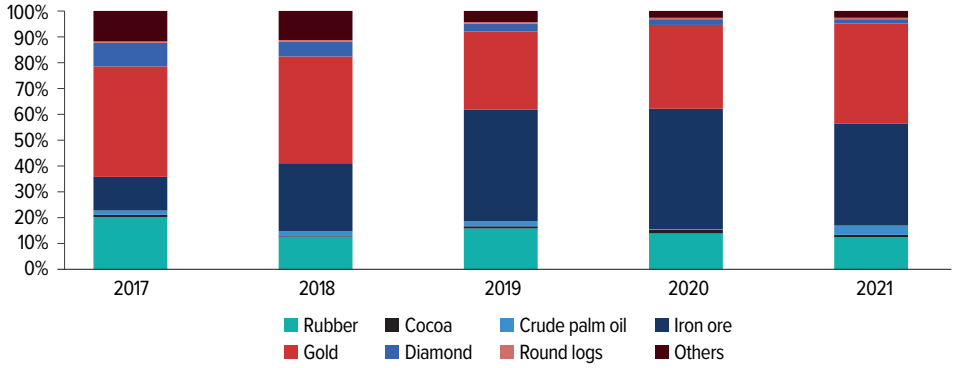
Net remittance inflows grew by 22 percent in 2021. The net remittance inflows increased to US$257.8 million (7.4 percent of GDP), up from US$212.0 million (7.0 percent of GDP) in 2020. The rise in net remittance inflows is due, in part, to a decrease in remittance outflows as well as to a recovery in global activity, particularly in advanced nations, Liberia's largest source of remittance.

Liberia's reserve coverage increased from 2.1 months in 2020 to 4 months in 2021, thanks to the substantial additional Special Drawing Rights (SDR) allocation to the country. At the end of 2021, gross international reserves had risen to US$700 million, equivalent to 4.0 months of import coverage. In August 2021, Liberia received from the International Monetary Fund (IMF) a new Special Drawing Rights (SDR) allocation equivalent to US$350 million, covering 2 additional months of imports. Without the additional SDR allocation, the reserve coverage would have declined.

Higher international commodity prices boosted export performance in 2021. Liberia's exports value increased by 50.2 percent, driven by rising prices for iron ore, rubber, and gold. Together, iron ore, rubber, and gold accounted for 90.7 percent of the total export value in 2021 (figure 12). Higher international prices of iron ore, rubber, and gold reflect the recovery in global demand in 2021 as the pandemic eased. The value of rubber export expanded by 35.5 percent in 2021, while gold and iron ore exports rose by 79.9 percent and 26.8 percent, respectively. Exports of other products, including crude palm oil, diamonds, and round logs, increased significantly.

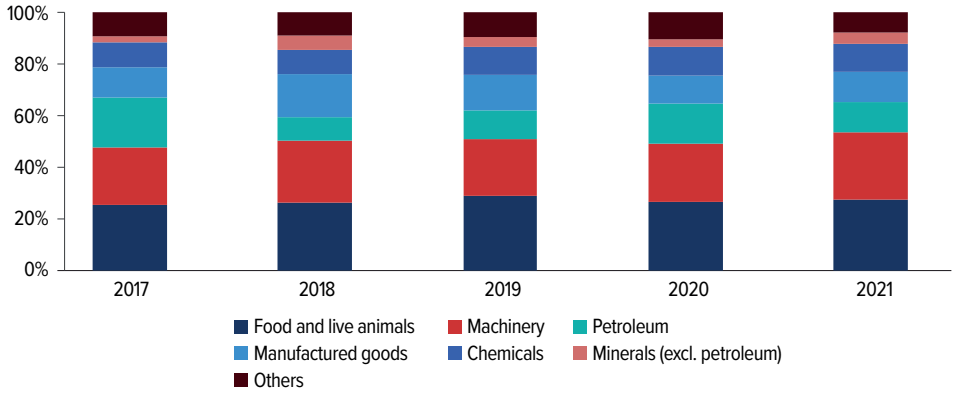
Merchandise imports increased as the pandemic eased, economic activity recovered, and inflation moderated. Imports surged by 34.3 percent, or 1.1 percentage points of GDP, in 2021. Food, capital goods, and manufactured goods were the main drivers of the increase in imports, accounting for two-thirds of the rise in imports in 2021 (figure 13). The trend in the international prices for Liberia's main imports—rice and petroleum—were mixed in 2021. The average price of rice fell by 7 percent in 2021, while petroleum prices increased significantly (figure 2). During the year, the value of rice and petroleum imports increased by 17.8 percent and 2.0 percent, respectively.

Figure 12: Composition of Export Value
(percent of total export value)



Source: CBL, World Bank staff calculations.

Figure 13: Composition of Import Value (percent of total import value)



Source: CBL, World Bank staff calculations.

Macroeconomic Outlook and Risks

The pace of the global economic recovery is expected to slow in the near term. According to the World Bank Global Economic Prospects (GEP) report, the near-term prospect for global growth reflects continued COVID-19 flare-ups, diminished fiscal support, and lingering supply bottlenecks. Global growth in 2022 and 2023 is projected to slow from 5.5 percent in 2021 to 4.1 percent and 3.2 percent, respectively, as the initial rebound in private consumption and investment fades and macroeconomic support is withdrawn. However, in Sub-Saharan Africa (SSA), growth is expected to strengthen further in 2022 and 2023, supported by improvements in

trade and commodity prices. Meanwhile, global inflation is expected to rise owing to rising food and energy prices, along with supply disruptions.

Commodity prices are soaring in 2022. The increase in commodity prices is led by energy and metal. Prices have been lifted by the global recovery and commodity-specific supply factors. Oil prices are forecasted to average US$74 per barrel in 2022, 7 percent higher than in 2021. Metal prices, including iron ore and gold, are also projected to increase sharply in 2022, with a promising outlook for the mining sectors in Liberia.

Liberia's medium-term outlook is positive but subject to significant downside risk and uncertainties. The economy is projected to expand by 4.5 percent in 2022 and reach an average of 5.5 percent growth from 2023 to 2024. Per capita GDP will return to precrisis levels by 2023. Nonmining growth is projected to reach 4.2 percent per year, while growth in mining is expected to accelerate to 9.0 percent from 2023 to 2024. The positive outlook is underpinned by significant tailwinds for mining, the government's planned scale-up of public investment, and the implementation of

Box 1: Rising Fuel and Food Prices: Implication for Inflation and Food Security in Liberia

Liberia is vulnerable to rising global oil and food prices. Rising global oil and food prices puts the country at a risk of higher inflation and, potentially, food insecurity. Liberia is a net importer of oil and rice (the country's staple), accounting for 30 percent of total imports (10 percent of GDP). As a result, increase in the prices of these commodities have substantial impacts on domestic prices. For the first time since 2008, global oil prices broke through $130 per barrel in early March 2022. The government responded by raising gasoline and diesel retail prices by 26 percent and 32 percent, respectively, before marginally lowering them in early April 2022. Even though the government uses a well-established pricing structure to regulate the retail prices for petroleum products, crude oil costs account for a large share of the prices of gasoline and diesel, with a significant pass-through effect. The tariff structure shows that crude oil costs account for 73 percent of retail fuel prices, government-imposed duties and levies 13 percent, storage and other charges 7 percent, and distribution and retail margins 7 percent. Thus, rising crude oil prices would trigger increase in the retail prices of fuel, accelerating consumer price inflation through transportation and production costs.

Inflation has been declining since August 2019; however, the trend has reversed after November 2021. Headline inflation has increased to 9.5 percent in March 2022, up from 5.5 percent in December 2021 and 4.4 percent in October 2021 (its lowest point). Domestic food prices also rose by 5.2 percent month-over-month (MoM) in March 2022, while imported fuel prices increased by 45.5 percent (MoM), reflecting rising global food and fuel prices, as well as the pass-through effect of exchange-rate depreciation. With imported rice accounting for 7.6 percent of the consumer basket, while fuel and transport represent 1.2 percent and 7.5 percent, respectively, a further increase in food and fuel prices will put significant pressure on inflation.

The increase in rice prices on the domestic market puts vulnerable households in Liberia at a risk of food insecurity. Even though the global price of rice fell by 7.8 percent in 2021, the average price of a 25 kg bag of imported rice in Montserrado (Monrovia) soared by 26 percent to US$19 in 2021, up from US$15 in 2020. In other parts of the country, the price of a 25 kg bag of rice is much higher, varying between US$23 and US$28 in remote counties (Rivercess, US$23; Lofa, US$23.5; Maryland, US$24.8; Grand Kru, US$26.4; Sinoe, US$26.6; Grand Gedeh, US$28.2; and River Gee, US$28.2), where the quality of the road network is poor. In the subregion, data collected from the statistical offices revealed that the price of a 25kg bag of imported rice was higher in Monrovia (US$19.2 per bag) than in Freetown (US$17.0 per bag) and Conakry (US$18.5 per bag) in 2021. The increase in rice prices on the domestic markets in Liberia is mainly driven by high distribution costs and buoyed fuel and transport costs. The government of Liberia has recently announced its intention to maintain the retail price of a 25 kg bag of imported rice at between US$13.5 and US$14.0. However, there is a gap between the price announced and the one observed in the market. Rice, along with cassava, is Liberia's main staple food, consumed by practically all Liberians daily. A significant increase in the price of rice in the domestic market has dire consequences on food security, poverty, and social stability. A study conducted in Liberia in 2008 reveals that a 10 percent increase in the price of rice would increase the poverty headcount by 2.3 percentage points and the poverty gap by 1.2 percentage points (Tsimpo and Wodon 2008). Thus, higher prices of rice or disruption in the rice value chain could heighten multidimensional poverty (with women more affected) and malnutrition and further worsen human capital outcomes.

structural reforms in key sectors, including agriculture and energy. Specifically, the government has ratified a new mining concession that would triple the production of iron ore, boost employment, and attract foreign direct investment (FDI) over the next decade. The sharp increase in metal prices, especially iron ore, presents terms of trade gains and improved prospects for the mining sector. Inflation is expected to increase due to rising global food and fuel prices, but it is projected to remain in the single digits as the government's commitment to regulate the prices of some commodities (such as fuel, rice, and transport) helps mitigate the pressure on domestic prices. Even so, the conduct of the currency changeover is crucial for limiting inflation. Fueled by a buoying economy, private consumption per capita is also expected to increase in 2022, despite higher inflation. This will likely push the poverty rate below 50 percent for the first time since the pandemic began. However, the outlook is subject to significant downside risks and uncertainties related to the path of the pandemic at home and abroad, the war in Ukraine, and the upcoming general elections in 2023.

The current account deficit is expected to remain elevated at around 16 percent of GDP. Liberia's direct exposure to the war in Ukraine is very limited, as the two countries involved, Russia and Ukraine,together account for 1.5 percent of Liberia's imports and less than 1 percent of exports. The war in Ukraine will affect Liberia mainly through changes in commodity prices, with a likely positive net effect on trade. FDI is expected to increase due to the recent expansion of a mining project. The country's foreign exchange reserves are projected to cover around four months of imports in the medium term.

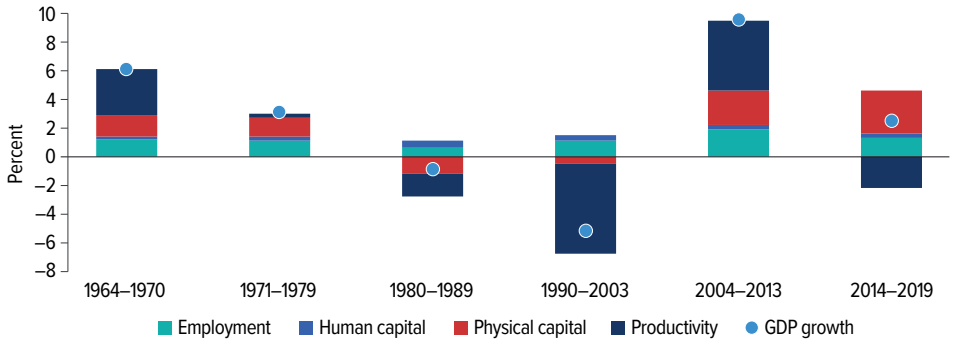
Liberia has transitioned to a new fiscal year that runs from January to December rather than July to June—as required by the amended Public Financial Management (PFM) law. The adoption of the 2022 budget marks the transition to a new fiscal period. The 2022 budget aims to support economic recovery through (i) a significant increase in public investment spending, prioritizing ongoing projects with at least a 75 percent rate of completion and scaling up domestically financed capital spending; and (ii) commitment to ongoing reforms to boost domestic resource mobilization and contain the public sector wage bill. Tax policy measures introduced in 2021, including implementation of the new excise tax law and ongoing reform aimed at streamlining tax expenditures/duty waiver, remain in effect. Other than public administration, the infrastructure, education, health, and security sectors top the budget. Recurrent expenditures remain high, accounting for more than three-quarters of on-budget expenditures, due to a budgeted increase in government consumption. However, the budgeted fiscal deficit is 2.8 percent of GDP—about the same as last year.

The government's fiscal deficit is expected to remain at 2021 levels in 2022, but the national budget for the year targets a significant increase in revenue and public investment. Domestic revenues are projected to increase, reflecting an increase in both tax and nontax revenue, thanks to increased trade and income tax revenues and royalties and rents from the mining sector. Despite a reduction in the public sector wage bill, current expenditures are projected to increase, driven by the rise in government consumption, exacerbated by higher inflation triggered by the war in Ukraine. Domestically financed capital expenditures are also projected to increase by 2.2 percentage points of GDP.

The medium-term outlook can be sustained in the long run if the country reduces progressively but steadily the triple gaps (productivity, infrastructure, and human capital) that constrain economic growth. Liberia continues to face significant development challenges on the heels of low overall productivity and economic efficiency; huge infrastructure gaps in terms of roads, electricity, water,

and telecommunications; and inadequate level of human capital. Between 1965 and 2019, the overall productivity of the economy was negative (-50 percent) because of inadequate allocation of resources, especially from 1980 and 2003. The physical capital's contribution to growth was relatively high (56 percent), due to significant foreign direct investments in mining and agriculture, and to a lower extent donor-funded public investments (in energy mainly). Although the contribution of the labor force (number of workers) was important because of the population growth, the contribution of the human capital (the average quality of the labor force) was relatively small, at 21 percent only. Significant investments in people are required for Liberia to transition to an economic path that reliably provides inclusive and sustainable growth as well as broad-based improvements in poverty and social outcomes. In other words, well-educated people are critical for sustainable development. Unfortunately, this is very often a neglected ingredient in national development strategies. The second part of this economic update makes the case for Liberia to invest in its people.

Figure 14: Decomposition of Growth in Liberia from 1964 to 2019



Source: World Bank staff estimates based on data from Penn World Tables.

CHAPTER 2

HUMAN CAPITAL DEVELOPMENT IN LIBERIA

Key message

Liberia's human development outcomes have improved over the last two decades, but gaps to complete education and full health are huge. This section provides a diagnostic of outcomes in human development. In October 2018, the World Bank launched the Human Capital Project (HCP) to encourage countries to invest more and better in their people. It also introduced the Human Capital Wealth (HCW) component and the Human Capital Index (HCI), which assess countries according to their investments in people. Human Capital Wealth is a component of the nation's wealth, which is the asset base that enables current Liberian workers to generate future income in a sustainable way. The data on HCW indicates that Liberia needs to invest more in its people. The Human Capital Index, on the other hand, measures the labor earnings a child born today can expect to attain by age 18, given the health and education risks that prevail in the country she lives in. The HCI estimates Liberia's performance at only 0.32, implying that a child born today may reach only 32 percent of her productivity potential due to shortfalls in education and health. This section reviews how Liberia has been investing in its people, along with options it could consider for future investments to improve its HCI.

Introduction

It is now widely recognized that a narrow focus on GDP growth is insufficient to achieve humanity's aspirations for sustainable prosperity. Well-functioning natural ecosystems and educated people are critical for sustainable development. To make the case for Liberia to invest in its people, this chapter of the economic update combines insights from two reports that the World Bank Group recently published: *The Changing Wealth of Nations* (World Bank 2021b) and the *Liberia Human Capital Assessment* report (LHCAR; World Bank 2021a). According to these reports, Liberia has some of the worst human capital outcomes in the world. To boost investments in human capital, the reports suggest a variety of policy options to enhance access to and quality of education and health care and improve children's nutrition and gender equality. At this time, the options suggested are simply indicative; they will be explored in depth in sector-specific analytical works.

The chapter uses two measures of human capital: The Human Capital Wealth (HCW) component and the Human Capital Index (HCI). HCW quantifies the current value (the value today) of the future earnings of the current workforce. Although most of today's workers are finished with school, their HCW can be enhanced by continuing education and training programs and access to health care. The HCI measures how well countries are preparing, today, the next generation of workers. It quantifies the value of the future earnings a child born today can expect to attain by age 18, given the risks to poor health and poor education that prevail in the country where she lives.

The structure of the report follows these two components. In the first section, the focus is on the current workforce and the HCW trends over the last two decades, which show that Liberia is lagging behind other Sub-Saharan African (SSA) countries and could be doing far better. The second section focuses on investments in children and youth, with a discussion of trends in the HCI and each of its five components, along with suggestions for relevant strategic investments.

Assessing the Wealth of Liberia through a Human Development Lens

The World Bank's wealth accounts capture the value of a country's assets that generate income and support human well-being. Wealth accounts—including

produced, human, and natural capital—are useful complements to other economic indicators, such as GDP. The accounts provide a measure of capital stocks or the balance sheet of a nation, including assets not traditionally included in national accounts. Furthermore, disaggregated accounts show how countries are balancing their portfolio of assets, including whether GDP growth is accompanied by asset accumulation or depletion, and show the degree of asset diversification in a country. These economic indicators, therefore, can provide guidance for managing economies more sustainably over time, while allowing for cross-country comparisons on economic performance and sustainable development.

The largest wealth of a country is typically its people. Estimates for 1995 to 2018 from the *Changing Wealth of Nations* (World Bank 2021b) are available for 147 countries, including Liberia. A country's wealth consists of three types of capital: produced, natural, and human.[5] Produced capital comes from investments in assets like factories, equipment, roads, and other infrastructure. Natural capital consists of agricultural land and both renewable and nonrenewable natural resources. Human capital is the wealth embodied in people. It is measured by the present value of future earnings over a person's lifetime. Globally, the largest component of national wealth is typically the people. It was estimated at US$732 trillion in 2018, representing 63.6 percent of the total wealth of all nations, compared to 31.2 percent for produced capital, 3.0 percent for renewable natural capital, and 2.5 percent for nonrenewable natural capital, while net foreign assets were negative (-0.3 percent). The share of Human Capital Wealth is even higher in high-income countries. HCW accounts for close to 65 percent of total wealth in Organization for Economic Co-operation and Development (OECD) countries but represents only 50 percent in low-income countries. As countries develop, the share of natural capital declines, making way for a larger share of human and produced capital in total wealth.

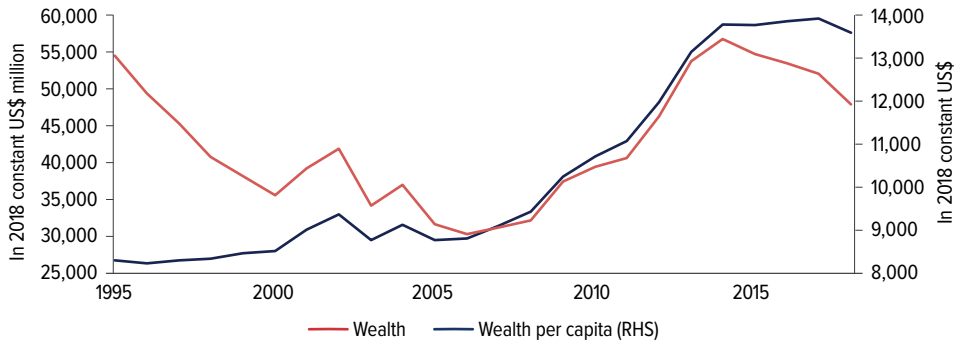
In Liberia, total wealth more than doubled over the last two decades, driven mainly by high population growth. In real terms, Liberia's wealth in 2018 was estimated at US$57.3 billion, 105.6 percent higher than in 2000, thus growing by 4.1 percent on average per year. However, due to high population growth, per capita wealth increased from US$9,786 to US$11,891, growing by only 21.5 percent cumulatively in the period, or 1.1 percent on average per year. Because wealth per capita is what matters for future standards of living, Liberia's progress toward sustainable development was appreciable but very limited. Furthermore, between 2014 and 2018, total wealth and wealth per capita declined by 1.9 percent and 11.2 percent, respectively. Declining wealth per capita indicates insufficient investment in a nation's assets, or that they are being mismanaged or misvalued.

Liberia's wealth by asset categories shows a smaller share of human capital in total wealth. Liberia's national wealth was historically dominated by natural capital, which represented close to 70 percent of total wealth in 2005. However, the share of natural capital has been on a declining trend since then, reaching 43 percent by 2018. This reflects decreasing productivity of cropland and, more recently, of metals and minerals with the fall in global commodity prices between 2014 and 2018.

A diversified asset portfolio is more resilient than one overly dependent on a single asset. Liberia can choose to invest in different wealth components and achieve a more balanced and resilient asset portfolio. Analyzing the evolution of the main wealth components, policy makers can have better tools to build and manage a comprehensive wealth portfolio and decide what mix of assets would help them achieve this goal. An obvious choice for Liberia's policy makers is to invest in human capital.

5 There is a fourth capital, the net foreign assets, but it is very small, less than 1 percent of total wealth.

Figure 15: Wealth and Wealth per capita in Liberia (1995–2018)



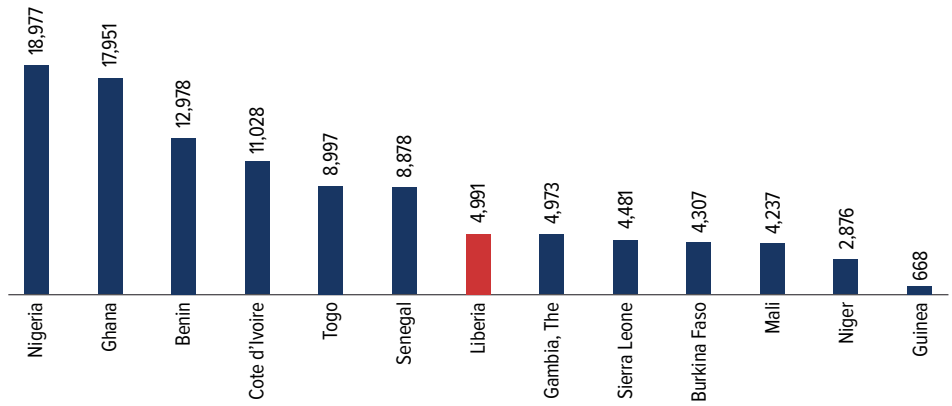
Source: World Bank, The Changing Wealth of Nations (CWON) (2021).

Liberia's Human Capital Wealth was estimated at US$24 billion in 2018, which represents 42.0 percent of the country's total wealth. The human capital per capita was worth 5 thousand US dollars, which is low compared to the world average of US$101,000. The human capital per head in Liberia was well below the level in countries such as Nigeria, Ghana, Benin, Côte d'Ivoire, Togo, and Senegal. However, it was higher than the level in Niger and Guinea and comparable to the level in The Gambia, Sierra Leone, Burkina Faso, and Mali (see figure 16 below).

Like the wealth per capita, human capital per capita has been volatile in the last two decades, mirroring the dynamics in the economy. Between 2011 to 2014, human capital per head increased from US$2,900 to US$5,000 before stagnating at this level between 2014 and 2018. The successive shocks that affected the economy in the post-Ebola period reduced actual labor earnings and expected future labor income at that time.

High population growth makes it harder for Liberia to increase its wealth per capita. A key factor limiting the ability of Liberia to increase its wealth per capita and thus raise standards of living is persistent high fertility[6] that culminates into rapid

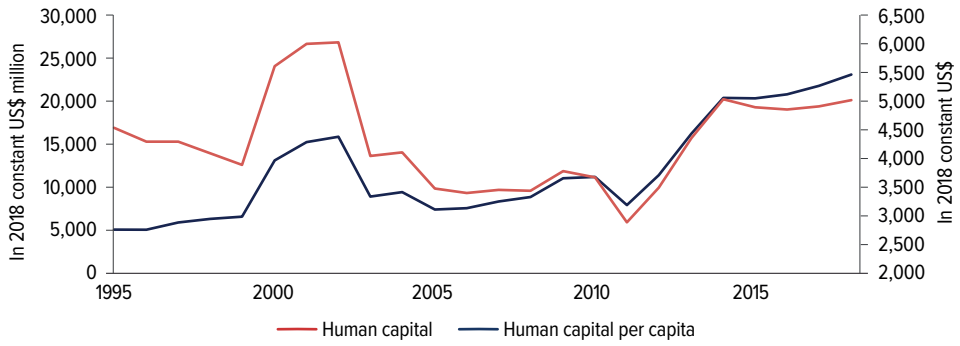
Figure 16: Human Capital per capita in Selected ECOWAS Countries (2018 constant US$)



Source: World Bank, CWON (2021).

6 The number of children a woman is expected to have on average over her lifetime.

Figure 17: Human Capital and Human Capital per capita (1995–2018)



Source: World Bank, CWON (2021).

population growth. Liberia's population is still growing at 2.5 to 3 percent annually, with on average 4.3 births per woman, almost twice the global average. The adolescent fertility rate is 136 births per 1,000 women aged 15 to 49, substantially above the average for Sub-Saharan Africa (101 births). There is strong evidence that increasing education for adolescent girls can reduce fertility rates and improve health outcomes, which in turn might further foster the demographic dividend.

With two-thirds of the population below age 25, Liberia is accelerating the integration of family planning services at all levels of the health care delivery system. To that end, a market approach is being implemented to improve access for marginalized women and girls. Specifically, the government is configuring supply chain systems to be more efficient and effective in delivering safe health care commodities with the goal of increasing uptake of family planning methods. Almost all women and men ages 15 to 49 in Liberia know at least one modern method of contraception. The pills, injectables, implants, and male condoms are the most well-known methods. Fewer than half of women and men know about female sterilization, and only 19 percent of all women and 28 percent of all men know about male sterilization. Forty percent of women know about emergency contraception. About 24 percent of married women ages 15 to 49 use modern contraceptive methods, up from 10 percent in 2007, while 1 percent use traditional methods, yielding a contraceptive prevalence rate (CPR) of 25 percent in 2020.

The demographic dividend could also be fostered when women are empowered by social norms and legal systems to take decisions or participate in key decisions. The Liberia Demographic and Health Survey (DHS) indicates that among married women who are users of family planning, 48 percent reported that they and their husbands jointly decided to use family planning. Thirty-eight (38) percent of women said that it was mainly their own decision, whereas 13 percent said that it was mainly their husband's decision. Among women who are nonusers, more than half (52 percent) reported that they mainly made the decision not to use family planning on their own; 31 percent made the decision jointly with their husbands. The DHS indicates also that the percentage of currently married women who participate alone or jointly with their husbands in decisions about the use of their earnings has risen steadily over time, from 76 percent in 2007 to 89 percent in 2020.

Delaying marriage and childbearing could reduce fertility rates and population growth. When marriage and sexual activity begin at young ages, childbearing often begins at early ages and is therefore linked to patterns of fertility. In Liberia, the median age at first marriage is 22.6 years for women ages 25 to 29, 21.2 years for

women ages 25 to 49, and 19.8 years for women ages 45 to 49. This indicates that the median age has risen by almost one year every five years. The median age at first marriage has increased from 18.4 years in 2007 to 21.2 years in 2020 for women.

Beyond these, there are several other interventions that could increase human capital wealth in Liberia. They range from ensuring overall macroeconomic stability for faster growth to significantly improving the overall business environment, including regulations affecting business creation; ongoing business operations and competition; and factor markets such as labor, finance, and land. Of course, gender equality is one of the most important dimensions. According to the DHS, men are more likely to be currently employed (81 percent) than women (61 percent). Current employment is higher among rural Liberians than urban Liberians (67 percent versus 57 percent among women, and 88 percent versus 76 percent among men). The percentage of women who are currently employed has fluctuated over time, decreasing from 59 percent in 2007 to 55 percent in 2013, before increasing to 61 percent in 2020. Among men, the percentage of those currently employed also decreased from 78 percent in 2007 to 72 percent in 2013, before increasing to 81 percent in 2020. Additionally, there is a need to ensure that skills training programs are responsive to demand from the labor market, possibly by creating sector skills councils with private participation and providing incentives for aligning skills training with the labor market through competitive funding.

Investing in human capital is crucial for Liberia to grow faster, reduce poverty, and deliver substantial social benefits in the long term. However, the returns on these investments often take time to materialize and are not always visible to voters. Investments that improve health and education outcomes today will affect the productivity of future generations of workers. This is among the reasons why policy makers do not sufficiently prioritize programs to support human capital formation. The Human Capital Index (HCI), which is the focus of the rest of this second chapter, intends to address this incentive problem.

Raising the Productivity of Future Workers–The Human Capital Index

DEFINITION AND MEASURE OF HUMAN CAPITAL

According to the United Nations' World Population Prospects, the life expectancy at birth is at 64.4 years in Liberia. So, imagining the trajectory from birth to adulthood of a child born today in Liberia, there is a risk that the child will not survive to her fifth birthday. If she does and reaches the age to go to school, there is an additional risk

that she will not start school immediately. If she does, there is a risk that she will not complete the full cycle of 14 years of schooling from preschool to grade 12. Also, the time she spends in school may not be fully translated into learning, depending on the quality of schools and the education she receives. If she survives to age 18, she may carry with her lasting effects of poor health and nutrition from childhood that limit her physical and cognitive abilities as an adult.

The goal of the HCI is, therefore, to quantitatively illustrate the key phases on this journey and the implications for the productivity of the next generation of workers. The HCI was launched in October 2018 as part of the new World Bank Human Capital Project (HCP), a collaborative effort to encourage countries to invest in their people. The HCP features an HCI that measures the human capital that a child born today can expect to attain by age 18, given the risks to poor health and poor education that prevail in the country where she lives. The HCI is an index that takes values between 0 and 1 based on five variables that are likely to affect the earnings of the future generation of workers and groups them into three components.

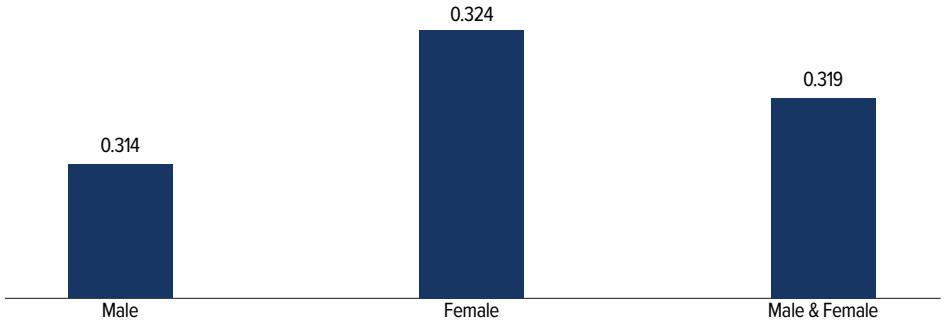
- **Survival.** This component reflects the unfortunate reality that not all children born today will survive until the age when the process of human capital accumulation through formal education begins. It is measured using under-five mortality rates.
- **School.** This component measures the expected learning-adjusted years of schooling, which combines information on the quantity and quality of education. The quantity of education is measured as the number of years of school a child can expect to obtain by age 18 given the prevailing pattern of enrollment rates. It is calculated as the sum of age-specific enrollment rates between ages four and 17. The quality of education is measured by the harmonized test scores from major international student achievement testing programs.
- **Health.** Two proxies for the overall health environment are used to measure this component: (i) adult survival rates, defined as the fraction of 15-year-olds that survive until age 60; and (ii) the rate of stunting for children under five.

In context, the HCI is interpreted as the ratio of the expected productivity of today's children and youth to the productivity they could reach if they achieve their full human capital potential.

HUMAN CAPITAL OUTCOME IN LIBERIA

In Liberia, the HCI is estimated at 0.32. This means that, if current education and health conditions in Liberia persist, a child born today will only be 32 percent as productive as she could aspire to be with complete education and full health. In other words, Liberia's future gross domestic product (GDP) per capita could have been 3.1 times higher than the level projected with the current levels of health and education outcomes. This corresponds roughly to 2.2 percentage points of additional GDP per capita growth per year on average, in a long-run growth scenario where the country is assumed to reach complete education and full health in 50 years. Figure 18 shows the HCI estimates for 2020 for male and female children born today in Liberia. The human capital that a baby girl born today can expect to attain by age 18 is at 0.324, 3 percent higher than the human capital that a baby boy born today can expect to attain by age 18 (0.314).

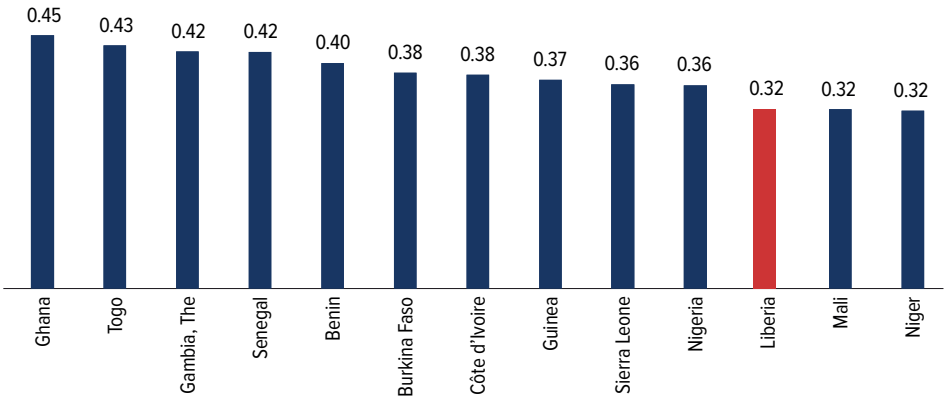
Figure 18: Liberia Hunan Capital Index in 2020



Source: World Bank, HCI (2020).

Liberia's human capital is among the lowest in the world. At just 0.32, Liberia is ranked at the bottom of the Human Capital Index, performing better than only three African countries in the world—namely, Central African Republic (0.29), Chad (0.31), and South Sudan (0.31)—out of 174 countries assessed. Singapore in the best performer in the HCI with an index of 0.89, meaning that a child born in Singapore in 2020 can expect to be 89 percent as productive as she could be when she grows up, while the worldwide average for how productive a child can expect to be is 56 percent of her potential. Mauritius is the best performer in Africa, with a score of 0.62. Liberia has the lowest human capital in ECOWAS, together with Mali and Niger. Ghana (0.45) is the best performer, scoring 41 percent higher than Liberia, followed by Togo (0.43), The Gambia (0.42), Senegal (0.42), and Benin (0.40).

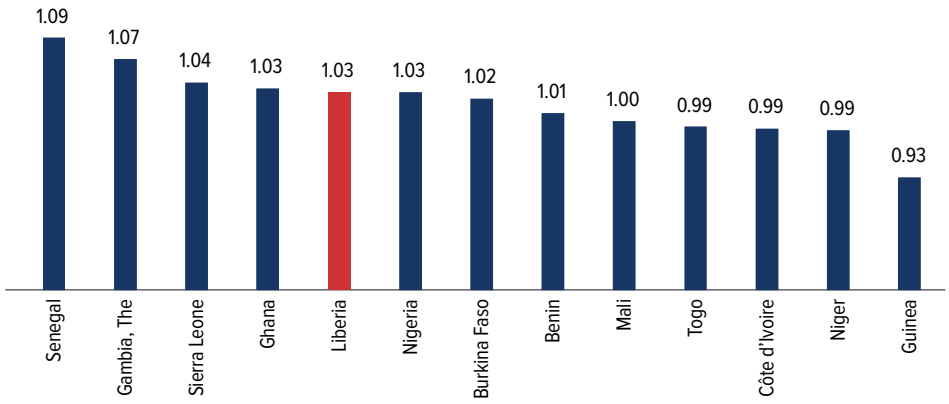
Figure 19: Human Capital Index Liberia and Selected ECOWAS Countries



Source: World Bank, HCI (2020).

In terms of gender parity, a baby girl born today in ECOWAS is expected to be more productive than a baby boy. Only Mali is at the exact parity, with baby boys having the same chance as baby girls. In Guinea, and to a lesser extend in Niger, Côte d'Ivoire, and Togo, baby boys can expect to be more productive compared to baby girls. In Senegal and The Gambia, and to a lesser extend in Sierra Leone, Ghana, Liberia, Nigeria, and Benin, inequalities disfavor baby boys. Health outcomes are the main drivers of the gender disparities in human capital.

Figure 20: Human Capital Gender Parity Index in Liberia and Selected ECOWAS Countries

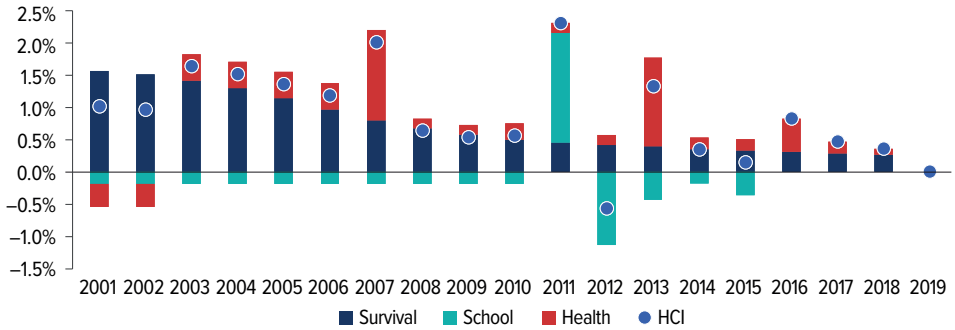


Source: World Bank, HCI (2020).

Liberia's human capital has been improving in the last two decades, albeit at a slow pace, thanks essentially to improved survival and health outcomes. Education data are of very poor quality in Liberia. Using the United Nations Development Programme's (UNDP) data on expected years of schooling by age 25 as a proxy for the expected years of schooling by age 18, and extrapolating the harmonized test score, a historical series of HCI was built for Liberia up from 2000. The findings show that the index of human capital increased from 0.27 in 2001 to 0.32 in 2020, growing only by 18 percent in two decades, or by 0.9 percent on average per annum. Close to 80 percent of the human capital growth was due to an increase in the rate of survival to a fifth birthday, which improved from 0.81 in 2000 to 0.93 in 2019. The second highest contributor to the improvement in human capital was the health component, at 34 percent. In fact, the fraction of children under five who were not stunted increased from 55 percent in 2000 to 70 percent in 2019, while the fraction of 15-year-olds surviving to age 60 increased from 68 percent in 2000 to 77 percent in 2019. However, the contribution of the school component has been negative (-14 percent). According to the UNDP data, the expected years of schooling by year 25 declined from 10.5 in 2000 to 9.6 in 2019, while the score in the harmonized test declined from 343/625 in 2011 to 332/625 in 2013.

Both sector-specific and multisectoral interventions are required to significantly improve the HCI, and to increase the future earnings potential of young Liberians.

Figure 21: Trend and Drivers on Human Capital in Liberia



Source: Authors' calculation using UNDP expected years of schooling.

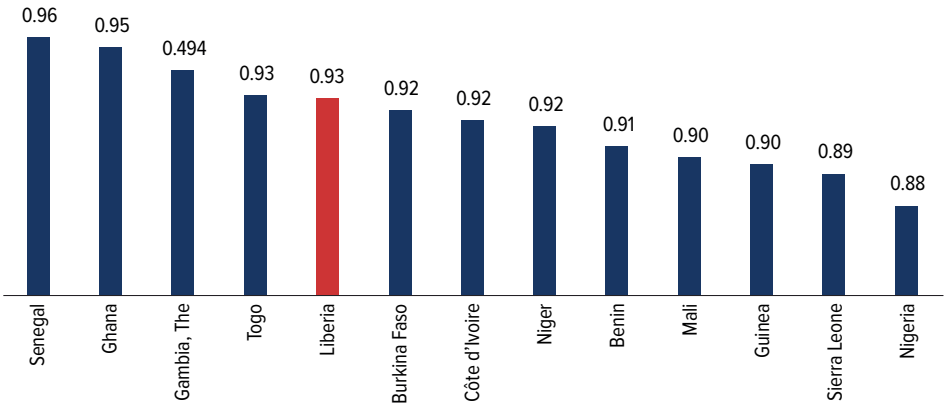
Not all the options can be discussed here, but a few pointers can be provided based both on studies elsewhere and the specific characteristics of Liberia today. The discussion below starts with sector-specific interventions. Relieving some binding supply-side constraints related to service delivery will require better schools and health facilities and will depend on reliable provision of quality basic services, such as clean water. Other challenges are on the demand side and due to such things as basic services not being affordable because of out-of-pocket and opportunity costs.

Child Survival

Liberia loses to under-five mortality 7 percent of the human capital it could aspire to with complete education and full health. The productivity interpretation of the survival rate is very straightforward, as the mortality rate is a direct loss of human capital. The expected future productivity of a child born today is reduced by a factor equal to the survival rate, relative to the benchmark where all children survive. In Liberia, the probability that a child born today survives past age five is estimated at 0.93. In other words, of 100 children born, 93 will survive to age five while seven will not. Meanwhile, there are large disparities of survival to age five across regions or counties in Liberia. According to the Liberia Demographic and Health Survey (DHS 2020), the survival rate is relatively high in counties such as Bong, Nimba, Lofa, and River Cess, where the under-five mortality rates are the lowest, while it is low in counties such as Grand Cape Mount, Sinoe, and Grand Bassa, where the under-five mortality rates are the highest. The DHS also shows that the survival rates are slightly higher for girls than for boys, a common pattern across countries. Of course, when disaggregated by income levels, various statistics reveal wide national disparities. The DHS indicates that the under-five mortality rate is higher for the lowest quintile of the wealth distribution. In comparison to neighboring ECOWAS countries, the loss of human capital due to under-five mortality is higher in Liberia than in Senegal, Ghana, The Gambia, and Togo, but lower than in Nigeria, Sierra Leone, Guinea, Mali, Benin, Niger, and others.

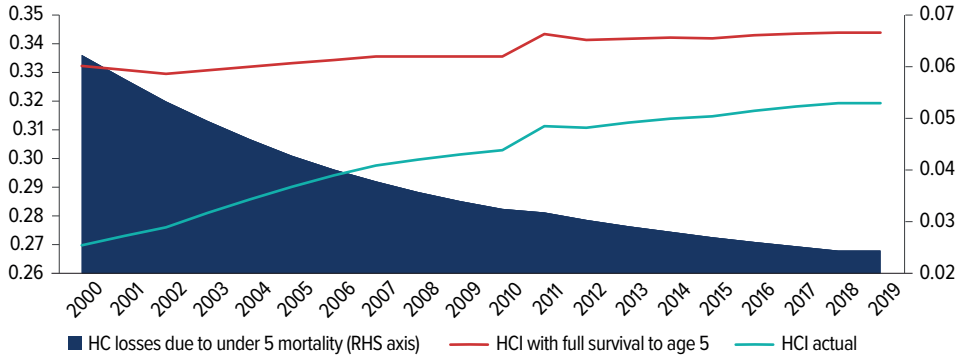
Since 2000, the loss of human capital due to under-five mortality has been declining in Liberia. With the education and health conditions that prevailed in 2000, 6 percent of future productivity loss was attributable to high under-five mortality in Liberia. Since then, infant mortality declined steadily and Liberia has experienced a significant increase in child survival, growing from 0.81 in 2000 to 0.93 in 2019. According to UNICEF (2020), the basic vaccination coverage among children ages 12 to 23 months has improved since 2013, rising 10 percentage points, from 55 percent

Figure 22: Probability of Survival to Age Five in Liberia and Selected ECOWAS Countries



Source: World Bank, HCI (2020).

Figure 23: Human Capital Losses due to Prevalent Under-Five Mortality Rates in Liberia



Source: World Bank, HCI (2020).

to 65 percent. Before that, the basic vaccination rate increased from 39 percent in 2007 to 55 percent in 2013. According to a study (Tsai et al. 2017) on pediatric mortality in rural Liberia, the top five causes of pediatric mortality in 2017 were malaria, anemia, sepsis, diarrhea, and pneumonia. The most common cause of neonatal death was sepsis, and the most common cause of death under five years of age was malaria.

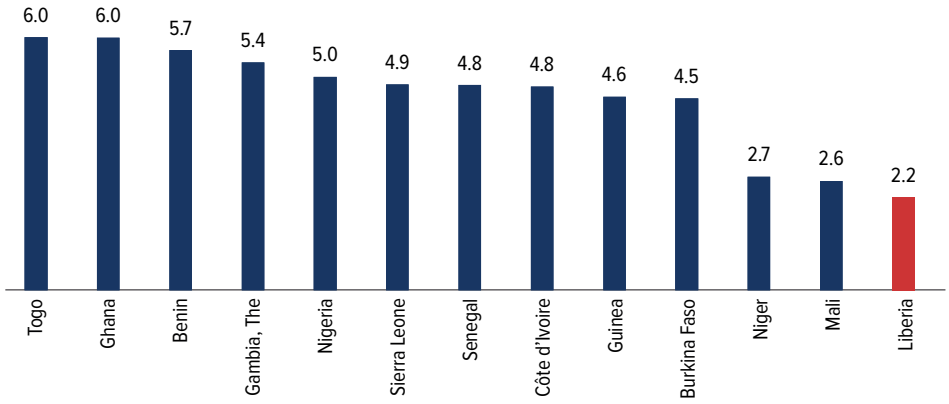
Investments in early childhood development (ECD) are especially important in improving the HCI survival and health components. High rates of neonatal mortality and stunting signal a lack of investment in young children. Yet investing in young children is one of the best investments countries can make because a child's earliest years open a unique window of opportunity to address inequality, break the cycle of poverty, and improve a wide range of lifecycle outcomes. Three types of interventions can help reduce neonatal and infant mortality: (i) family planning and reproductive health services, (ii) services for maternal and child health and nutrition, and (iii) efforts to improve girls' education and empowerment to delay marriage and childbearing.

Schooling

The highest losses of human capital in Liberia are due to poor schooling. Liberia loses to poor schooling 61 percent of the human capital it could aspire to with full survival to age five and full health. Low expected learning-adjusted years of schooling is the main driver of the poor outcome in education. A child born in Liberia today can expect to obtain only 2.2 years of effective quality schooling by age 18, given the prevailing pattern of enrollment rates and current scores in harmonized tests from major international student achievement testing programs. According to the LHCAR (World Bank 2021a), on average, a child born in Liberia today can expect to complete only 4.2 years of school compared to a benchmark where all children obtain a full 14 years of schooling by age 18. The expected number of years of schooling is low in Liberia for, at least, three reasons. First, the enrollment rates are very low for all the education levels, at below 50 percent even for primary school. Second, there is a significant drop from primary to lower secondary education, where the net enrollment rate is approximately 13 percent.[7] Third, there are no significant changes between lower and upper secondary education rates. Furthermore, substantial disparities exist across locations, socio-economic backgrounds, and genders, as well as disability status. For example, children ages six to 11 from rural and poorer households are around 50 percent less likely to attend primary school, and even less

7 The DHS estimates a much higher net attendance rate (NAR) in secondary school—25.5 percent in 2019–2020.

Figure 24: Learning-Adjusted Years of School in Liberia and Selected ECOWAS Countries

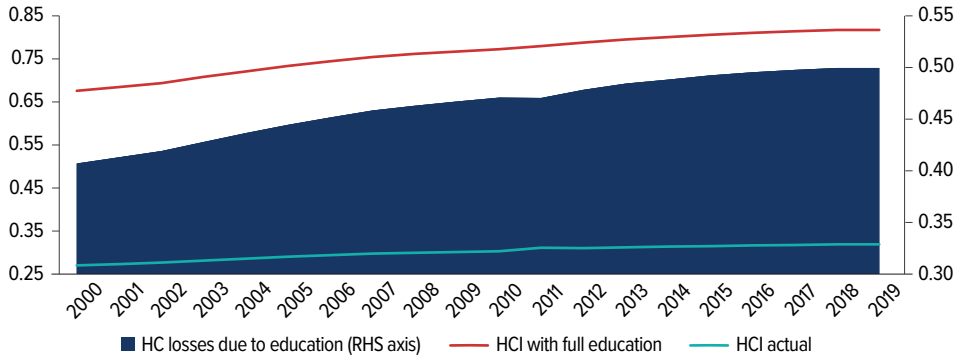


Source: World Bank, HCI (2020).

likely to complete this level of education, than their peers from urban and wealthier households. Although a child born in Liberia today can expect to complete 4.2 years of schooling, the actual level of substantive learning, when the quality of education is considered, is only 2.2 years. Based on the Early Grade Reading Assessment (EGRA), Liberia scored, on average, 332 on a scale ranging from 300, the minimum, to 625, the highest attainment, compared to 343 in 2011. As a result, Liberia has the lowest learning-adjusted years of schooling in the world, slightly below countries such as Mali (2.6 years) and Niger (2.7) and well behind countries like Togo and Ghana (6 years), or The Gambia (5.4) and Sierra Leone (4.9). Liberia even has the lowest value in the world—which calls for immediate actions for improvement.

The loss of human capital due to poor education has been growing. With the survival rates and health conditions that prevailed in 2000, 41 percent of future productivity loss was attributable to the poor education system in Liberia. By 2020, 50 percent of the loss of human capital was due to poor education. School enrollment rates have broadly declined during the period under review, yielding a lower number of years of schooling a child born today can expect to have completed by the time she reaches age 18.

Figure 25: Human Capital Losses due to Poor Education in Liberia



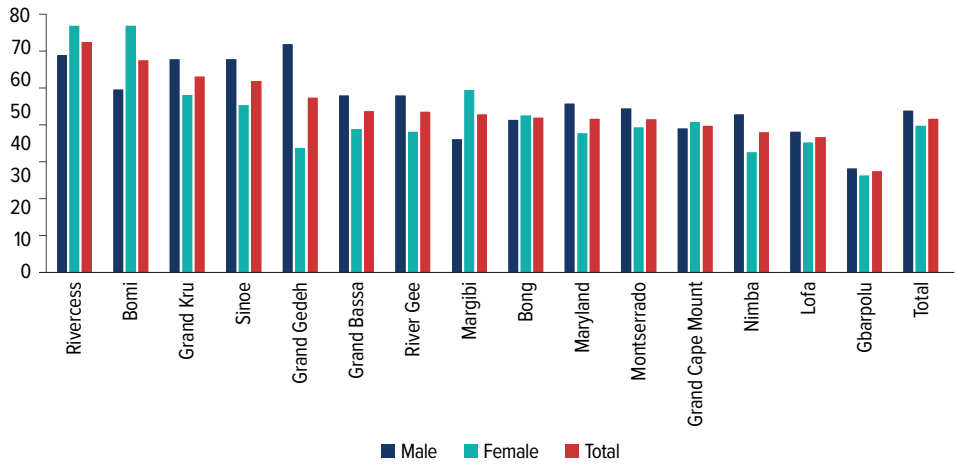
Source: World Bank, HCI (2020).

Despite these negative trends, Liberia has shown some progress in access to education over the last few decades. Between 1981 and 2015, the number of students enrolled in the education system (from early childhood to upper secondary education) increased fivefold, from 300,000 to 1.5 million. Between 2010 and 2018, the teaching workforce also grew, nearly doubling in size, from 26,359 to 55,243 teachers. Significantly, much of this progress was achieved through services provided by nongovernmental organizations. Indeed, approximately 46 percent of students attend nongovernmental or private schools, with this figure rising to 61 percent for upper secondary school students.

Unfortunately, the HCI sets the cutoff age for schooling at 18 years, thus discounting or excluding overage schooling, which is the main characteristic of Liberia's education system. In Liberia, the gross attendance rate (GAR) is significantly higher than the net attendance rate (NAR) at all levels of education. According to the DHS, the total number of primary school students, regardless of their age, expressed as a percentage of the population between six and 11 years old (the GAR), was at 90.9 percent in 2020. However, only 43.3 percent of these students were effectively between six and 11 years old, while the remaining 47.6 percent (the NAR) were ages 12 years and above and were still going to primary school. For secondary school, the total number of students, regardless of their age, expressed as a percentage of the population between 12 and 17 years old, was 51.6 percent in 2020, while only 25.5 percent were effectively between 12 and 17 years old.

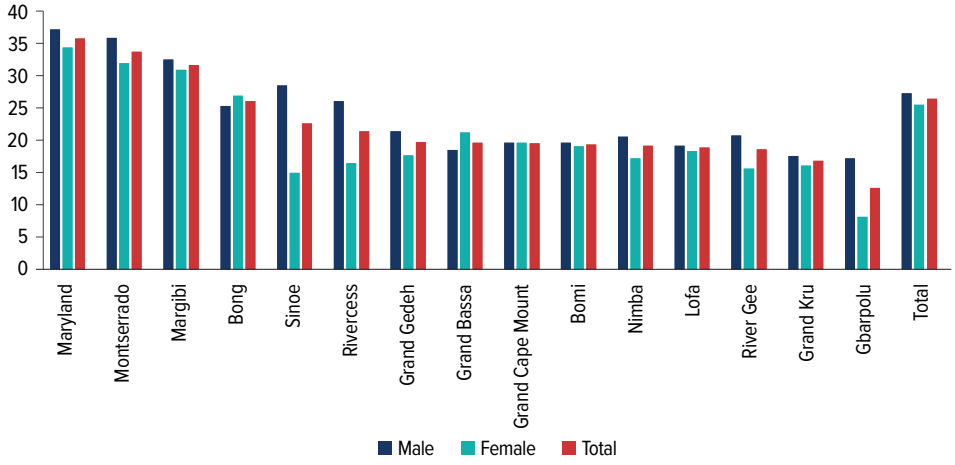
Overage schooling is a universal phenomenon in Liberia. Figure 26 below presents the percentage of overage students in primary school by county. It shows that overage schooling is present across all 15 Liberian counties, varying from 31.2 percent in Gbarpolu to 71.3 percent in Rivercess county. In terms of gender, primary school overage is more prevalent for males (50 percent) than for females (45.5 percent). The same pattern is also observed in secondary school, with the percentage of overage students varying from 12.5 percent in Gbarpolu to 35.4 percent in Maryland (figure 27). Also, 26.9 percent of male students are overage in secondary school compared to 25.2 percent of female students. The high proportion of overage students was one of the system-level challenges identified during the re-establishment of the education system post conflict. Although the government

Figure 26: The Prevalence of Overage Students in Primary School, by County



Source: Liberia DHS (2020).

Figure 27: The Prevalence of Overage Students in Secondary School, by County



Source: Liberia DHS (2020).

responded through the provision of accelerated learning programs and the Education Reform Act of 2011, which makes it mandatory for children ages three to five to be in early childhood education (ECE), measures to increase at-age enrollment have been unsuccessful. This is reflected in the low enrollments for all education levels and in the significant drop from primary to lower secondary, where the net enrollment rate is approximately 13 percent.

Overage schooling is a persisting heritage of the civil war. According to the LHCAR (World Bank 2021a), the high proportion of overage and out-of-school students was first identified as system-level challenges during the re-establishment of the education system after the second civil war (1999–2003), driven by large numbers of students who either missed primary schooling completely or had their education cut short by the conflict. The government responded through the provision of accelerated learning programs, which aimed to re-integrate overage students at a more appropriate age for their grade. However, the overage enrollment phenomenon persisted beyond the cohorts in the early postconflict years. Although the Education Reform Act of 2011 makes it mandatory for children ages three to five to be in early childhood education (ECE), 75 percent of ECE students are overage.

Improving the school component of the HCI requires gains in both the length of schooling and the effectiveness of learning. This will require not only specific interventions, but also consistent, expanding, and smart investment in education, supported by efficiency gains. Liberia lacks critical inputs to deliver good quality and equitable services, including classrooms, qualified teachers, and books. The share of the national budget allocated to education has increased steadily since 2012–13, and approximately 80 percent of the education budget finances teacher salaries (World Bank 2021a). However, more than 5,000 teachers serving in public primary schools do not hold the minimum teaching qualification, and many teachers do not possess the basic literacy skills necessary to teach. In secondary education, only 61 percent of teachers are properly trained. The education payroll includes numerous “ghost teachers,” who receive salaries but do not teach. In addition, only about 10 percent of students from rural areas and from the poorest quintile own books. Students borrow books from their school most of the time, except in urban areas or if they are part of the highest income quintile.

A special focus on overage education is needed to boost the expected number of years of schooling in the country. Scaling up the United States Agency for International Development (USAID) Accelerated Quality Education for Liberian Children (AQE) program is an option to consider. The program seeks to increase access to quality education services for out-of-school children and adolescents. It helps communities to improve education for out-of-school learners by offering accelerated learning programs that condense six years of the primary education cycle into three years. To institutionalize nationwide Accelerated Learning Programs, AQE will leverage partnerships and align its activities with those of other donors with the goal of supporting overarching goals.

There are also program options to enhance student learning. In Liberia as in many other developing countries, student learning outcomes, as measured by national and international student assessments, are poor. In early 2021, Liberia adopted a national assessment policy and framework and piloted a primary student learning assessment for grades 3 and 6 in English and mathematics. A nationally representative primary student learning assessment for grades 3 and 6 in English and mathematics is expected during the 2021–22 academic year. This activity is supported under the Global Partnership for Education-financed Getting to Best in Education Project currently under implementation.

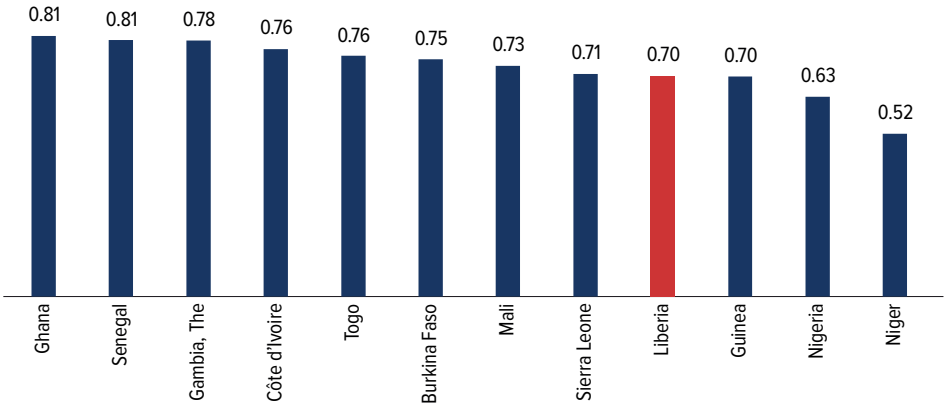
Liberia also needs to invest urgently in education statistics. The 2015–16 school census data remains the latest available robust data for policy making and data-driven interventions for the sector. The production and dissemination of reliable education statistics is an important public good that is essential for effective education sector management and for monitoring progress toward national and global education targets such as the Sustainable Development Goals (SDGs). Education can be the crucial factor determining the continuation or abandonment of policy decisions. Education statistics provide an objective way of determining the success or failure of a component of a country's sector strategy; they can be a metric of policy impact, or they can be the base for the establishment of a climate of sector accountability. Given the diversity of links between education management and information systems (EMIS) and education sector policies, it is important for countries to determine the degree of maturity of their EMIS so they can take full advantage of the benefits. To this end, countries need to assess the level of quality, integrity, methodological soundness, accuracy and reliability, serviceability, and accessibility of their educational statistics to diagnose their needs in statistical capacity building, the quality of their education statistics, and the areas in need of strengthening.

Health

The current health outcome also contributes to the loss of human capital in Liberia. Liberia loses to poor health 12 percent of the human capital it could aspire to with full survival to age five and complete education, reflecting the combined effects of the prevalence of stunting and health risks in the country. A child born in Liberia today has a 70 percent chance of reaching her fifth birthday without being stunted, a level comparable to those of Liberia's neighbors Guinea and Sierra Leone, but lower than in countries like Ghana and Senegal. Although the stunting rate has been declining during the last decade, still 10 percent of children under five in Liberia are severely stunted, and the country has the sixth- and eighth-highest stunting rates among the 16 countries that typically comprise the West Africa region.

In Liberia, stunting rates vary across gender, regions, and other socio-economic conditions. Stunting rates have always been higher for boys than for girls—currently, 32 percent of under-five male children are stunted, compared to 28 percent of their female counterparts. The DHS data show that there is statistically significant heterogeneity in stunting rates by levels of income and education, and by county. In

Figure 28: Fraction of Children Under Five Not Stunted, in Selected ECOWAS Countries

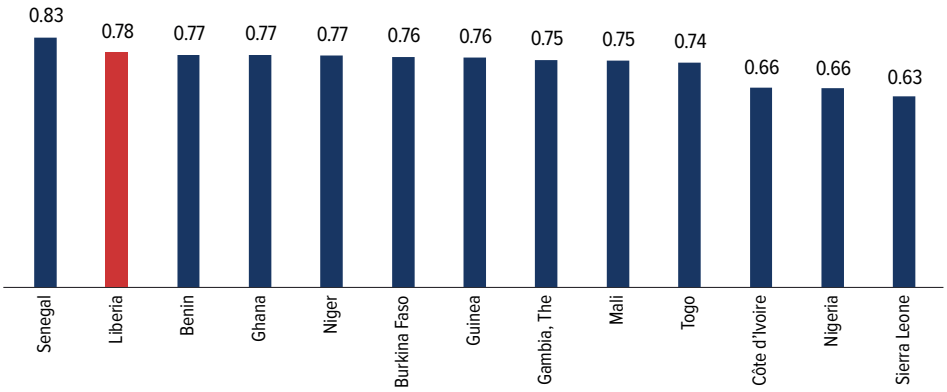


Source: World Bank, HCI (2020).

2020, the stunting rate was 35 percent for households in the lowest quintile of the income distribution, compared to 20 percent for the highest quintile. Similarly, the stunting rate reaches 32 percent for children whose mothers do not have education and only 20 percent for children whose mothers have secondary or higher education. The stunting rate also tends to increase with age through early childhood. It is around 12.7 percent for children between six and eight months old but increases up to 41.3 percent for children between 24 and 35 months old. There are also regional disparities with respect to stunting, in part tied to underlying socio-economic conditions, including rural-versus-urban status. Rivercess has the highest portion of stunted children (40.6 percent), whereas Monrovia is at 18.7 percent. Beyond these disparities, however, there is a minimum level of stunting that affects around one-fifth of children regardless of the level of wealth, education, or area of residence.

The probability of a 15-year-old's surviving to their 60th birthday is estimated at 78 percent in Liberia. This statistic is a proxy for the range of health risks that a child born today would experience as an adult under current conditions. The indicator has been improving significantly after a drop associated with the second civil war. Thus,

Figure 29: Adult Survival Rate in Liberia, in Selected ECOWAS Countries



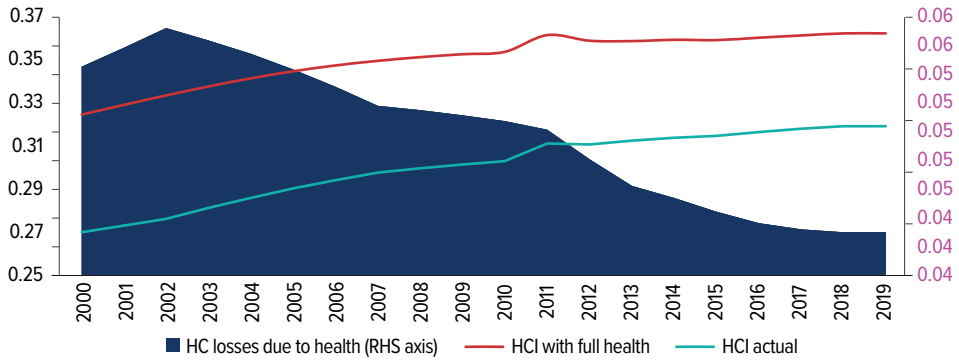
Source: World Bank, HCI (2020).

the adult survival rate of 0.65 in 2002 rose to 0.78 in 2019, a level comparable to the country's West African peers. The indicator has consistently shown higher values for women than for men, which is common across countries.

However, the loss of human capital due to poor health has been decreasing over the last two decades. With the survival rates to age five and the learning-adjusted years of schooling that prevailed in 2002, 6 percent of future productivity loss was attributable to the poor health outcome in Liberia. By 2020, the loss of human capital due to poor health had declined to 4 percent (see figure 30 below). As seen above, both stunting and adult mortality were reduced in the period. Gains in adult survival and reductions in under-five stunting rates are positive outcomes, but stunting levels remain unacceptably high (30 percent) and need to be further reduced. According to the DHS, the adult mortality rate is higher among men (5.32 deaths per 1,000 population) than among women (4.76 deaths per 1,000 population). Adult mortality rates increase with increasing age. Mortality rates are higher for men than for women in all age groups except the age bracket of 35 to 39. Among women, the estimated probability of dying by age 50 has fluctuated slightly over time, increasing from 164 per 1,000 before the 2007 survey to 176 per 1,000 before the 2013 survey, and then decreasing to 173 per 1,000 before the 2019–20 survey. Among men, the probability of dying declined from 186 per 1,000 before the 2007 survey to 151 per 1,000 before the 2013 survey, and then it increased to 189 per 1,000 before the 2019–20 survey. One major issue related to female mortality is maternal mortality, especially for mothers giving birth at a young age. The DHS estimates maternal mortality at 742 deaths per 100,000 live births. That is, for every 1,000 births in Liberia, about seven women die during pregnancy, during childbirth, or within 42 days of the end of pregnancy from causes other than accidents or violence. At current fertility and mortality rates, 3 percent of Liberian women will die from maternal causes while in the reproductive age range (15 to 49 years).

To reduce stunting, both nutrition-specific and nutrition-sensitive interventions are needed. Promotion of exclusive breast-feeding for six months, micronutrient supplements, access to clean water and proper sanitation and hygiene practices, feeding, and caregiving behaviors—all of which are primarily provided through the health sector—are examples of nutrition-specific interventions. However, emerging evidence suggests that some nutrition-sensitive interventions, particularly in the agriculture sector, such as biofortification to increase the micronutrient content of staple foods, are also helpful.

Figure 30: Human Capital Losses due to Poor Health in Liberia



Source: World Bank, HCI (2020).

Although more work is needed to enhance health and nutrition outcomes, Liberia has made some progress. The country prioritized reproductive, maternal, neonatal, child, and adolescent health (RMNCAH) in the aftermath of 14 years of civil war and the world's largest Ebola virus disease outbreak. Liberia is a signatory of the Every Woman, Every Child initiative, with a commitment to spend at least 10 percent of the health sector allotment on RMNCAH. Liberia is also a signatory to the 2030 SDGs, Family Planning (FP) 2020, the African Health Strategy, the Paris Declaration, the Maputo Call to Action, and the UN Secretary General's Global Strategy for RMNCAH Accountability and Results (MOH 2016).

Analysis of Bottlenecks to Human Capital Development in Liberia

The factors contributing to Liberia's low HC outcomes are multiple and complex (World Bank 2021a). The LHCAR shed light on the eight elements with the largest impacts on HC outcomes in Liberia, including weak governance, ineffective service delivery, demographic pressures, low and inefficient spending, sociocultural norms, demand-side constraints, the fragility context, and the challenges in sectors other than education, health, and social protection that contribute to HC formation. This report discusses four of the eight elements.

One of the factors leading to Liberia's low human capital outcomes is weak governance. Liberia is working to build rules-based public sector governance, but the country has been facing obstacles rooted in its political economy. Liberia's governance improvement agenda continues to be hampered by a limited administrative capacity and an entrenched patronage system, among other factors. The country's governance metrics progressively improved from 2005 to 2011, but progress has been limited since then, and the country presently lags behind Sub-Saharan African countries, on average (World Bank 2018). These governance issues have an impact on the delivery of public services that contribute to the accumulation of HC. Currently, there is no whole-of-government approach to HC development. Instead, there are disconnects among government agencies involved in HC development. The management of Liberia's teaching workforce, for example, demonstrates the disconnect between government agencies. To manage the teaching workforce, the Ministry of Education (MoE) should liaise with the Civil Service Agency (CSA), the Ministry of Finance and Development Planning (MFDP), and offices at the county and district levels. The MoE, CSA, and MFDP are all responsible for the teachers' payroll. However, due to a lack of effective coordination, the payroll system is fed with incorrect data (including, despite improvements, data on ghost teachers), resulting in inefficiencies in spending and poor quality of teaching outcomes (World Bank 2021a). The disconnects among government agencies responsible for HC development result in unresponsive, suboptimal service delivery. Government agencies often make choices and act in isolation. As a result, they offer programs and services that do not fully address the needs of beneficiaries.

On the heels of weak governance, ineffective service delivery hinders higher HC accumulation. Ineffective service delivery in Liberia tends to generate low quality and unequal provision of social services, impairing human capital accumulation. The GoL's capacity to design and implement programs to promote HC development is suboptimal. Relevant ministries lack adequate human and financial resources and proper knowledge to address issues that hinder HC development. This is a cross-cutting bottleneck observed in education, health, and social protection, and it deeply affects service delivery and leads to poor outcomes. For instance, there is a lack of data and poor quality of school management and staff in the education sector, while the health workforce lacks proper skills to provide quality health care, adversely affecting service delivery in education and health.

Liberia's HC development is also hampered by demographic trends. A demographic dividend is the economic growth potential that can result from shifts in a population's age structure, mainly when the share of the working-age population is larger than that of the nonworking-age population, which is typically defined as those younger than 15 and older than 65 (United Nations Population Fund 2016). The greater the number of people who produce in relation to those who only consume, the greater the savings, which generates the potential for an increase in investment in HC accumulation. The current situation presents an opportunity for Liberia to take advantage of a demographic dividend and grow its HC and economy, but it also entails a considerable risk if this opportunity is not catalyzed with correct policies. The declining trend in Liberia's age dependency ratio provides a window of opportunity for the country to benefit from a large share of the population that can contribute to productivity. However, the ratio is still very high, hindering the accumulation of greater HC in the short term. Liberia's low investments in HC and low efficiency of HC-related expenditures risk a failure of harnessing the opportunities for a demographic dividend. The issues of low qualification of workers would continue if the education system failed to promote learning. Furthermore, without a significant decline in fertility, Liberia might face an ever-growing population base and ever-larger youth cohorts—with children further exposed to health risks, malnutrition, stunting, and lower public and private educational investments.

Liberia's poor HC outcomes reflect its low and inefficient spending on social sectors. Inadequate funding, the low prioritization of human development, and the paucity of substantial results obtained from these investments are major problems. An exacerbating factor is a recurring tendency to deviate from the allocated funds, with execution levels that tend to be lower than planned. In short, the country's spending on HC is challenged in terms of planning, resource availability, execution, and results for each dollar invested across the domains of education, health, social protection, and job creation. For instance, in recent years, public spending on education has been between 2 and 4 percent of the country's GDP, and its sectoral share of total government expenditure has ranged between 12 and 15 percent, well below Sub-Saharan Africa's average of 17 percent. Even so, recurrent expenditure accounts for a significant share of spending in the education sector. Similarly, Liberia's per capita spending on health of US$9.7 remains far below the average US$60 per capita recommended by the World Health Organization (WHO) for low-income countries.

Conclusion and Recommendations

Countries that invest in their people are better positioned to benefit from the changing global economy. They tend to alleviate poverty much more quickly. Liberia would be well-advised to refocus its policy and strategic dialogue, as well as its development narrative, on human capital. Both should emphasize the importance of empowering women (through child spacing and family planning, as well as curbing child marriage and early childbearing); investing in young children (to reduce under-five mortality and stunting); and increasing access to education, especially for overage children, while improving the quality of education throughout the system. This report suggests a need for stronger investments in people in Liberia.

The report also provides only broad directions for programs and policies, rather than specific recommendations. The government has already made some strides in investing in its people, but more can be done. Liberia should now move much more deliberately toward direct investments in high-impact programs on both the demand and supply sides, increase investments, and target resources to priority sectors to significantly improve the standard of living of all Liberians. This will require:

- Improving governance and building synergies among government agencies involved in human capital development.
- Improving the level and efficiency of social spending, especially education spending.
- Designing, adopting, and implementing a special program to eradicate overage education in Liberia.
- Investment in education statistics—education management information systems (EMIS)—to inform sector policies and interventions.
- Instituting regular learning outcome measurement aligned with international standards.
- Building and retaining capacity within the education and health workforce to enhance quality-of-service delivery in the education and health sectors.
- Harnessing demographic dividends through investments in skills development and health care, and instituting policies to slow fertility.å

All this can be done only if the country continues to ensure overall macroeconomic stability, underpinned by prudent monetary and fiscal policies, to foster growth and create an enabling environment for reform implementation.

References

Liberia Institute of Statistics and Geo-Information Services (LISGIS), Ministry of Health [Liberia], and ICF. 2021. Liberia Demographic and Health Survey 2019–20. Monrovia, Liberia and Rockville, Maryland, USA: Liberia Institute of Statistics and Geo-Information Services (LISGIS), Ministry of Health, and ICF.

Ministry of Health, Liberia. 2016. Investment Case for Reproductive, Maternal, Neonatal, Child, and Adolescent Health (2016–2020). https://www.globalfinancingfacility.org/sites/gff_new/files/Liberia-Investment-Case.pdf

Tsai, Carmelle, Camila B. Walters, John Sampson, Francis Kateh, and Mary P. Chang. 2017. "Pediatric Mortality in a Rural Tertiary Care Center in Liberia." *Children (Basel)* 4 (2): 8. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5332910/.

Tsimpo, Clarence, and Quentin Wodon. 2008. "Rice Prices and Poverty in Liberia." Policy Research Working Paper No. 4742, World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/6942 License: CC BY 3.0 IGO.

UNICEF (United Nations Children's Fund). 2020. Country Office Annual Report 2020: Liberia. New York: UNICEF. https://www.unicef.org/reports/country-regional-divisional-annual-reports-2020/Liberia.

United Nations, Department of Economic and Social Affairs, Population Division World Population Prospects 2019, Volume II: Demographic Profiles

United Nations Development Programme. 2020. Human Development Reports. https://hdr.undp.org/data-center/human-development-index#/indicies/HDI

United Nations Population Fund. 2016. The State of the World Population 2016. https://www.unfpa.org/swop-2016

World Bank. 2018. *Republic of Liberia from Growth to Development: Priorities for Sustainably Reducing Poverty and Achieving Middle-Income Status by 2030. Systematic Country Diagnostic. Washington, DC: World Bank*. https://openknowledge.worldbank.org/handle/10986/29880 License: CC BY 3.0 IGO.

World Bank. 2020. *The Human Capital Index 2020 Update: Human Capital in the Time of COVID-19.* Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/34432. License: CC BY 3.0 IGO.

World Bank. 2021a. *Liberia Human Capital Assessment: From Constraints to Opportunities.* Washington, DC: World Bank. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/330421637359900075/liberia-human-capital-assessment-from-constraints-to-opportunities.

World Bank. 2021b. *The Changing Wealth of Nations 2021: Managing Assets for the Future.* Washington, DC: World Bank. https://www.worldbank.org/en/publication/changing-wealth-of-nations.

World Bank. 2022a. Global Economic Prospects, January 2022. Washington, DC: World Bank. doi: 10.1596/978–1–4648–1758–8. License: Creative Commons Attribution CC BY 3.0 IGO.

World Bank Group. 2022b. *Macro Poverty Outlook: Country-by-Country Analysis and Projections for the Developing World* (English). Washington, DC: World Bank. http://documents.worldbank.org/curated/en/099743404222227821/IDU0110533700066b04d650b6be0c4ffced4f44

Annex

Table 2: Estimates of Liberia's Wealth (US$ millions)

Millions, constant 2018 USD	1995	2000	2005	2010	2015	2016	2017	2018
Total wealth	26,615	27,875	29,348	40,621	58,370	58,886	59,246	57,301
Produced capital	4,620	5,057	5,236	5,584	8,503	9,070	9,426	9,081
Human capital	9,233	15,872	11,162	14,257	21,767	22,163	22,962	24,054
Natural capital	17,240	14,100	20,231	20,676	28,234	27,955	27,376	24,742
Renewable natural resources	17,193	14,078	20,229	20,609	23,115	23,495	23,966	23,084
Forests, timber	5,233	5,518	10,684	10,913	13,656	14,467	15,075	14,488
Forests, ecosystem services	9,260	5,327	4,862	4,911	5,038	4,961	4,995	4,987
Mangroves	34	36	37	39	74	81	88	95
Fisheries	82	93	138	67	58	57	50	61
Protected areas	24	23	34	44	48	44	65	60
Cropland	2,249	2,794	4,110	4,235	3,847	3,523	3,361	3,088
Pastureland	310	288	364	400	395	363	332	305
Nonrenewables	47	22	3	67	5,119	4,460	3,410	1,659
Oil	0	0	0	0	0	0	0	0
Natural gas	0	0	0	0	0	0	0	..
Coal	0	0	0	0	0	0	0	0
Metals and minerals	47	22	3	67	5,119	4,460	3,410	1,659
Net foreign assets**	–4,477.6	–7,155	–7,282	103	–133	–303	–518	–577
Population (millions)	2.045	2.8	3.2	3.9	4.5	4.6	4.7	4.82

Source: World Bank, CWON (2021).

** *Net* Foreign Assets can be negative or positive. Percent change is only calculated if a country remains either a net creditor or net debtor between 1995 and 2018.

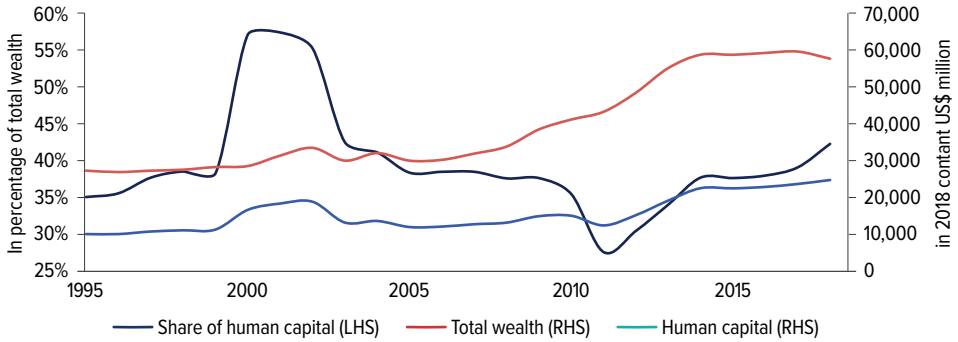
Table 3: Estimates of Liberia's Wealth per capita (US$)

Per Capita, constant 2018 USD	1995	2000	2005	2010	2015	2016	2017	2018
Total wealth	13,017	9,786	9,120	10,439	13,052	12,838	12,600	11,891
Produced capital	2,260	1,775	1,627	1,435	1,901	1,977	2,005	1,884
Human capital	4,515	5,572	3,469	3,664	4,867	4,832	4,883	4,991
Natural capital	8,432	4,950	6,287	5,313	6,313	6,095	5,822	5,134
Renewable natural resources	8,409	4,942	6,286	5,296	5,169	5,122	5,097	4,790
Forests, timber	2,559	1,937	3,320	2,804	3,053	3,154	3,206	3,006
Forests, ecosystem services	4,529	1,870	1,511	1,262	1,127	1,081	1,062	1,035
Mangroves	17	12	12	10	17	18	19	20
Fisheries	40	33	43	17	13	12	11	13
Protected areas	12	8	11	11	11	9	14	12
Cropland	1,100	981	1,277	1,088	860	768	715	641
Pastureland	152	101	113	103	88	79	71	63
Sub-soil assets	23	8	1	17	1,145	972	725	344
Oil	0	0	0	0	0	0	0	0
Natural gas	0	0	0	0	0	0	0	..
Coal	0	0	0	0	0	0	0	0
Metals and minerals	23	8	1	17	1,145	972	725	344
Net foreign assets**	–2,190	–2,512	–2,263	27	–30	–66	–110	–120

Source: World Bank, CWON (2021).

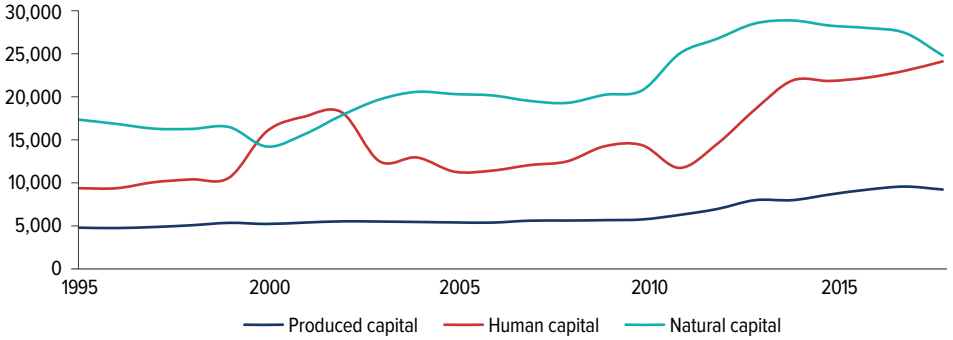
** Net Foreign Assets can be negative or positive. Percent change is only calculated if a country remains either a net creditor or net debtor between 1995 and 2018.

Figure 31: Human Capital and Human Capital per capita (1995–2018)



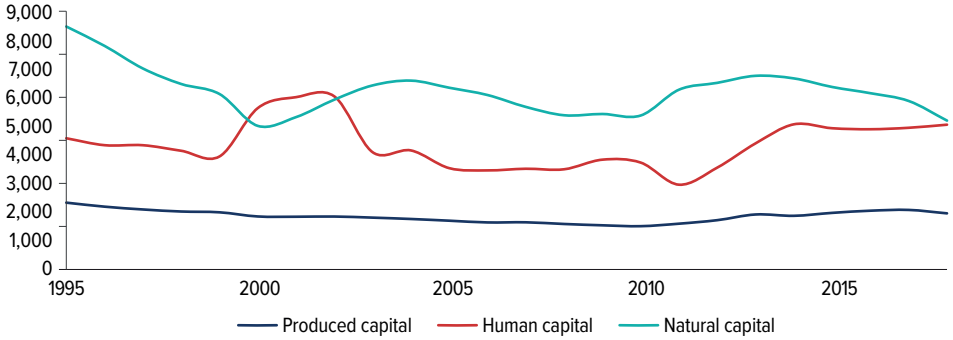
Source: World Bank, CWON (2021).

Figure 32: Produced, Human, and Natural Capital in Liberia (constant 2018 billion of US$)



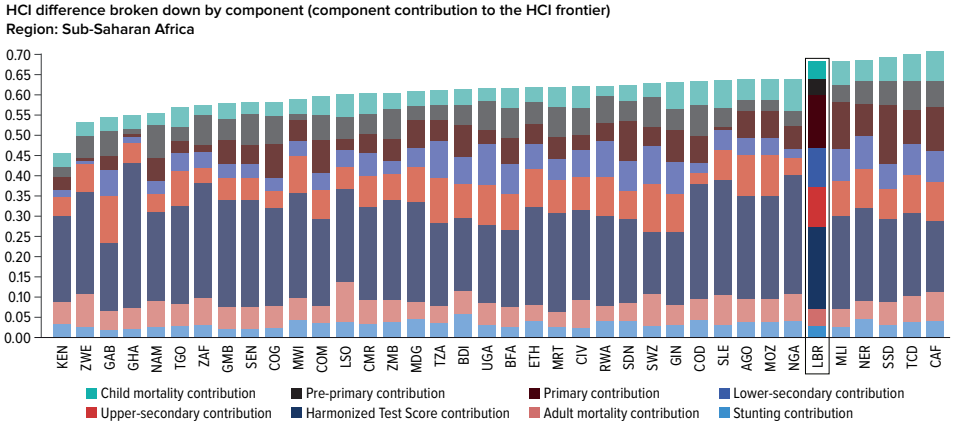
Source: World Bank, CWON (2021).

Figure 33: Produced, Human, and Natural Capital in Liberia per capita (constant 2018 US$)



Source: World Bank, CWON (2021).

Figure 34: Component Contribution to HCI Frontier by Countries in SSA



Source: Azevedo and Corral (2021), unpublished manuscript.