INSTITUTE FOR SECURITY STUDIES

Great Zimbabwe

Alternative prospects to 2040

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This report explores Zimbabwe's prospects to 2040 under three scenarios. The Current Path presents Zimbabwe's development trajectory given a continuation of current policies and practices, while two alternative scenarios, Great Zimbabwe and Things Fall Apart, help frame the uncertainty around the country's future. Great Zimbabwe is an ambitious but reasonable scenario that shows the kind of development Zimbabwe may experience if pro-growth policies are implemented. In Things Fall Apart, insecurity and low-level conflict spread and human development outcomes decline dramatically.

Key findings

- Zimbabweans have endured recurring economic and political crises and a dramatic deterioration of livelihoods that have intensified sharply since 2000.
- These crises have been catastrophic for human development and caused humanitarian emergencies across the country.
- Zimbabwe has the seventh highest undernourishment rate in the world. On its current trajectory, it will still be among the top 10 by 2030 and the top 15 by 2040.
- Zimbabwe benefits from a comparatively well-educated and growing working-age population that is enthusiastic about democracy – an invaluable resource as the government searches for solid political and economic footing.
- Zimbabwe could potentially benefit from a demographic dividend by the mid-2030s, but only if the provision of basic services, healthcare and jobs improves.
- Zimbabwe's dependence on food imports is projected to worsen dramatically. On its current trajectory, Zimbabwe will be dependent on imports for more than half the food needed to feed the population by 2040.
- Making the agricultural sector more efficient is the best strategy for improving human development outcomes and growing the economy. Given the right policies, the agricultural sector has the potential to create food security, improve health outcomes and bolster development.

Recommendations

The Government of Zimbabwe needs to:

- Make land titles transferable to unlock investment in the agricultural sector and improve productivity.
- Take advantage of the country's arable land and renewable internal water resources by rehabilitating damaged irrigation schemes and equipping more land for irrigation.
- Partner with the International Monetary Fund and consult with the broader public to implement the recommendations due from its Staff-Monitored Program in January 2020.
- Respond positively to the general enthusiasm for democracy by committing to substantive democratic accountability or risk heightened levels of social unrest or internal conflict.
- Improve economic freedom and attract investment by decreasing the high bureaucratic costs and administrative requirements of doing business.
- Invest and correct the causes of the low transition rate from Form 4 to Form 5 or risk significant declines in educational outcomes – one of Zimbabwe's greatest resources.
- Allow local, regional and international monitoring of elections.

Neighbours and the international community should:

- Closely monitor the commitment of the Government of Zimbabwe to the agreements as reflected in the IMF Staff-Monitored Program.
- Agree to long-term election observation that includes the voter registration and election process.
- Reward progress in Zimbabwe with development assistance and diplomatic support.

Introduction

Zimbabweans have suffered recurring economic and political crises and a dramatic deterioration of livelihoods that have intensified sharply since the turn of the century. These crises have been catastrophic for human development and triggered humanitarian emergencies in many parts of the country.

This deterioration was not generally foreseen. After achieving independence in 1980, the Government of Zimbabwe (GoZ) introduced a minimum wage and tripled spending on education and health. Expenditure on public-sector employment increased exponentially, however, as the size of the civil service (and debt) steadily ballooned and squeezed out more productive investments.

The GoZ eventually embarked on a poorly designed and executed Economic Structural Adjustment Programme that included a 40% devaluation of the Zimbabwean dollar and the removal of price and wage controls, and introduced fees for previously free education and health services.

Greater austerity had mixed results: inflation remained high as did the budget deficit. More competition (particularly from South Africa) forced many businesses to close and Zimbabwe's manufacturing sector to contract.[1] And during three years of severe drought (1992, 1993 and 1995), average growth rates were some four percentage points below 1991, 1994 and 1996 while a global recession in 1991 and 1992 reduced raw material prices and export demand.[2]

In November 1997, the GoZ agreed to a massive unbudgeted payout to war veterans, causing the Zimbabwean dollar to plunge by 70% and inflation to spiral. The following year, the Zimbabwean army entered the war in the Democratic Republic of the Congo, placing additional strain on an already burgeoning budget deficit.[3]

Amid a deteriorating situation, the 2008 parliamentary and presidential elections precipitated a political and economic crisis. The candidate for the Movement for Democratic Change (MDC), Morgan Tsvangirai, won the first round for the presidency, but in the face of widespread violence, withdrew ahead of the second-round run-off on 27 June. Tsvangirai thus ceded the victory to Robert Mugabe and the Zimbabwe African National Union-Patriotic Front (ZANU-PF), which had governed since 1980. The subsequent political crisis led to external mediation efforts and an uncomfortable marriage of convenience in the form of the Government of National Unity (GNU), which included the MDC.

Shortly after, hyperinflation forced the government to abandon the Zimbabwean dollar. Foreign currencies – particularly the US dollar and the South African rand – were now to be used as legal tender.

The termination of the GNU in 2013 sparked yet another economic crisis. Government debt surged and the ZANU-PF government introduced a 'new Zimbabwean dollar' pegged against the US dollar. With limited reserves, it almost immediately started trading at a significant discount to the US dollar. Money supply exploded and inflation increased to a monthly rate of 77%.[4] Monetary stability has yet to be achieved.

> Zimbabweans have suffered recurring economic and political crises and a dramatic deterioration of livelihoods

In November 2017, vice president Emmerson Mnangagwa assumed the presidency in a surprise ouster of Mugabe and has since championed that Zimbabwe is now 'open for business'. In spite of the raft of painful reforms that followed, Zimbabwe is still in the throes of an economic and developmental crisis.

In light of these challenging decades, what kind of progress in human development can the country expect to achieve over the next 20 years? How can Zimbabwe improve its prospects for development?

The GoZ has put forth various development plans, all of which are based on the headline Vision 2030 goal of transforming Zimbabwe into an upper-middle-income economy by 2030.[5] The latest is the Transitional Stabilisation Programme (TSP), which runs until December 2020, when the first of Zimbabwe's two five-year development strategies will begin. Considered 'a comprehensive stabilization and reform effort' by the International Monetary Fund (IMF),[6] the TSP aims to restore macroeconomic stability, make the economy

private-sector-led, fix infrastructure and stimulate economic growth with a number of 'quick wins'.[7]

On its current trajectory, Zimbabwe will not reach upper-middle-income status by 2030. The current political and economic situation offers a challenging environment in which to achieve the GoZ's ambitious development goals, and Zimbabwe would need to more than triple its gross national income per capita by 2030 in order to reach upper-middle-income status.[8]

However, Zimbabwe benefits from a set of factors that, if harnessed, could set the country on a higher growth path. Doing so would require the GoZ to depart from its historically state-centred approach to developing the country, and could result in dramatic improvements in human development and economic outcomes.

Purpose and scope

This report explores Zimbabwe's development prospects to 2040. It reviews the underlying structural trends that are shaping Zimbabwe's development and how they may change over the next two decades, and offers two alternative scenarios for the country's future.

The report uses the International Futures (IFs) model, an integrated assessment model that projects hundreds of interacting variables across human, social and natural systems for 186 countries to the year 2100 (Box 1).

The report first assesses a baseline trajectory of Zimbabwe's development, referred to as the **Current Path** (Box 1). The Current Path illustrates how economic and human development are likely to unfold in Zimbabwe to 2040 and informs the design of the alternative scenarios and recommendations for policymakers.

In addition to the Current Path, this report presents two alternative scenarios for Zimbabwe's development: **Great Zimbabwe** and **Things Fall Apart**. Great Zimbabwe is an ambitious but reasonable scenario that shows the kind of development Zimbabwe could experience if pro-growth policies were put in place. Conversely, in Things Fall Apart, insecurity and low-level conflict spread and push the country to the brink of civil war.

> On its current trajectory, Zimbabwe will not reach upper-middle-income status by 2030

A concluding section offers recommendations primarily intended for the GoZ, but that also may be useful for its partners and neighbours.

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Box 1: The International Futures (IFs) model and the Current Path scenario

IFs is an integrated assessment model hosted and developed by the Frederick S Pardee Center for International Futures at the Josef Korbel School at the University of Denver. The IFs forecasting platform blends modelling techniques from econometrics and systems dynamics and endogenises relationships across key systems including demographics, health, agriculture, education, economics, infrastructure, energy and governance.

IFs helps users to better understand how the world around us is unfolding and allows us to identify potential points of intervention to shape future development. The model leverages its repository of over 4 500 historical data series to identify trends and produce a Current Path scenario from 2015 (the current base year). The Current Path is a dynamic scenario that represents a continuation of current policy choices and technological advancements. It assumes no major shocks or catastrophes but moves beyond a linear extrapolation of past and current trends by using our available knowledge about how systems interact to produce a dynamic forecast.

IFs is free and open-source and is available for download at www.du.edu/ifs. Extensive documentation on the IFs model, including its basic assumptions, is available through the IFs help system at www.du.edu/ifs/help/.

Box 2: Project notes

- All GDP values are at market exchange rates, while all GDP per capita values are at purchasing power parity.
- All US$ values are in 2018 constant dollars.
- All poverty threshold values are in 2011 constant dollars at purchasing power parity.
- The term 'currently' indicates the projected 2018 value from IFs with a 2015 base year.
- When comparing Zimbabwe to lower-middle-income countries in Africa and globally, we exclude Zimbabwe, hence the use of 'other lower-middle-income Africa' and 'other lower-middle-income'.
- 'Southern Africa' comprises Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa and Swaziland.

(DFID) of the United Kingdom and the Swedish International Development Cooperation Agency (SIDA). It was implemented by the African Futures and Innovation (AFI) programme at the Pretoria office of the Institute for Security Studies (ISS) and included three review workshops to comment on the findings and data held in Pretoria and Harare during the first half of 2019.

Current Path prospects

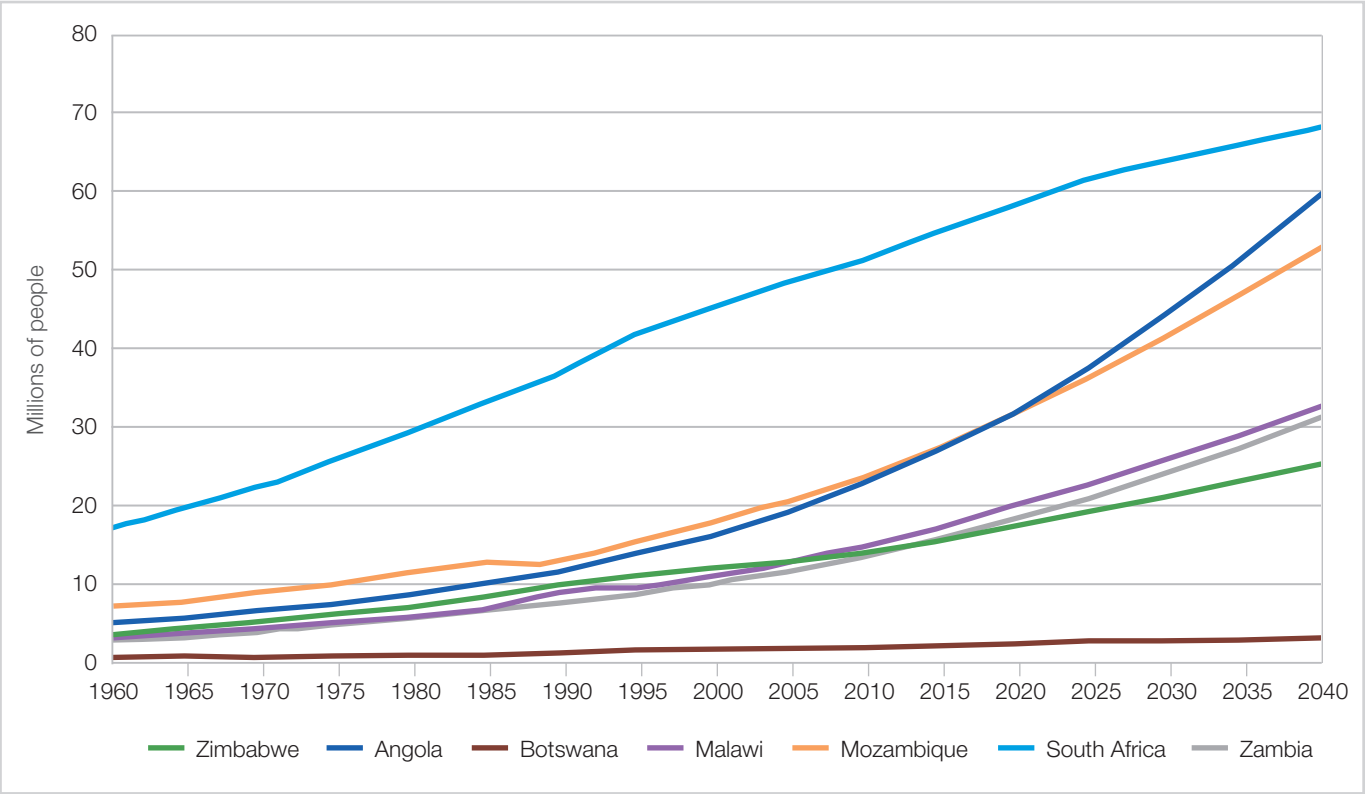
This section presents Zimbabwe's historical and projected trends along the Current Path out to 2040 in the following sectors: demographics, education, health, economics, migration and remittances, agriculture, climate change and infrastructure. It shows how Zimbabwe arrived at where it is today and the kind of development it can expect to achieve in these sectors given no major changes in policy or technological advancement or catastrophes (Box 1).

Demographics

Home to nearly 17 million people in 2018, Zimbabwe's population is nearly as large as that of neighbouring Zambia (estimated at 17.6 million) and less than one third the size of South Africa (estimated at 57 million) (Figure 1). Its population has grown more than five-fold since 1950, from only 2.8 million people.[9]

Map of Southern Africa

Figure 1: Population



Source: Data from United Nations Population Division (UNPD); forecast from IFs v 7.36

Zimbabwe's population is projected to reach approximately 26 million by 2040, representing a more than 50% increase over 2018.[10] Zambia and Malawi are projected to grow slightly more rapidly, while Angola and Mozambique are expected to continue experiencing dramatic population growth. On the Current Path, the respective populations of Mozambique and Angola will each be more than double that of Zimbabwe by 2040.

Zimbabwe's youthful population will continue to constrain economic growth rates and pose a significant challenge to political stability for the next 15 to 20 years. Presently, half of the population is under the age of 19, while 45% of the population is under the age of 15. This translates into only 13 working-age people (aged 15–64) for every 10 dependants, which is fairly average for Southern Africa.

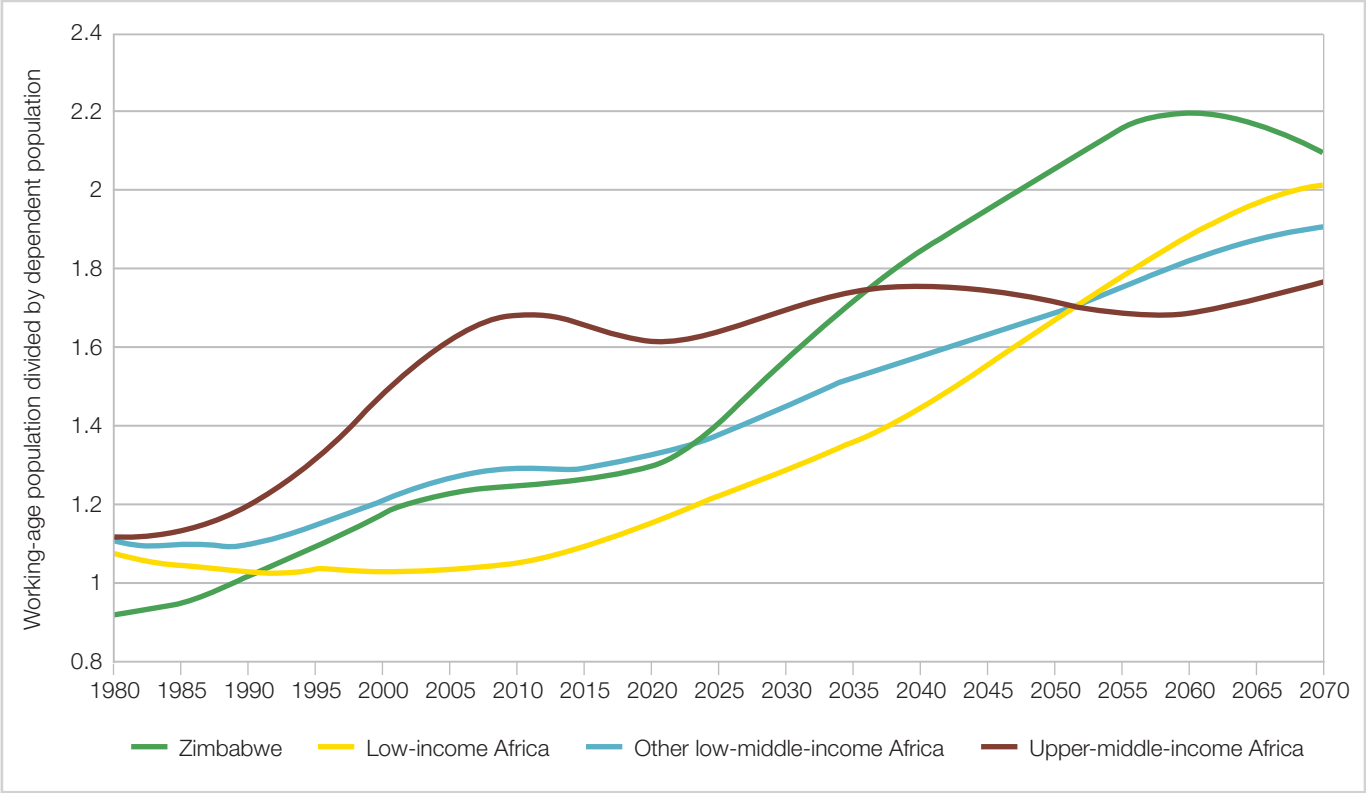
This low ratio is, however, improving. By 2040, Zimbabwe is projected to have nearly 19 working-age people for every 10 dependants. This ratio is expected to peak in 2060 at 22 working-age people for every 10 dependants – several years ahead of its African low-income and lower-middle-income peers.

This ratio is important for economic growth. A large working-age population relative to the dependent population generally boosts economic growth at low levels of development and could, towards the end of the 2040 forecast horizon, provide a substantive demographic dividend. However, the existence of a favourable age structure does not automatically generate economic growth. People must also have access to clean water and sanitation facilities, sufficient food and quality education and jobs.

The health, infrastructure and economic data and forecasts reviewed in this report suggest that on its current trajectory, Zimbabwe may not benefit from the economic benefits of its demographic dividend. Chronic food insecurity has resulted in high rates of hunger and malnutrition and rather than more rapid growth, Zimbabwe may reap only the negative consequences of its youthful population structure such as the instability often associated with a large youth bulge.

In addition to access to modern contraceptives and improved basic healthcare, improving the accessibility and quality of education for girls and women is among

Figure 2: Demographic dividend (working-age population divided by the dependent population)



Source: Data from UNPD; forecast from IFs v 7.36

the most widely cited strategies in countries with large dependent youth populations to accelerate the demographic transition.

This is because the higher a woman's level of educational attainment, the fewer children she is likely to have. And, in general, fewer children per woman and delayed childbearing and marriage translates into more resources available for education and health per child.[11]

> Poverty remains a pervasive and chronic issue in Zimbabwe, especially in the rural provinces

Zimbabwe is also expected to remain a predominantly rural country to 2040.[12] At present, an estimated seven out of 10 Zimbabweans live in rural areas – roughly five percentage points more rural than would be expected based on its level of development (measured as GDP per capita).[13] In fact, Zimbabwe appears to have abruptly stopped urbanising just after the turn of the century, when about two-thirds of the population lived in rural areas.

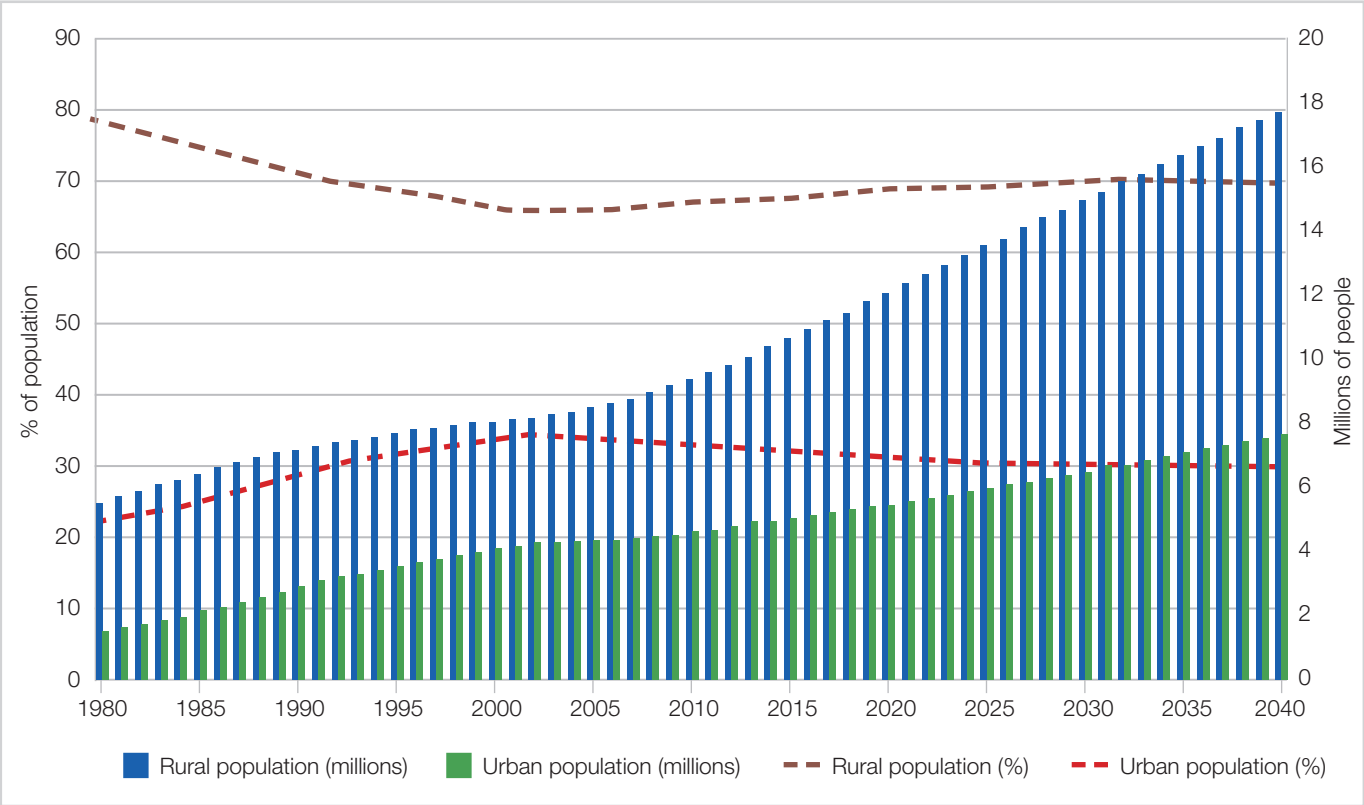
The counter-urbanisation trend reflected in Figure 3, however, simplifies multiple interacting dynamics. Urban-rural migration has indeed taken place in Zimbabwe, notably as a result of disruptive policies such as the 2000 Fast Track Land Reform Programme and Operation Murambatsvina five years later.

However, some researchers attribute the scale of Zimbabwe's stalled urbanisation to the continued use of old delineations of urban, peri-urban and rural areas, asserting that sprawling populations around cities, currently classified as rural, should be considered urban.[14] Thus, 'boundaries in Zimbabwe have remained static while urban sprawl and urban populations in rural jurisdictions have expanded'.[15]

Urbanisation, if deliberate and planned, could provide Zimbabwe with many benefits including the potentially more rapid (and less costly) roll-out of services such as healthcare. However, urban infrastructure urgently needs to be upgraded given the health risks that arise from these relatively densely populated areas.

Poverty remains a pervasive and chronic issue in Zimbabwe, especially in the rural provinces.[16]

Figure 3: Rural and urban populations



Source: Data from UNPD; forecast from IFs v 7.36

IFs estimates that approximately one out of five Zimbabweans (3.2 million people) live on less than the international extreme poverty line of US$1.90 per day (Figure 4). Two out of five Zimbabweans (7.3 million) are living on less than US$3.20, the extreme poverty line for lower-middle-income countries.[17] Although this poverty rate of roughly 40% is projected to decline to around 30% by 2040, more than seven million people will be living in extreme poverty by 2040.

A 2015 study using a nationalised household consumption-based poverty measure found that of all the provinces, Matabeleland North had the highest poverty rate of 85.7%, while in the other rural provinces it ranged from 65% to 76%.[18]

Education

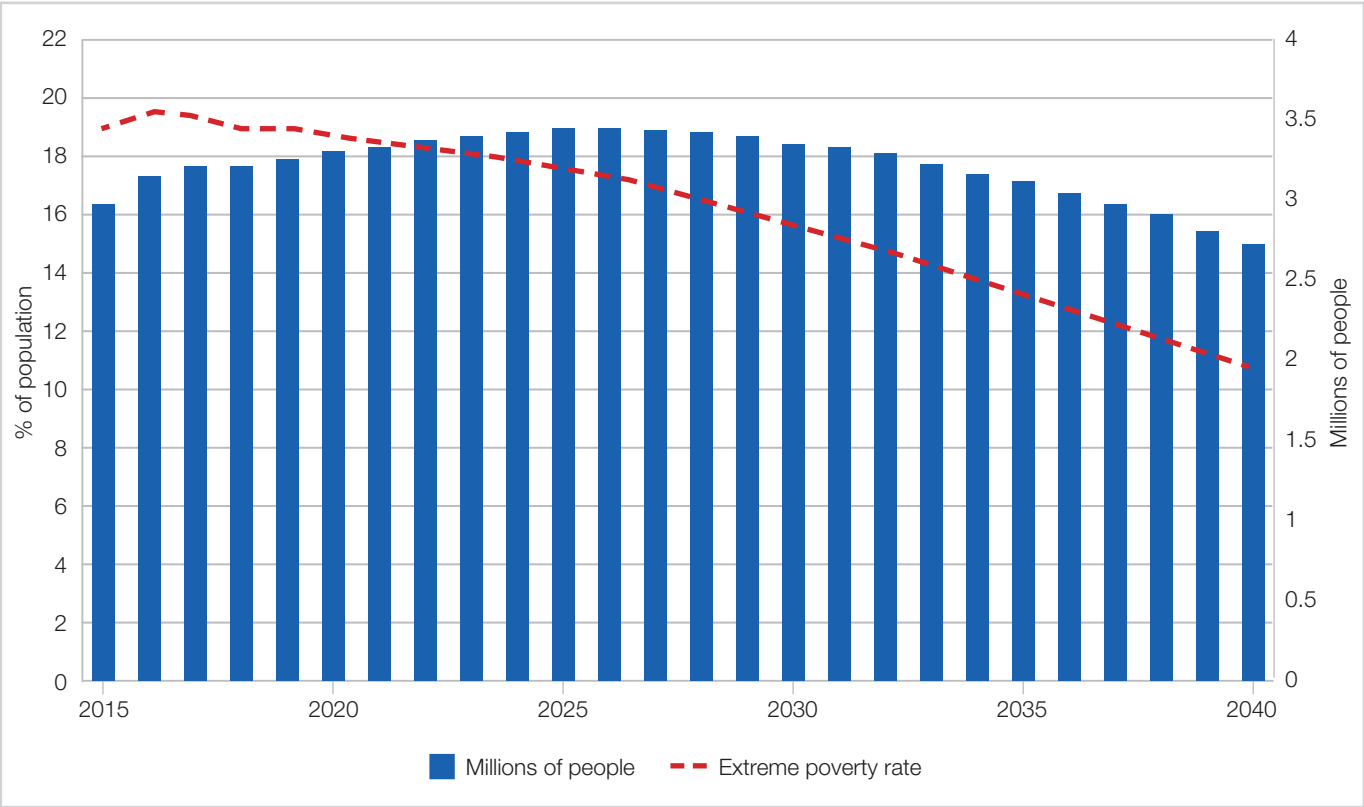
Education offers a bright but fragile hope for Zimbabwe's development. In 2018, the average Zimbabwean adult (15 years and older) had completed eight years of education – 1.4 years more than his/her counterpart in other lower-middle-income African countries.

In the Southern African Development Community (SADC), only Botswana, South Africa, the Seychelles and Mauritius (all upper-middle-income or high-income economies with GDP per capita between six and 14 times larger than that of Zimbabwe) currently have more educated populations.[19] Globally, other countries with roughly eight years of education in the adult population include Portugal and Turkey, where GDP per capita is roughly 14 and 12 times higher, respectively.

> In SADC, only Botswana, South Africa, the Seychelles and Mauritius have more educated populations than Zimbabwe

The Zimbabwe National Statistics Agency (ZimStat) estimates that Zimbabwe had a literacy rate of 94% in 2017[20] – a bit higher than the IFs estimate of 90%, which would make it the sixth highest in Africa and markedly higher than the average for upper-middle-income Africa (86%). About 12% of Zimbabwe's population of 15 and

Figure 4: Extreme poverty (US$1.90 per person per day)



Source: Data from the World Bank; forecast from IFs v 7.36

above has either no education or incomplete primary education, which is excellent when compared to other lower-middle-income Africa (30%).

However, problems seem to be arising at the transition from the Ordinary Level cycle to the Advanced Level cycle and at graduation from Form 6, the last year of the Advanced Level cycle. Table 1 shows learners' participation in the education system in Zimbabwe and in comparison groups.

Note that enrolment and graduation rates are gross rates, meaning that they measure the total number of students (regardless of age) who have enrolled or graduated as a percentage of the age-appropriate population, and thus may exceed 100% (Box 3).

Table 1 shows that Zimbabwe's primary completion rate of 94.2% is higher than the global primary completion rate of 91.3%. Participation in the Ordinary Level cycle, or lower secondary, is also better than in low-income African countries but below lower-middle-income Africa and the global average.

Nearly all learners (94%) who enrol in Form 1 continue all the way through to the beginning of Form 4 (the last year of lower secondary, not shown in the table), but the majority do not pass the Ordinary Level exams, which are required to graduate. This helps to explain why only 23% of students who enrol in Form 4 proceed to Advanced Level cycle (upper secondary school).

This concerning lower-to-upper secondary transition rate reflects a number of dynamics. First, Zimbabwe has for years been documenting low pass rates of the Ordinary Level exams, estimated at under 30% in 2017.[21] A student who fails may be ineligible to proceed to either the Advanced Level cycle or to the types of tertiary institutions that do not require an upper secondary education (e.g., agricultural, vocational, polytechnic and teachers' colleges).

Two additional factors cited by members of the Ministry of Education are that many parents cannot afford the fees needed for the Advanced Level cycle and that lower secondary schools outnumber upper secondary schools.[22]

Box 3: Education in IFs and definitions[23]

In IFs, education is conceptualised as a pipeline in which learners steadily progress from primary to secondary and all the way to tertiary level (i.e., completion of one level enables transition to the subsequent level). The more learners a country can enrol in primary school, the larger the pool of potential learners who can graduate and transition to secondary, and potentially tertiary, studies.

Gross enrolment rate: The number of students enrolled in a given level of education, regardless of age, expressed as a percentage of the official school-age population corresponding to the same level of education.

Completion rate: The number of people in the relevant age group who have completed the last grade of the given level of education, as a percentage of the population at the theoretical graduation age for the given level of education.

Gross graduation rate: The number of graduates who have completed the last grade of a given level of education, regardless of age, as a percentage of the population at the theoretical graduation age for the given level of education.

Transition rate: The number of students admitted to the first grade of a higher level of education (such as lower secondary) in a given year, expressed as a percentage of the number of students enrolled in the final grade of the lower level of education in the previous year (such as primary in this example).

Despite these issues, the Current Path forecasts of educational attainment are positive. The average number of years of education among the population 15 years and older is expected to increase from eight years in 2018 to 8.6 years in 2030 and just over nine years in 2040. And overall, a greater portion of Zimbabweans will attain higher levels of education in 2040 than in 2018. Figure 5 shows the shares of the population that are expected to complete primary, secondary and tertiary school.

Zimbabwe has also improved gender parity significantly. In 1980, only 91 female learners for every 100 male learners enrolled in primary school; only 76 female learners per every 100 male learners enrolled in secondary school; and only 50 female learners per every

Table 1: Education outcomes, 2015

Country/region	Primary (Grades 1–7)		Lower secondary (Ordinary Level/ Forms 1–4)		Upper secondary (Advanced Level/ Forms 5 and 6)		Tertiary	
	Enrolment	Completion*	Enrolment	Graduation	Transition	Graduation	Enrolment	Graduation
Zimbabwe	99.9%	94.2%	68.1%	55.4%	23%	12.6%**	8.4%	1.1%
Low-income Africa	102.1%	48.3%	45%	31.3%	73.9%	15.4%	5.9%	5.9%
Other lower-middle-income Africa	104.5%	80.2%	74.6%	56.1%	86.5%	45.4%	17.2%	12.2%
World	105.4%	91.4%	91%	76.8%	91.6%	56.2%	38.8%	29.4%

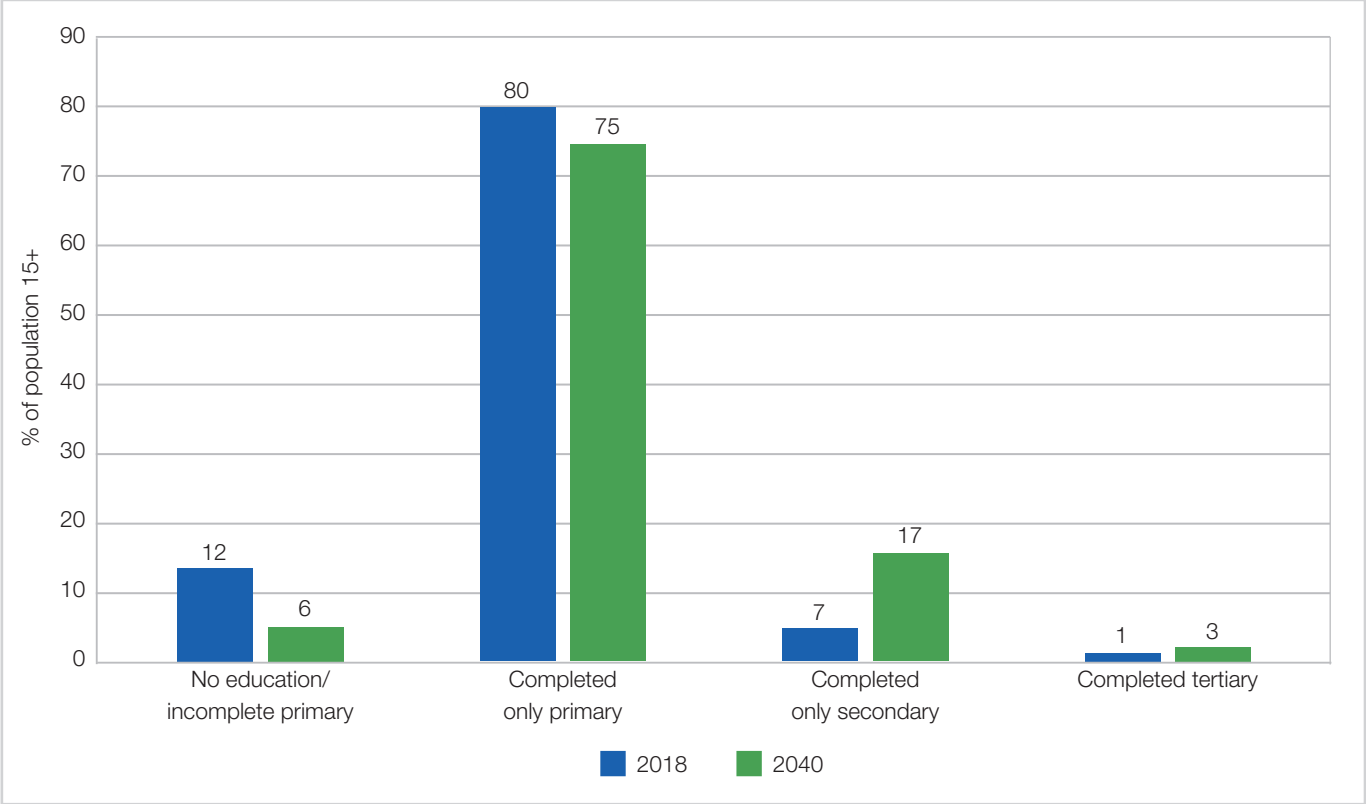
Source: Data from UNESCO Institute for Statistics and ZimStat

Note: Cells are shaded red, orange, yellow, light green or dark green based on how they compare with the other values in the column.

* Completion rate is used rather than graduation rate because there are no reliable data sources for primary graduation rates. Completion and graduation rates are sufficiently similar to use them interchangeably in this context.

** This is the completion rate, as reliable data was not available for Zimbabwe's upper secondary graduation rate.

Figure 5: Level of educational attainment, 2018 and 2040



Source: Data from Barro-Lee; forecast from IFs v 7.36

100 male learners enrolled in tertiary school.[24] Presently, Zimbabwe has achieved gender parity in primary and secondary enrolment and reached a ratio of 89 to 100 for tertiary school enrolment.

With high levels of skilled outward migration, Zimbabwe's ratio of qualified teachers to students has steadily declined over time, an important contributor to the recent decline in the quality of education outcomes in the country. The trend is compounded by underinvestment, poor infrastructure, corruption and low morale.[25]

Following the introduction of free compulsory primary and secondary education after independence in 1980, Zimbabwe's education system has been a source of pride, but has endured multiple challenges owing to economic, political and monetary crises, and now appears to be on a downward trend.

Following the 2008 economic crisis, teachers went on strike for an entire year; 94% of rural schools closed and those that remained open had an average 20% attendance rate.[26] Absenteeism is rife and according to the Progressive Teachers Union of Zimbabwe, many teachers have left the country, emigrating mostly to Botswana, South Africa and Namibia.[27] The crisis continues since Zimbabwe's cash shortage has plunged the country into financial disarray and teachers are demanding pay in US dollars.[28]

Health

The HIV/AIDS epidemic has had devastating consequences for health in Zimbabwe, its impact clear across most health indicators. Because the effects of the epidemic are long-term, the country is still lagging behind its regional and income peers that were less affected by the epidemic.

Its impact is most evident in Zimbabwe's historical life expectancy. In 1980, Zimbabwe's life expectancy of 59 years far exceeded the average life expectancy in low-income African and other lower-middle-income African countries.

East Asia and the Pacific, meanwhile, already had an average life expectancy of 65 years at that time, having made very rapid progress in the preceding two decades.[29] Just 20 years prior, in 1960, Zimbabweans had an

average life expectancy two years longer than that of East Asia and the Pacific.

From the beginning of the epidemic in the mid-1980s to 2000, Zimbabwe suffered the highest HIV/AIDS death rate in the world (Figure 7). In 1985, average life expectancy began to decline, reaching a low of 46 years (among the lowest in the world) in 2000 before beginning to recover, thanks in part to the establishment of HIV counselling centres in 1999.[30]

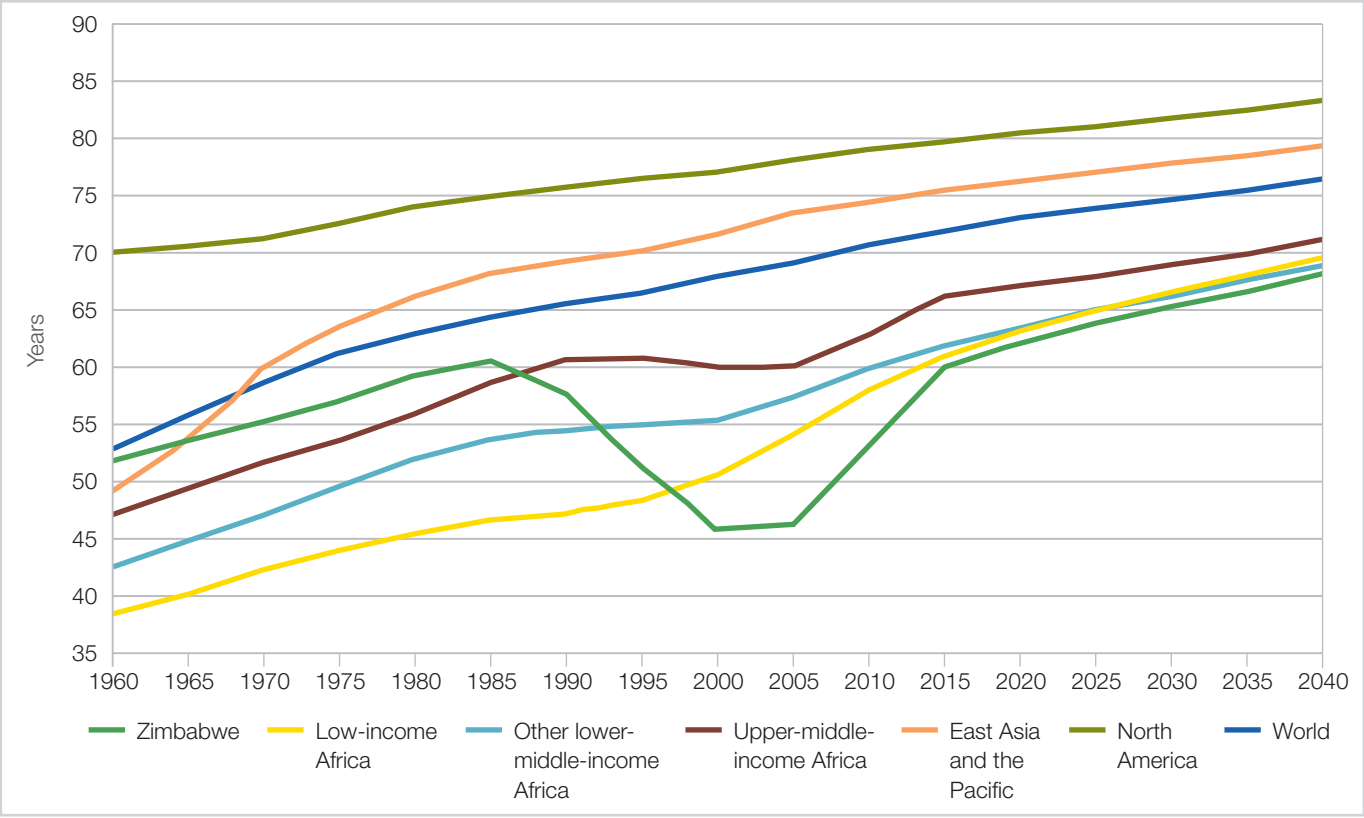
> Life expectancy in Zimbabwe is projected to improve at a similar rate to low-income and lower-middle-income Africa in the coming decades

Zimbabwe's current estimated life expectancy of 61 is roughly on a par with low-income and other lower-middle-income countries in Africa. However, the average life expectancy of East Asia and the Pacific has since soared to 76 years, while that of North America – the region with the highest average life expectancy globally – is 79 years. Life expectancy in Zimbabwe is projected to improve at a similar rate to low-income and lower-middle-income Africa in the coming decades, reaching 68 years by 2040.

The HIV/AIDS epidemic also contributed to a rise in infant mortality.[31] Historically, Zimbabwe has had lower infant mortality rates than its regional and income peers (Figure 8). Infant mortality is an important indicator of the health of a population and the quality, availability and accessibility of healthcare and medical technology.[32] From 1960 to 1990, the infant mortality rate declined from 100 to 59 deaths per 1 000 live births, coinciding with a reduction in the global average infant mortality rate over this period. Over this same period, the average infant mortality rates in the rest of Southern Africa and in other lower-middle-income African countries were substantially higher, though also declining.

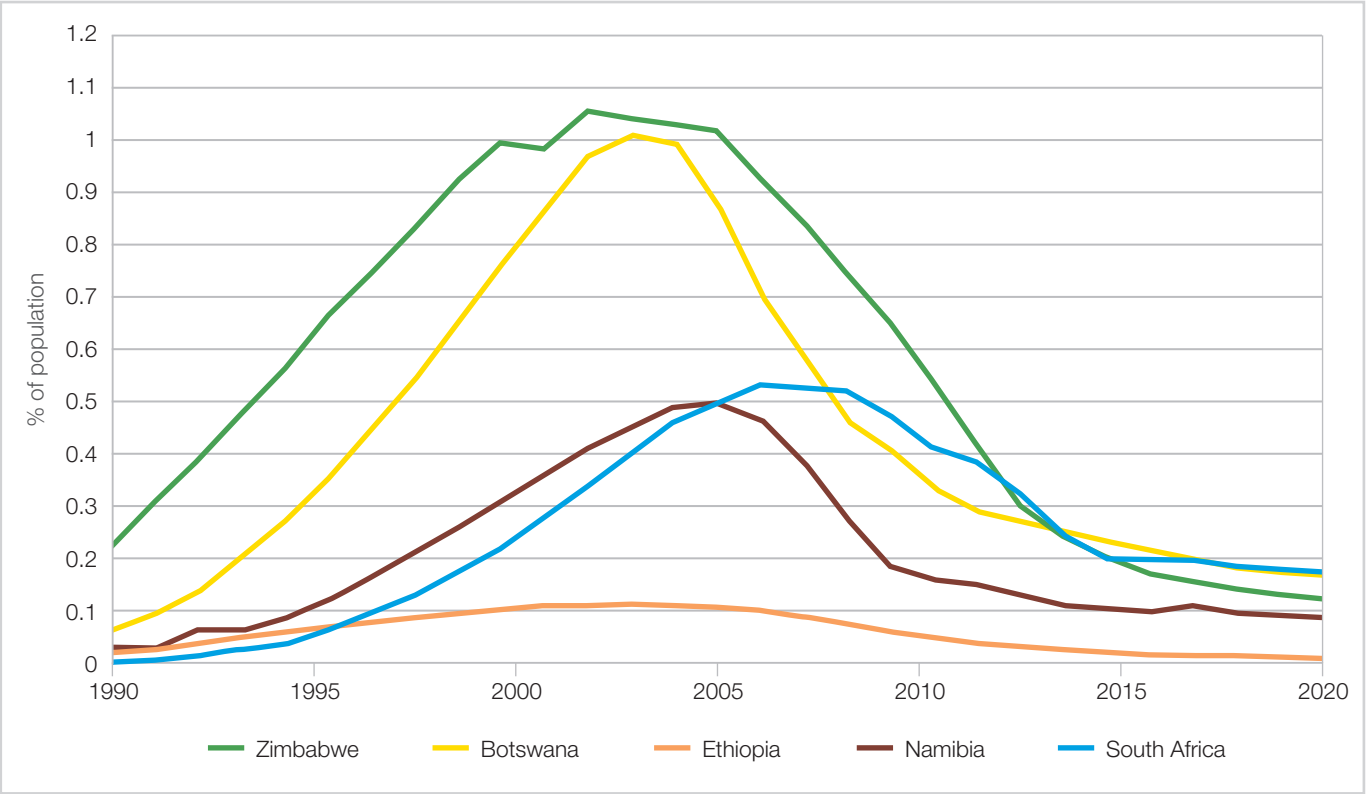
But from 1990 until 2000, the infant mortality rate rose to 66 deaths per 1 000 live births before beginning to slowly improve. IFs estimates that in 2018, infant mortality was 43 per 1 000 live births – the 25th highest infant mortality rate in the world.

Figure 6: Life expectancy at birth



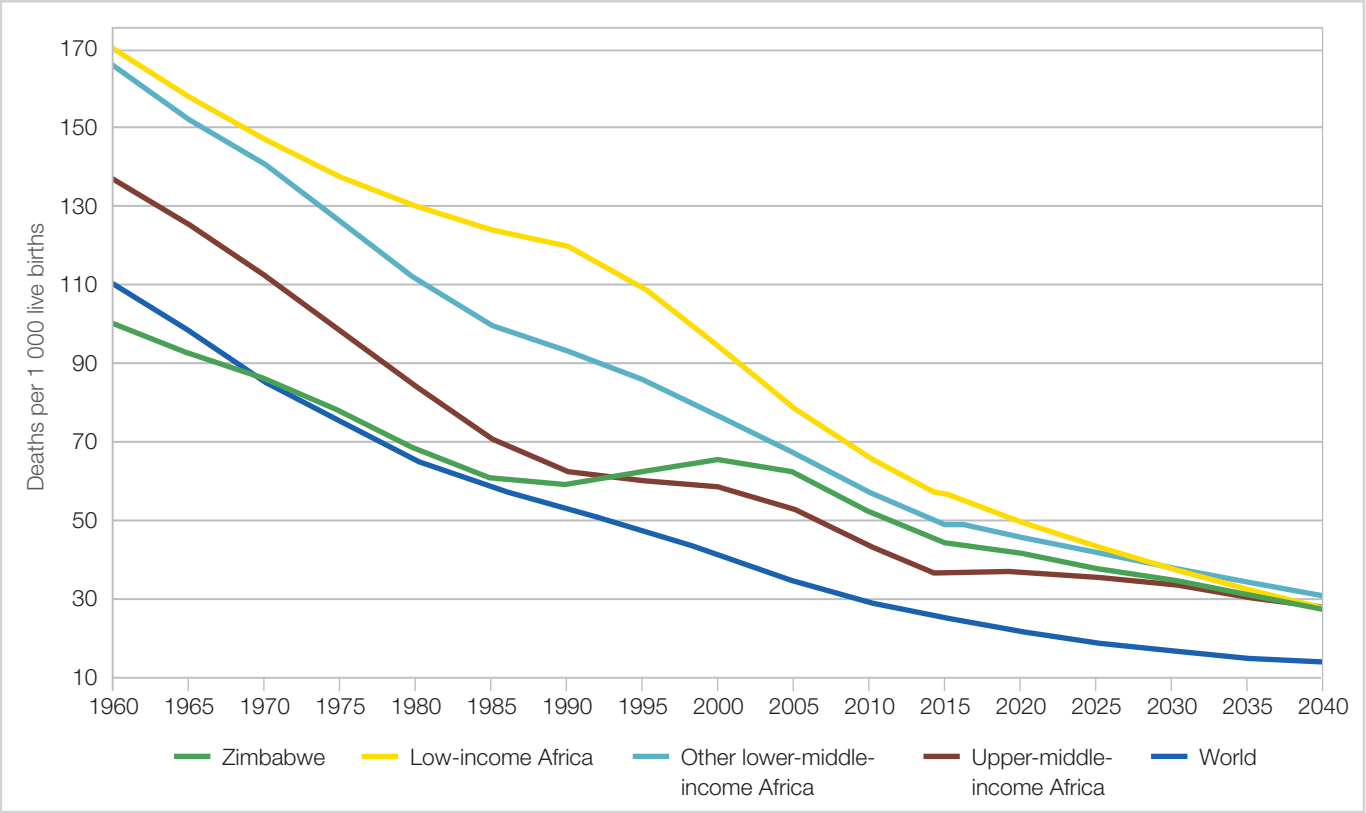
Source: Data from UNPD; forecast from IFs v 7.36

Figure 7: AIDS deaths rate



Source: Data from UNAIDS/World Health Organization (WHO); forecast from IFs v 7.36

Figure 8: Infant mortality rate



Source: Data from UNPD; forecast from IFs v 7.36

By 2040, infant mortality in Zimbabwe is projected to decline to 27 deaths per 1 000 live births (roughly the same as in low-income and lower-middle-income Africa).

The distribution of mortality in Zimbabwe shows that the country is progressing slowly through its epidemiological transition, the process by which mortality shifts away from communicable diseases (e.g., malaria, cholera and typhoid) and towards non-communicable diseases (e.g., cancer and diabetes).

Communicable diseases continue to be responsible for the large majority of deaths in the country, but the burden of non-communicable diseases has been steadily rising and is beginning to contribute significantly to overall mortality. Non-communicable diseases are expected to overtake communicable diseases as the primary cause of death in around 2030 (Figure 9).

Among infants, 'other communicable diseases' (a catch-all term used by the Global Burden of Disease project for less prevalent communicable diseases), diarrhoea and respiratory infections are the leading causes of death, reflecting poor water and sanitation infrastructure across much of the country. A ZimStat survey found that, in 2014, over 13% of children in Zimbabwe were suffering from diarrhoea.[33]

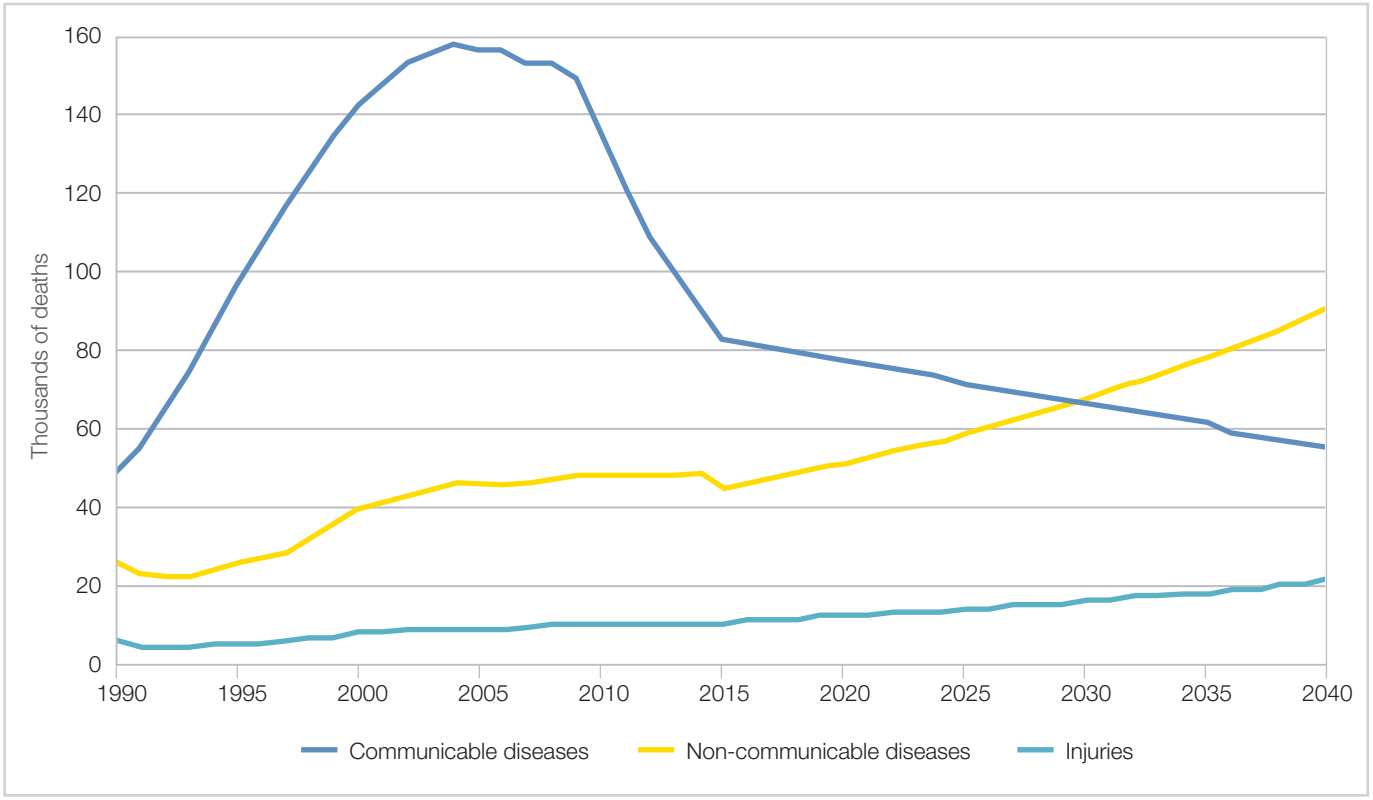
And although AIDS deaths continue to decline from the peak of the epidemic in the early 2000s, HIV/AIDS remains the dominant cause of death among the population 15 years and older. Meanwhile, respiratory, 'other communicable [34] and, to a lesser extent, diarrhoea, are the leading causes of death among the elderly population (65 and older).

> Communicable diseases continue to be responsible for the large majority of deaths in the country

Among non-communicable diseases, cardiovascular diseases and cancer are the primary causes of death among older cohort populations.

The rise of non-communicable diseases presents a significant challenge to Zimbabwe: not only must

Figure 9: Number of deaths by cause (International Classification of Diseases)



Source: Data from the Institute for Health Metrics and Evaluation and WHO; forecast from IFs v 7.36

the GoZ address the immediate, mostly preventable health risks posed by communicable diseases like HIV/AIDS and diarrhoea, but it must also invest in more advanced healthcare systems capable of tackling non-communicable diseases. Furthermore, when interventions aimed at largely preventable diseases are successful, the transition towards non-communicable diseases accelerates, underscoring the need for early preparations.

Hunger also presents a pervasive threat to the well-being of Zimbabweans across much of the country. Low access rates to improved water and sanitation cause outbreaks of diarrhoeal diseases, which are the leading cause of malnutrition and hunger.[35]

An estimated 2.4 million Zimbabweans are severely food insecure[36] and roughly 40% of the population is undernourished[37] (6.4 million people) – the seventh highest rate of undernourishment in the world.

Although this rate is projected to decline over the next two decades, Zimbabwe will still be among the 10 countries globally with the highest undernourishment rates by 2030, and among the top 15 by 2040, when its undernourished population is expected to be over four million. Nutrition programmes to ensure access to required calories as well as contain communicable diseases are necessary to ensure that people reach their full potential.

Roughly 270 000 children (defined as under five years of age) were considered malnourished in 2018, representing nearly 11% of Zimbabwe's child population.[38] Stunting, an indicator of chronic malnutrition measured by height-for-age,[39] remains one of Zimbabwe's greatest challenges: ZimStat estimates that 27.6% of children were stunted in 2014.[40] On the Current Path, there will still be approximately 200 000 malnourished children in 2040. Severe malnutrition among children under five can lead to permanent physical and cognitive impairments, hampering their educational and economic outcomes throughout their lives.

The Famine Early Warning Systems Network has designated the majority of the population as enduring Integrated Food Security Phase 3 (Crisis) outcomes. Even with humanitarian aid, at least one out of five households is suffering from malnutrition, or is 'marginally able to meet minimum food needs only with accelerated depletion of livelihood assets that will lead to food consumption gaps'.[41]

Meagre crop production in the 2018/2019 season are expected to maintain Crisis outcomes across much of the country until at least January 2020.[42] Per this classification, Zimbabwe is only two phases away from Famine (Phase 5).

Economics

Zimbabwe's economy has suffered a series of intense and prolonged economic crises that have been among the worst in Africa's recent history. Recurrent runaway inflation, dollarisation, re-dollarisation and the emergence of multiple parallel exchange rates have severely distorted the economy. At present, the country is in the midst of a monetary crisis brought about by the misuse of the real-time gross settlement (RTGS) platform that started in 2016 and the GoZ's recent decision to make the RTGS dollar the sole legal tender.

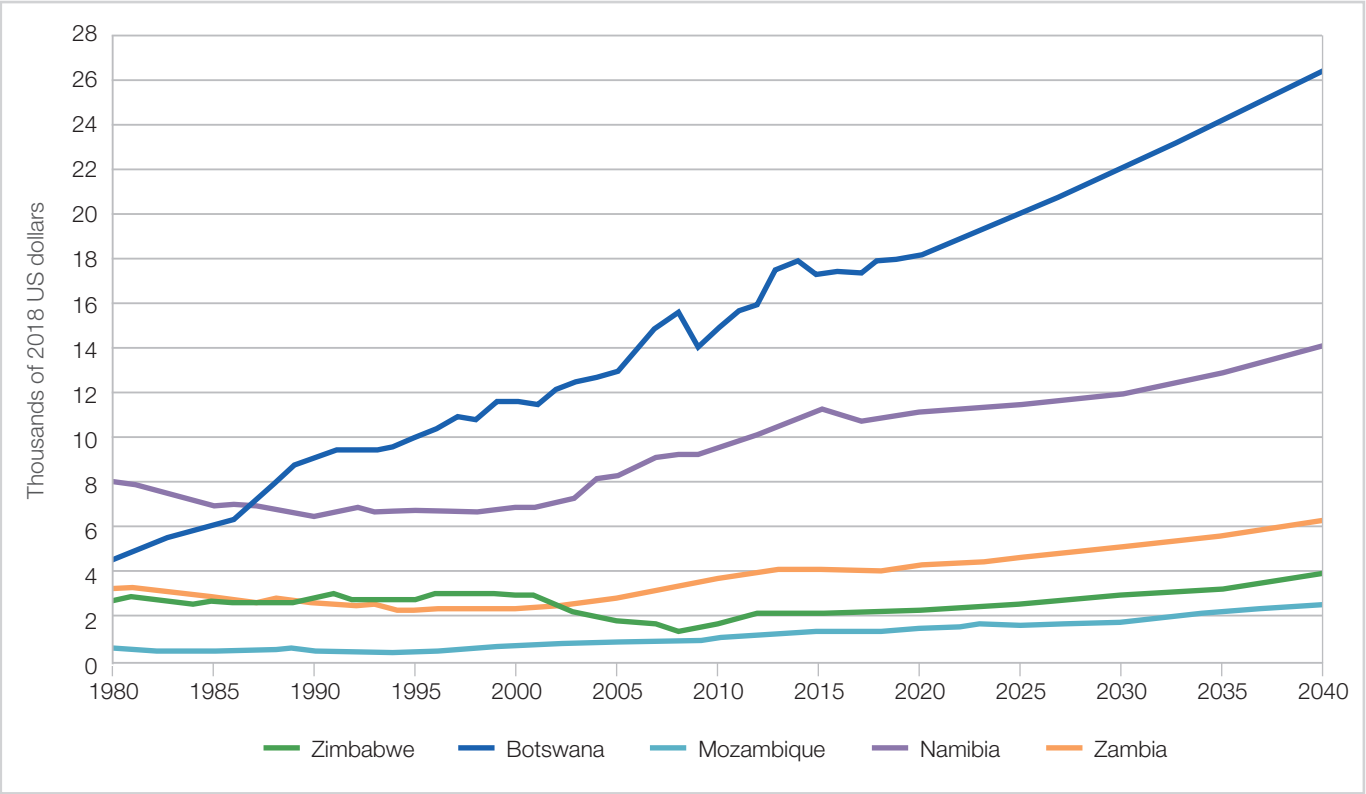
The current crisis is a far cry from the state of the economy at independence. From 1980 to 2004, Zimbabwe had the fourth largest economy in Southern Africa (South Africa, Angola and Zambia claimed the top three spots). Zimbabwe's economy peaked in size in 1998 at US$18.6 billion before plummeting to roughly half of that (US$9.3 billion) by 2008.

> Two out of five people in Zimbabwe are undernourished – the seventh highest rate of undernourishment in the world

Although average incomes in Zimbabwe have been relatively stagnant for decades, they were higher than in Zambia from the mid-1980s to 2002. But from 1998 to 2008, Zimbabwe's GDP per capita more than halved from US$3 100 to US$1 365 (Figure 10).

In the decade since, GDP per capita has grown by roughly 60% to US$2 200 but remains low compared to regional peers. Average incomes in Zambia, for example, are now almost double than those in Zimbabwe. GDP has slowly recovered to nearly US$18 billion in 2018 and is projected to grow at an average rate of 4.6% per annum out to 2030 and at an average rate of 5.2% between 2030 and 2040 to reach US$51.4 billion by 2040.

Figure 10: GDP per capita



Source: Data from the World Bank; forecast from IFs v 7.36

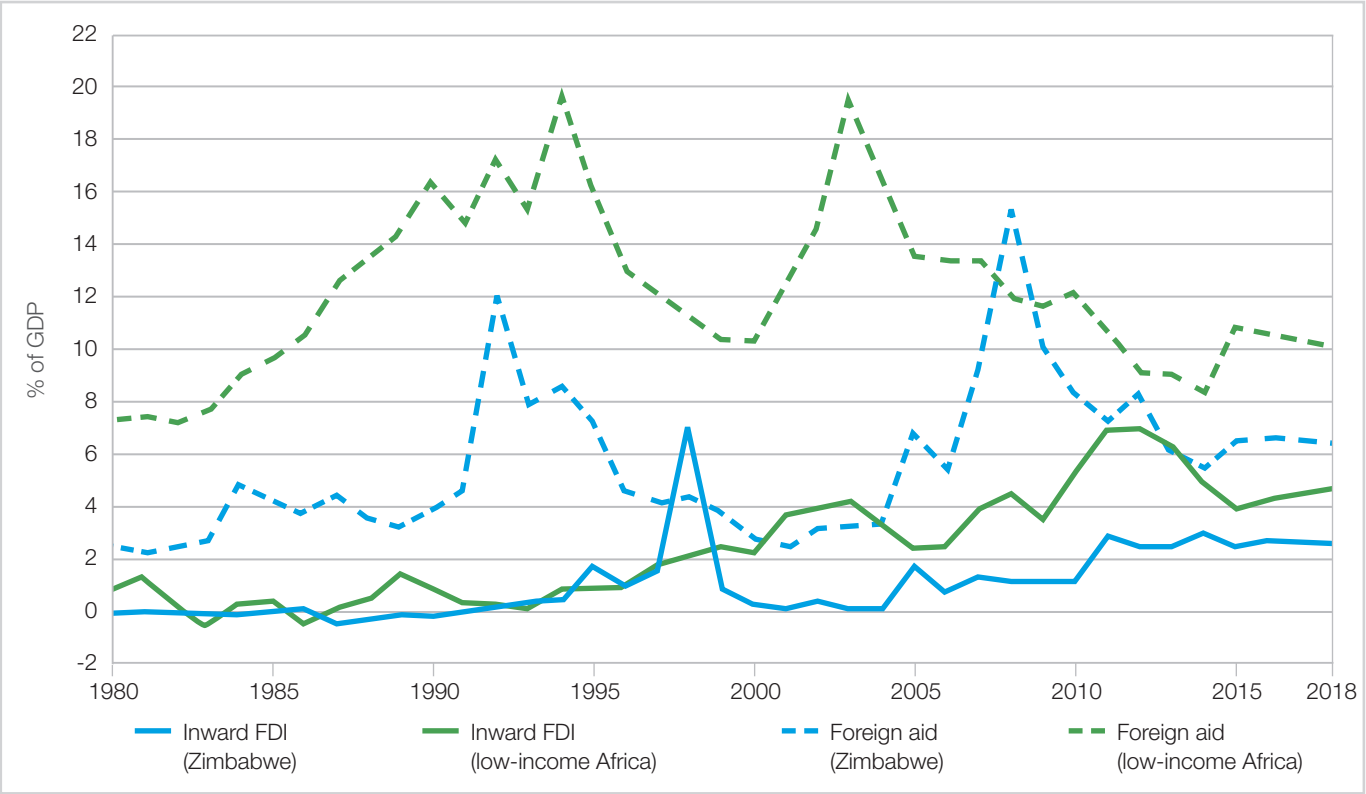
Throughout these economic crises, Zimbabwe has received little aid and foreign direct investment (FDI) relative to its income peers (Figure 11). Although there is clearly considerable scope for increases in both, more FDI would require a substantial change in current levels of business and investor confidence. Zimbabwe currently has the eighth and 25th lowest scores globally in the World Bank's regulatory quality and governance effectiveness indices, respectively; the 25th worst score globally on Transparency International's Corruption Perceptions Index; and the 18th lowest score globally on the Fraser Institute's economic freedom index, which lists excessive bureaucratic costs and administrative requirements for business and government control over the movement of capital as the most severe issues (see Box 4 for full definitions of these indicators).[43] Zimbabwe's performance across these indicators is not projected to improve in the coming decades.

A large informal economy, a highly concentrated trade profile and a large trade deficit have also contributed to Zimbabwe's economic woes. During the most recent rebasing of the economy (in 2018), Zimbabwe's 2016 GDP increased by 40%. Finance Minister Ncube attributed the increase to the inclusion of the informal economy, a reflection of the extent to which the economy has regressed since the early 2000s.[44]

A large informal economy generally constrains the development of its formal counterpart, which provides job security and employment benefits and contributes to government revenues through taxation. A 2018 IMF working paper suggests that the informal sector contributed an average of 61% to GDP between 1991 and 2015 and 67% in 2015 – second only to Bolivia globally.[45]

The economy relies heavily on a few commodity exports, particularly tobacco, gold, diamonds and platinum, rendering the country exposed to fluctuations in commodity prices. The OEC estimates that raw tobacco comprised over half of Zimbabwe's exports in 2017; mineral products, metals and precious metals accounted for nearly 30% of exports.[46] In 2016, gold accounted for approximately one third of exports.[47] Recent turmoil over the lack of foreign exchange to meet outstanding debts has resulted in certain mining companies not being paid for nearly two months, harming production.[48] Several

Figure 11: Foreign direct investment and foreign aid



Source: IMF World Economic Outlook 2017 and Organisation for Economic Co-operation and Development (OECD) data in IFs 7.36

agro-processing, technical support services firms, transport and logistics companies also threatened to end operations in 2018.[49]

> Zimbabwe's large and fragmented public sector has exacerbated its huge debt burden

In 2018, over 80% of Zimbabwe's exports went to just four countries (South Africa, the United Arab Emirates, Mozambique and Zambia). Zimbabwe's imports profile is similarly restricted, with over 40% of imports coming from South Africa.[50] According to the Observatory of Economic Complexity (OEC), which relies on data from UN COMTRADE, Zimbabwe's trade deficit in 2016 was roughly US$2.3 billion.[51] ZimStat estimates that the nation's trade deficit for the 11 months leading up to December 2018 reached a record US$2.4 billion.[52]

Zimbabwe also has protracted arrears with official creditors, including the World Bank, effectively blocking access to international financial support.[53] In October 2018 the Transitional Stabilization Plan (TSP) stated that the country's external debt arrears amounted to about US$5.6 billion.[54] The 2019 World Economic Situation and Prospects report estimated that government debt may reach 94% of GDP in 2018 and 117% in 2020.[55] Generally, a debt level of less than 40% of GDP is considered manageable; at 60% or higher, countries head for trouble. Zimbabwe's large and fragmented public sector has exacerbated this debt burden: government-guaranteed debt from state-owned enterprises and parastatals alone accounted for US$2.1 billion in 2015.[56]

Migration and remittances

Zimbabwe has suffered very high levels of outward migration, estimated at between 0.4% and 0.2% of its population annually since the turn of the century. This migration has resulted in a large diaspora and significant remittances, which have played a central role in steadying the Zimbabwean economy by injecting much-needed foreign currency.

According to the TSP, remittances are the second largest source of income, with exports coming in first.[57] In 2015,

remittances through the formal channels recorded by the Reserve Bank of Zimbabwe are estimated to have reached US$1 billion– more than double the amount of net foreign direct investment received by Zimbabwe during the same period.[58] However, this high outward migration has also harmed human capital by stripping the country of much of its better-educated workforce.

> Zimbabwe's agricultural sector has suffered decreasing productivity since the late 1970s

Remittances from South Africa account for approximately one third of the total diaspora remittances to Zimbabwe.[59] Although remittances are usually made in cash transfers, shortages of basic commodities in Zimbabwe encourage migrants to purchase goods such as foodstuffs abroad and bring them home or send them through relatives, friends, taxi or bus.[60]

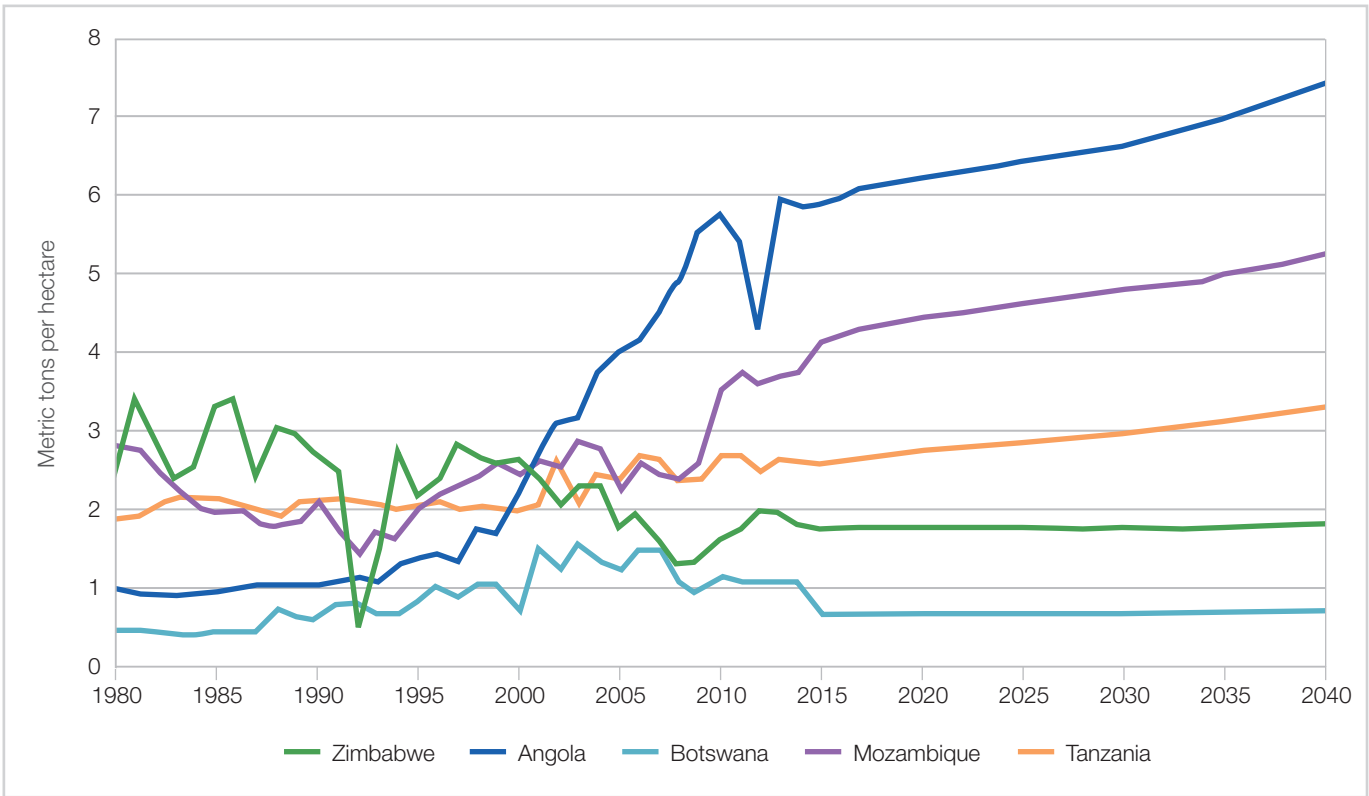
However, formal diaspora remittances to Zimbabwe decreased roughly 15% between 2015 and 2016 owing to the weakening global economy and the diaspora's increasing preference to send remittances in kind and through informal channels.[61]

Agriculture

Zimbabwe's agricultural sector, the mainstay of the economy, has suffered decreasing productivity since the late 1970s, when it boasted yields twice the average for low-income Africa. On the Current Path, this trend will extend into the coming decades, warning of deepening food insecurity. Zimbabwe already relies heavily on crop imports from neighbours, with an estimated 30% of demand being met by imports. Within Southern Africa, only Botswana, Lesotho and Namibia are more dependent on agricultural imports.

At an estimated 1.8 metric tons per hectare in 2018, Zimbabwe's yields are the 13th lowest in Africa and have been below the average for low-income Africa since 2005. Average yields in other lower-middle-income countries in Africa are more than double that in Zimbabwe. Zimbabwe's yields are projected to remain stagnant to 2040, although droughts will continue

Figure 12: Agricultural yields per hectare



Source: Data from Food and Agriculture Organization (FAO); forecast from IFs v 7.36

to cause sharp fluctuations in both yields and total agricultural production.

As a result, Zimbabwe's total agricultural production is projected to increase by a mere 8% over 2018 levels to eight million metric tons by 2040. Over this same period, Zambia, Mozambique and Kenya are projected to increase their agricultural output by over 50%; Tanzania, by more than 60%.

Expanding irrigation has the potential to increase crop yields, improve the nutritional status of rural communities and bolster economic development by commercialising crop production.[62] Most crops in Zimbabwe are rainfed, and given that rain is highly unpredictable in Zimbabwe – annual average rainfall ranges from a low of 300 mm (in the Limpopo Valley) to a high of 3 000 mm (in the east), the lack of irrigation has challenged food security.[63]

> Expanding irrigation has the potential to improve the nutritional status of rural communities and bolster development

Recent studies suggest that Zimbabwe has enough renewable internal water resources to irrigate more land sustainably. Estimates of the current area of land equipped for irrigation vary from 150 000 to 206 000 hectares,[64] although less than 50% of that area equipped for irrigation is likely to actually be irrigated owing to poor maintenance.[65] The Food and Agriculture Organization estimated in 2015 that, excluding the Zambezi and Limpopo rivers, Zimbabwe could sustainably irrigate a total of 365 624 hectares.[66]

Rehabilitating existing irrigation schemes and building new ones would improve agricultural production, especially if combined with modern farming practices and improved access to fertilisers, seeds and other enablers.

Unlocking the potential of land requires the ability to transfer land titles in line with the TSP's commitment to 'guarantee security of tenure for all farmers, irrespective of race, by issuing 99-year leases and A1 permits'.[67] The lack of transferability of land titles, an element of command agriculture, has particularly hindered the sector since the 2001 Fast Track Land Reform Programme, and Finance Minister Ncube is believed to have claimed that it has made 'land a dead asset'.[68] Much of the agricultural land has no collateral value, blocking farmers' access to credit.

Climate change

Climate change will cause Zimbabwe to become on average warmer and dryer. Droughts are likely to become more intense and frequent, and rain increasingly variable. Climate change – in addition to natural climatic cycles like El Niño – also intensifies the severity of major weather events like cyclones.

In 2019 Cyclone Idai illustrated the destruction such events may leave in their wake and underscored the need to reduce the vulnerability of poor populations, which have very little capacity to adapt to the impacts of climate change.[69]

Because of the country's high percentage of rural people, livelihoods in Zimbabwe are intimately connected with the rhythm of the seasons, the quality of the country's natural resources and the preservation of its fragile ecosystems and biodiversity.

The impacts of climate change are threatening these resources and in 2015 the Ministry of Environment, Water and Climate recognised that climate change was 'likely to stall the country's development, pose a serious risk to food security and adaptive capacity'.[70]

Poor and worsening macroeconomic conditions have further aggravated food insecurity by impeding the availability and affordability of staple foods like maize meal.

Infrastructure

Zimbabwe has significant backbone infrastructure, but successive political and economic crises since the 1990s have left energy, water, sanitation and road infrastructure in varying states of disrepair. Currently, an estimated one in three Zimbabweans has access to electricity. This figure has barely budged since 1990. Around half of Zimbabweans are expected to have access to electricity by 2040.

Water, sanitation and hygiene (WASH) facilities are also severely lacking in Zimbabwe, particularly in rural areas, increasing people's chances of being malnourished and contracting communicable diseases. In 2000, 80% of

Zimbabweans had access to an improved source of drinking water – quite high relative to its regional and African income peers.[71]

In the years that followed, this rate declined while access rates in most African countries improved. In 2012 and 2014 respectively, improved water access rates in lower-middle-income Africa and Southern Africa surpassed that of Zimbabwe. IFs estimates that in 2018, 75% of Zimbabweans had access to improved water. This means that roughly four million people in Zimbabwe did not have access to an improved source of drinking water.

> Recent cholera epidemics in Harare underscore the urgency of Zimbabwe's ailing WASH infrastructure

A similar story emerges from the data on access to sanitation. Since around 2000, approximately three out of every five Zimbabweans have lacked access to an improved sanitation facility (10 million people in 2018), increasing their risk of contracting waterborne diseases such as cholera. This access rate is projected to improve on the Current Path, but only slightly. In 2030, 10.4 million people are projected to lack access to an improved sanitation facility; in 2040, over six million people.

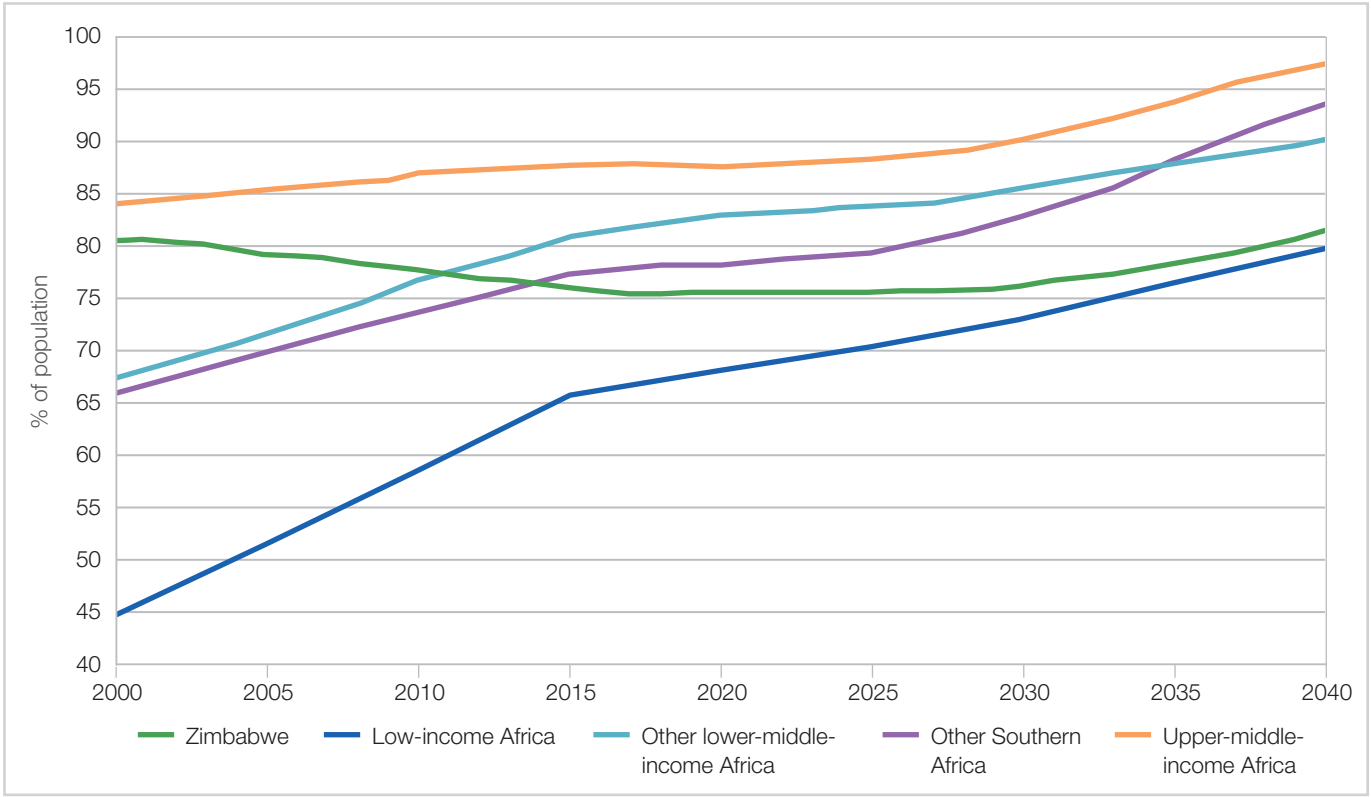
Recent cholera epidemics in Harare underscore the urgency of Zimbabwe's ailing WASH infrastructure. The city's water and sewage infrastructure has not been upgraded since 1994, when only 1.5 million people lived in the city. Now, an estimated 4.5 million people live in Harare and its peripheries.[72]

In September 2018, a burst sewage pipe contaminated a well and two boreholes in two densely populated suburbs, causing a cholera outbreak that killed at least 30 people and infected at least another 5 460, according to the Ministry of Health.[73] A decade prior, a cholera outbreak resulted in over 4 000 deaths and 98 585 reported cases.[74]

Alternative futures

The following sections present two alternative futures for Zimbabwe, Great Zimbabwe and Things Fall Apart – both of which have a time horizon of 2040. The scenarios help

Figure 13: Improved water access rate



Source: Data from UNICEF/WHO Joint Monitoring Programme; forecast from IFs v 7.36

to frame the uncertainty around how Zimbabwe may develop over the next two decades.

The large gap between Great Zimbabwe and Things Fall Apart indicates the choices that the country now confronts. Down one road are opportunities for improved human development; down the other, a path more reminiscent of the country's recent history.

Great Zimbabwe

Great Zimbabwe is a future in which the GoZ sets the country on a higher growth path by making the agricultural sector more efficient by stepping away from its state-centric, command and control approach to governance. As a result, Zimbabwe experiences a reversal of the downward development trends that have characterised the past few decades.

A first, basic assumption of this scenario is that the GoZ resolves the financial crisis, granting the minimal macroeconomic and political stability necessary to implement the changes that the scenario envisions.

This scenario includes two agricultural components. The first is that the GoZ makes property rights transferable. It is assumed that this will significantly improve agricultural yields based on the literature establishing the relationship between greater land tenure security and agricultural productivity and sustainable development more broadly.[75]

In the second, the GoZ increases the total area of land equipped for irrigation from an estimated 175 000 hectares in 2018 to 340 900 hectares by 2040,[76] which is within the Food and Agriculture Organization's estimate of how much land available internal renewable water resources could irrigate (365 624).[77]

Consequently, agricultural yields nearly return to the average of the early 1980s of 3.5 metric tons per hectare by 2040, marking a growth of roughly 80% between 2019 and 2040.[78] This places Zimbabwe's yields on par with low-income African economies by 2035, but still far below the average for the rest of lower-middle-income Africa.

Great Zimbabwe also models gradual improvements in government effectiveness, regulatory quality and economic freedom, and a reduction in corruption and the risk of instability associated with government performance.[79] These dimensions have strong relationships across other modules within IFs, especially to economics and infrastructure (Box 4).[80]

Box 4: Governance measures in Great Zimbabwe

IFs draws the measures of government effectiveness and regulatory quality from the World Bank's Worldwide Governance Indicators project. Government effectiveness 'captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies'. Regulatory quality reflects perceptions of the government's ability to create and implement policies and regulations that promote the development of the private sector. Greater government effectiveness and regulatory quality link forward to improved information and communication technology and enhanced social capital.

The economic freedom index is from the Fraser Institute. It ranks countries based on the extent to which their policies and institutions support economic freedom, a concept based on 'personal choice, voluntary exchange, open markets, and clearly defined and enforced property rights'. In IFs, greater economic freedom improves social capital's contribution to multifactor productivity, and thus boosts economic growth more broadly.

The IFs measure of corruption is taken from Transparency International, which ranks countries based on perceptions of public sector corruption.

Researchers at the Pardee Center created an index of the risk of instability associated with government performance that directly affects the government's ability to preserve security in their territory. This dimension of governance affects social capital as a subcomponent of multifactor productivity.

Improved accountability and service delivery is an important component of Great Zimbabwe. In the country's recent history, economic mismanagement and recurrent human rights violations have severely undercut its significant development potential. In this context, the state-sponsored extrajudicial killings of civilians in the Matabeleland and Midlands regions between 1982 and 1987, the Gukurahundi massacres, loom large.[81]

Nonetheless, a recent Afrobarometer survey revealed that Zimbabweans are still enthusiastic about democracy, even while acknowledging that it does not truly exist for them.[82] Voting remains very popular, with 75% believing that it can improve lives, according to the poll. Some misgivings notwithstanding, 83% of respondents prefer to choose leaders through 'regular, open, and honest elections'. However, in the same poll, 51% of respondents feared becoming a victim of political violence related to the election and only 44% expected the election to be completely free and fair.[83]

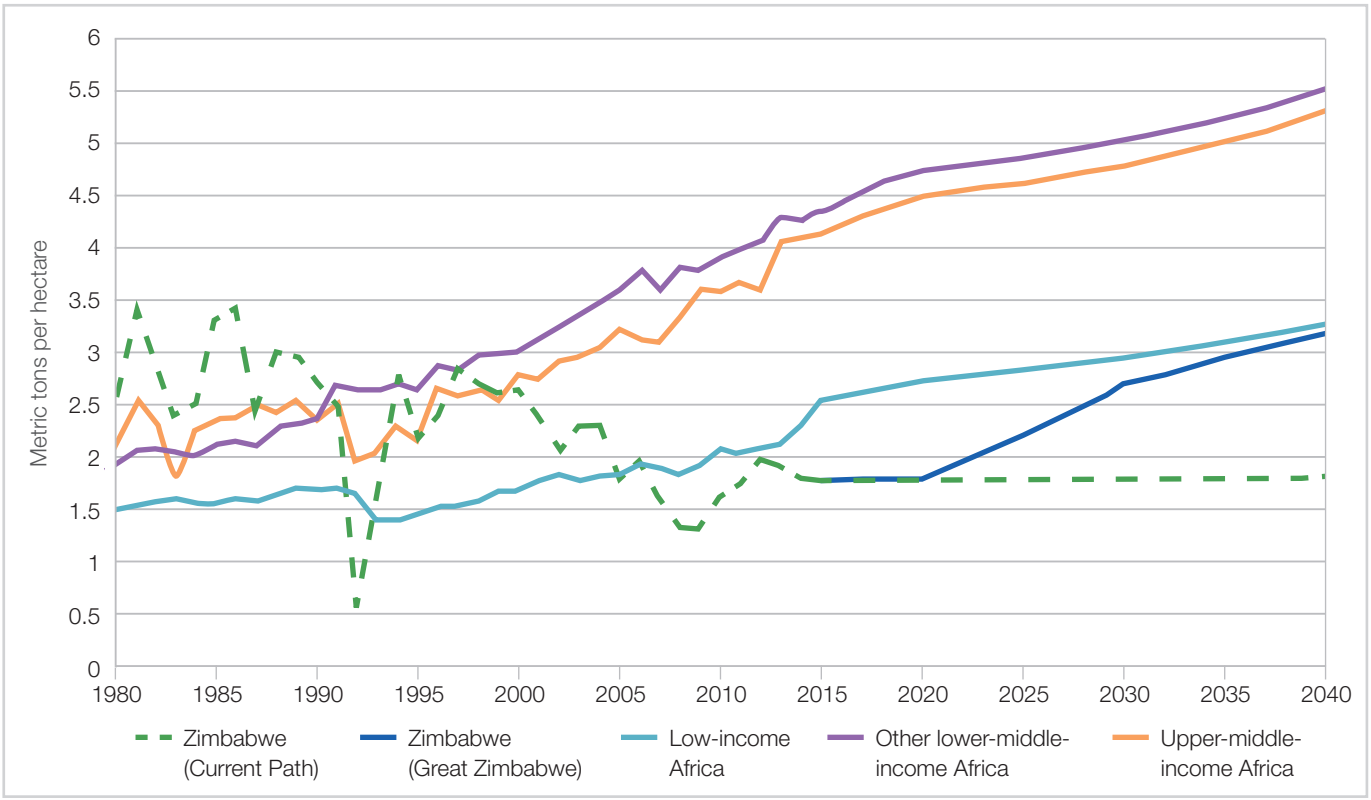
The Great Zimbabwe scenario also envisions that improved governance coupled with the stabilisation of Zimbabwe's currency leads to a faster reduction of the country's extraordinarily large informal sector than is currently expected. In Great Zimbabwe, the informal sector shrinks at roughly twice the rate than is projected on the Current Path between 2020 and 2040. But despite this improvement, the informal sector remains significantly larger than the average in other low-middle-income countries in Africa on both measures.

The kinds of development Zimbabwe would see given these conditions are dramatic and span across sectors.

The increased irrigation and improved yields modelled in the Great Zimbabwe scenario increase Zimbabwe's total crop production to 10 million metric tons by 2030 – more than 50% above the projection on the Current Path for that year. By 2040, Great Zimbabwe sees total crop production reach 12 million metric tons – nearly double the projected amount on the Current Path.

This increase reduces Zimbabwe's dependence on crop imports significantly. On the Current Path, crop

Figure 14: Agricultural yields per hectare



Source: Data from FAO; forecast from IFs v 7.36

import dependence rises at an alarming rate from nearly 30% in 2019 to nearly 60% of demand by 2040. In Great Zimbabwe, crop import dependence would remain at roughly 30%.

The Great Zimbabwe scenario assumes that the coordinated improvements in the five components of governance lead to a steady increase in FDI and foreign aid out to 2040. IFs estimates that foreign aid currently accounts for roughly 6.4% of GDP (approximately US$1.1 billion). In Great Zimbabwe, it increases to 8.6% of GDP by 2030, translating into US$3 billion (compared to only US$1.7 billion on the Current Path).

> In Great Zimbabwe, crop import dependence would remain at roughly 30%

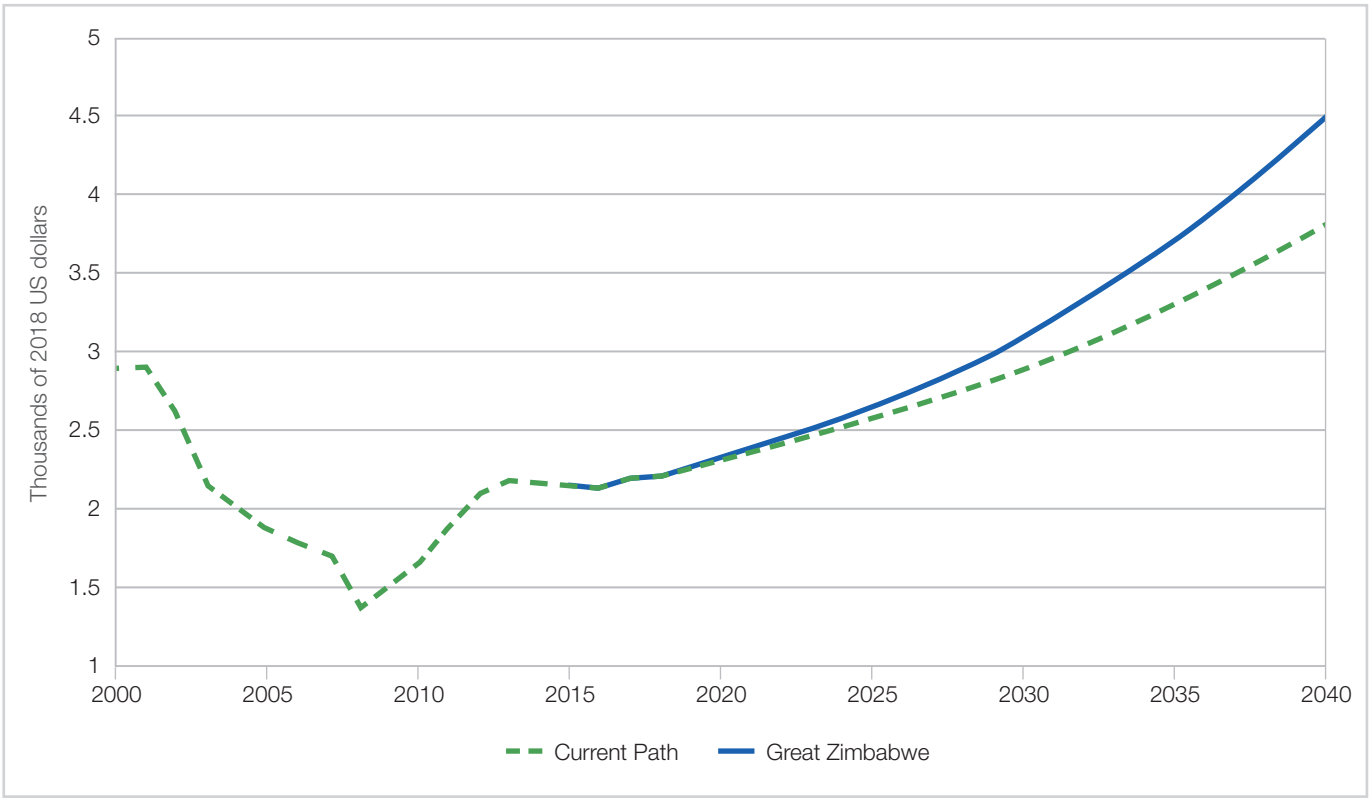
Inflows of FDI, meanwhile, increase in Great Zimbabwe from 2.6% of GDP in 2018 to 4.4% by 2030 (US$1.5 billion) and 6.3% (US$4.2 billion) by 2040. This translates into FDI inflows that are, in absolute terms, nearly twice as large in 2040 than are projected on the Current Path.

The country is also on an improved economic growth trajectory in Great Zimbabwe. In this scenario, GDP reaches US$66 billion by 2040 – US$14.6 billion more than is expected on the Current Path. At this rate of economic growth, Zimbabwe has a larger economy than neighbouring Botswana by around 2035 and nearly as large as Mozambique by 2040.

Meanwhile, GDP per capita reaches US$4 500 by 2040 – over 20% larger than is expected on the Current Path. While a notable improvement relative to Zimbabwe's current trajectory, in Great Zimbabwe GDP per capita is still roughly one third of the average in lower-middle-income countries and about US$450 lower than the forecast for Ethiopia in 2040.

Among the benefits of the accelerated GDP growth in Great Zimbabwe is substantial poverty reduction. While the share of the population living on less than US$3.20 per day is projected to almost halve to 29% by 2040 on

Figure 15: GDP per capita, Zimbabwe



Source: Data from IMF; forecast from IFs v 7.36

the Current Path, in Great Zimbabwe it falls to 19% by 2040. This translates into 950 000 fewer people living in poverty in 2030, and 2.5 million fewer in 2040.

The share of the population that does not have access to safe water also shrinks significantly. In Great Zimbabwe, the share of the population without access to safe water – currently estimated at around 24%, or four million people – decreases by three percentage points over the next decade, and then drops another 10 percentage points to reach 12% by 2040. This projected rate would translate into a steady reduction in the number of people lacking access to safe water out to 2040. Conversely, on the Current Path, nearly one out of five Zimbabweans – roughly 4.5 million people – would still be lacking access to a safe source of water by 2040.

The Great Zimbabwe scenario also has powerful effects in other areas of human development. Largely due to the reforms in the agricultural sector and the coordinated push towards improved accountability and service delivery, childhood malnutrition and undernourishment among the total population fall significantly.

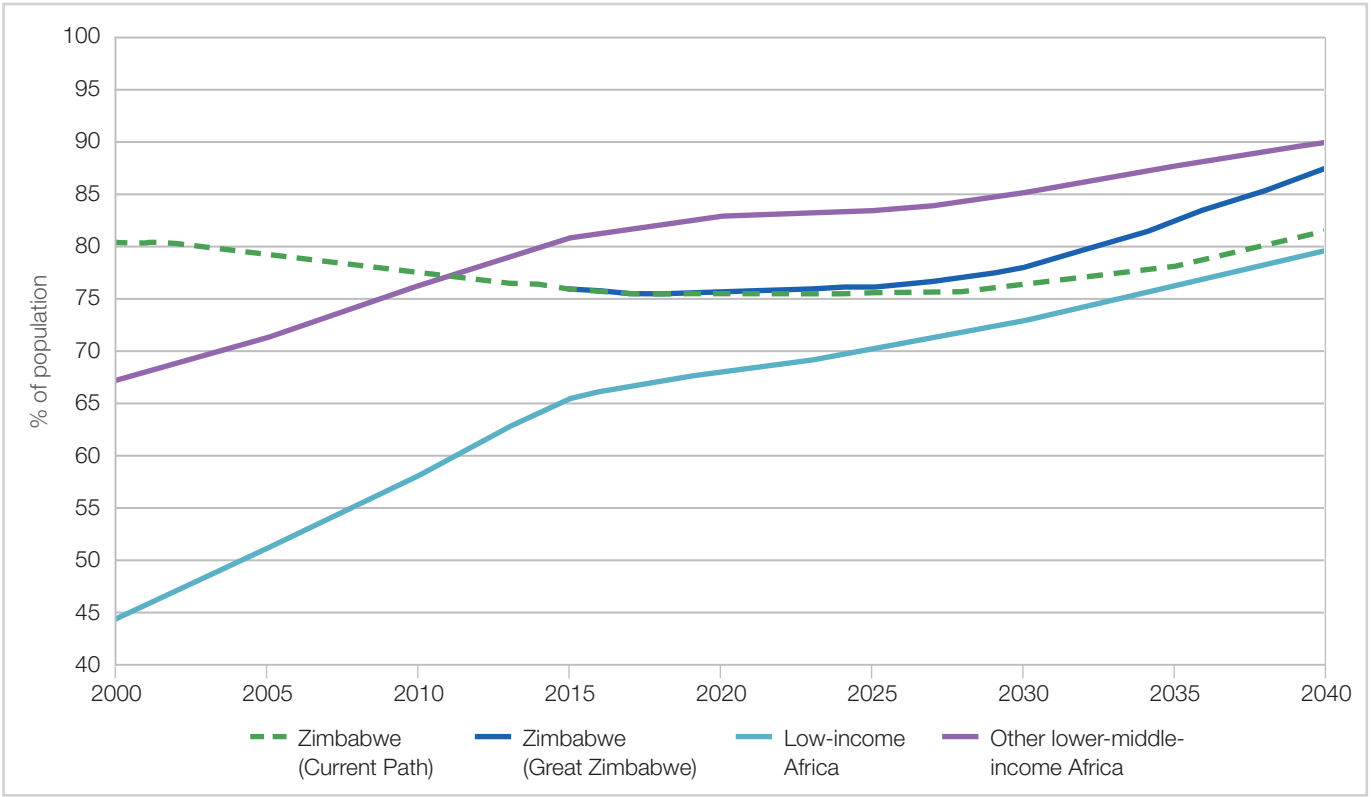
In this scenario, the childhood malnutrition rate drops from the current estimate of 11% to 7% by 2030 and 4% by 2040 – a significant improvement from the Current Path. This means there would be 50 000 fewer children suffering from malnutrition in 2030 in Great Zimbabwe than on the Current Path; in 2040, over 80 000 fewer.

> In Great Zimbabwe, the childhood malnutrition rate drops from the current ±11% to 7% by 2030 and 4% by 2040

The share of the population suffering from undernourishment, meanwhile, would fall from 40% in 2018 to roughly 11% by 2040, while it falls to only 16% on the Current Path. This would translate into one million fewer people who are hungry in 2030 and 1.4 million fewer in 2040.

These are substantial improvements in the nutritional status of large portions of the population and provide further motivation for the GoZ to take the steps envisioned by the Great Zimbabwe scenario.

Figure 16: Improved water access rate



Source: Data from UNICEF/WHO Joint Monitoring Programme; forecast from IFs v 7.36

Zimbabwe would undoubtedly be on a better course if it lessened the burden of hunger and malnutrition across the country. However, even in the optimistic Great Zimbabwe scenario, Zimbabwe would still have the 20th highest undernourishment rate in the world in 2030 and the 26th highest in 2040.

The infant mortality rate declines from the current estimate of 43 deaths per 1 000 live births to 22 deaths by 2040 in Great Zimbabwe, compared to 27 deaths on the Current Path.

The benefits of the Great Zimbabwe scenario are significant. However, even in this scenario, Zimbabwe has a long way to go to achieve parity with other lower-middle-income countries globally.

Things Fall Apart

Conversely, Things Fall Apart represents a future in which the GoZ fails to resolve the financial crisis, the quality of government accountability and delivery of basic services such as WASH stagnates, while deepening concerns of insecurity both within and outside of the country deter foreign investment.

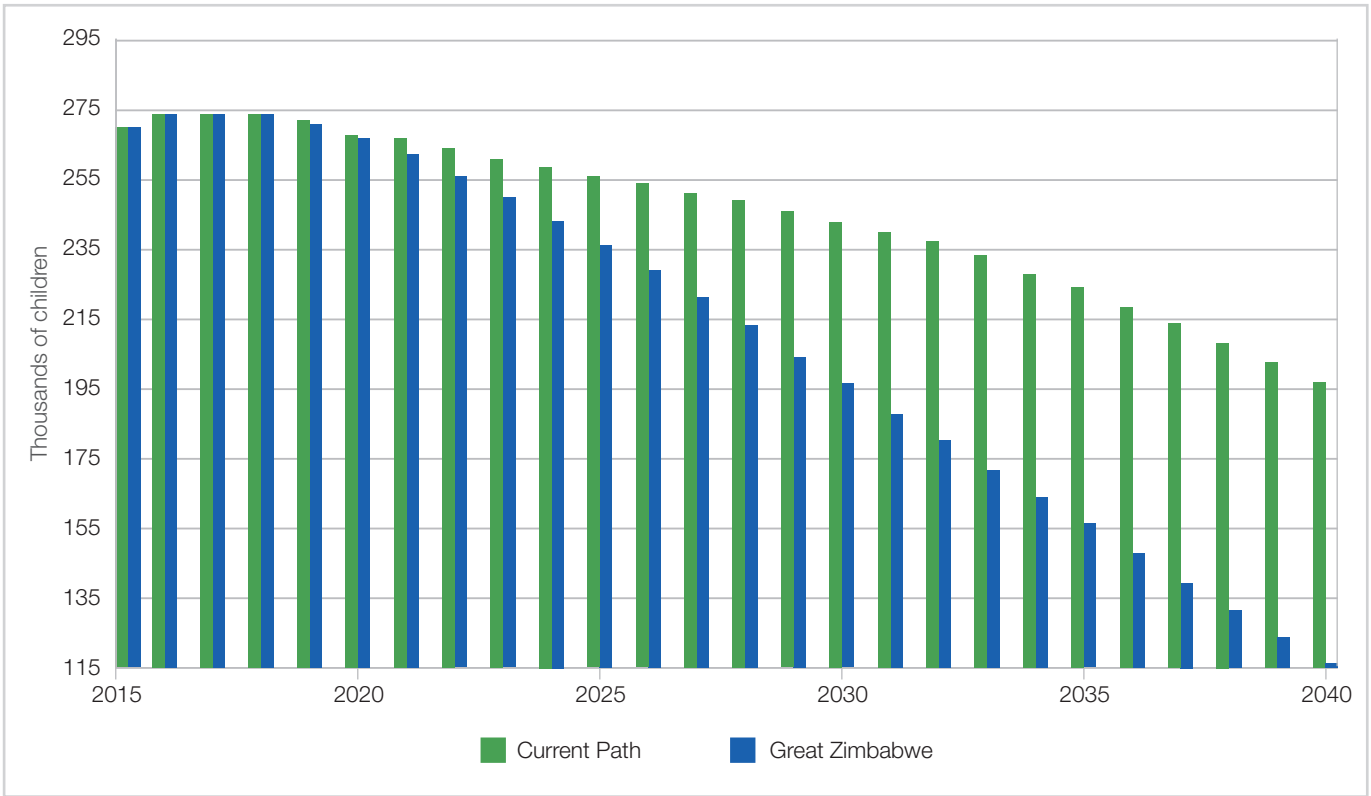
Consequently, the risk for internal conflict is heightened and human development outcomes deteriorate more rapidly than is projected on the Current Path. Things Fall Apart is not a worst case scenario, but rather a possible (if pessimistic) future for Zimbabwe.

In this scenario, the 2023 elections are an important inflection point. The results are contested, with little transparency in the electoral process and deepening frustration among Zimbabweans over the government's lack of accountability for economic mismanagement and past human rights abuses.

The legitimacy the GoZ had in the domestic realm deteriorates. Protests erupt, provoking violent responses from the state's police and security apparatus, prompting the government to funnel additional funds towards the military, reducing funding available for other priorities. The government deploys the military in response to the growing unrest, precipitating a decline in foreign aid and FDI.

This scenario assumes that rising social tensions and worsening macroeconomic conditions undercut the

Figure 17: Childhood malnutrition, Zimbabwe



Source: Data from WHO; forecast from IFs v 7.36

productivity of the agricultural sector. Average yields fall from 1.8 metric tons in 2018 to 1.2 metric tons by 2040. Zimbabwe's total agricultural production consequently declines from its 2018 output of 7.5 million metric tons to 6.3 million metric tons by 2030 and six million metric tons by 2040. Although the Current Path projection of 8.6 million metric tons is far below Zimbabwe's potential, it is significantly better than the alarming agricultural decline of Things Fall Apart.

The consequences for Zimbabwe in this scenario are grave. GDP grows at an average rate of 3.6% per year between 2018 and 2030, by which year the economy is US$3.8 billion smaller than it would be on the Current Path. By 2040, GDP is US$13.4 billion smaller than it would be on the Current Path and nearly US$30 billion smaller than in Great Zimbabwe.

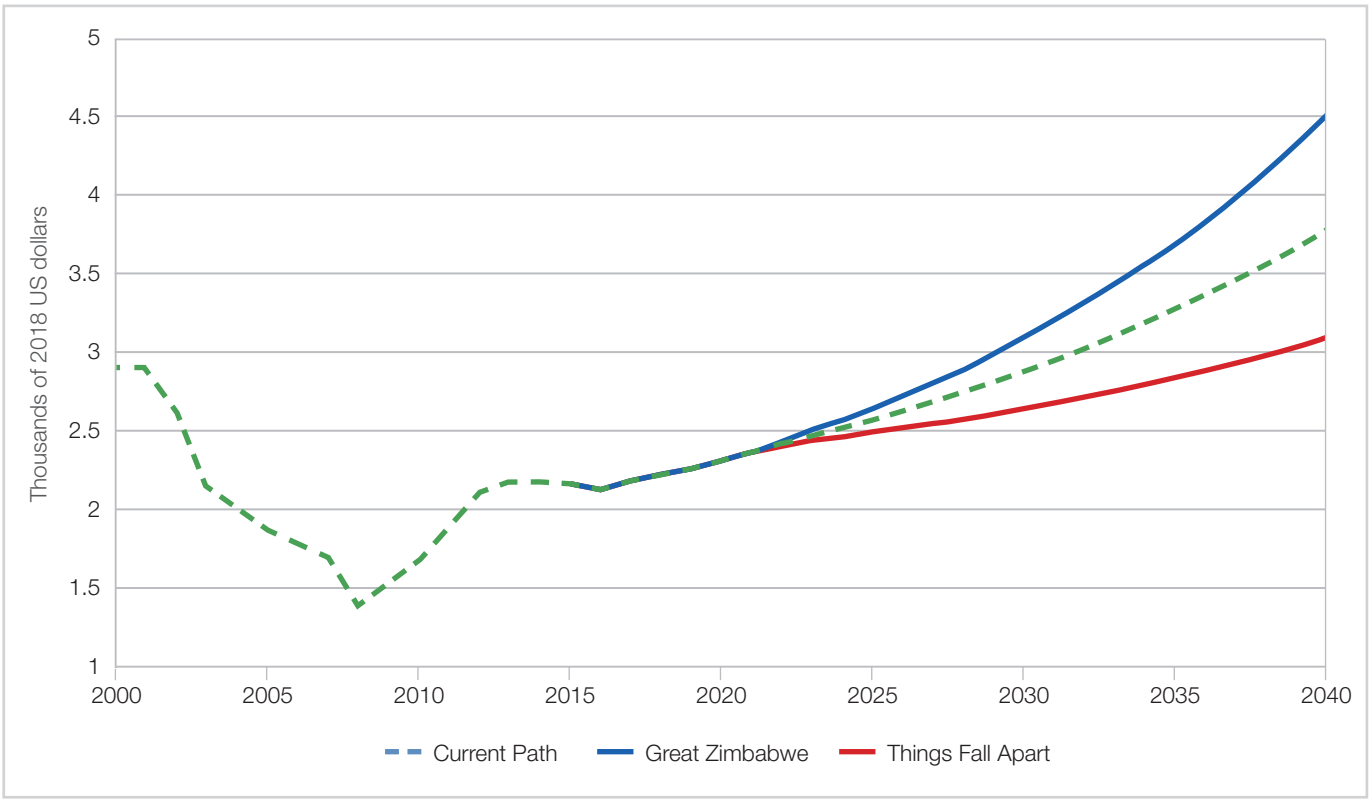
GDP per capita improves by only US$875 from 2018 to 2040, representing a roughly 40% increase over the more than two intervening decades. On the Current Path, GDP per capita grows at nearly twice the rate, experiencing an over 70% increase by 2040, while in Great Zimbabwe, it more than doubles (Figure 18).

Owing to Zimbabwe's poor economic growth in Things Fall Apart, the absolute number of people living in extreme poverty continues to grow out to the forecast horizon, while on the Current Path, it starts to gradually decline around the mid-2030s. By 2030, over seven million people are living on less than US$3.20 per day in Things Fall Apart – one million more people than is projected on the Current Path. By 2040, this population reaches 10 million, which is 2.5 million more people than is projected on the Current Path.

> In Things Fall Apart, GDP is by 2030 nearly US$30 billion smaller than in Great Zimbabwe

Meanwhile, the share of the population with access to improved sanitation facilities falls three percentage points to 35% by 2040. On the Current Path, this rate rises to nearly 60% by 2040, while in Great Zimbabwe it reaches 80% by 2040.

Figure 18: GDP per capita, Zimbabwe



Source: Data from IMF; forecast from IFs v 7.36

This means that in 2030, an additional two million people would be living without access to an improved sanitation facility in Things Fall Apart relative to the Current Path. In 2040, an additional six million people would lack access to improved sanitation.

The portion of the population with access to safe water also falls from the current estimate of 75% to under 70% by 2030 – on a par with the current improved water access rates of Zambia and Sierra Leone, the 14th and 15th lowest rates globally. This means that the number of people without access to safe water would increase steadily from the current estimate of 4.1 million to 8.3 million by 2040. On the Current Path, this population peaks at just over five million in 2030.

The decline in safe water and sanitation access rates and worsening governance have devastating implications for health. Infant mortality decreases by only six deaths per thousand live births by 2040. This forecast means that Zimbabwe's infant mortality rate will be higher than the average for low-income Africa by 2030, and the 11th highest in the world by 2040.

The decline in WASH infrastructure combines with weak governance and reduced agricultural production to dramatically increase childhood malnutrition. The number of children suffering from malnutrition continues to rise in Things Fall Apart, reaching nearly 400 000 children by 2040, or 14% of all children. This projected number is twice as large as is projected on the Current Path for that year, and four times larger than in Great Zimbabwe.

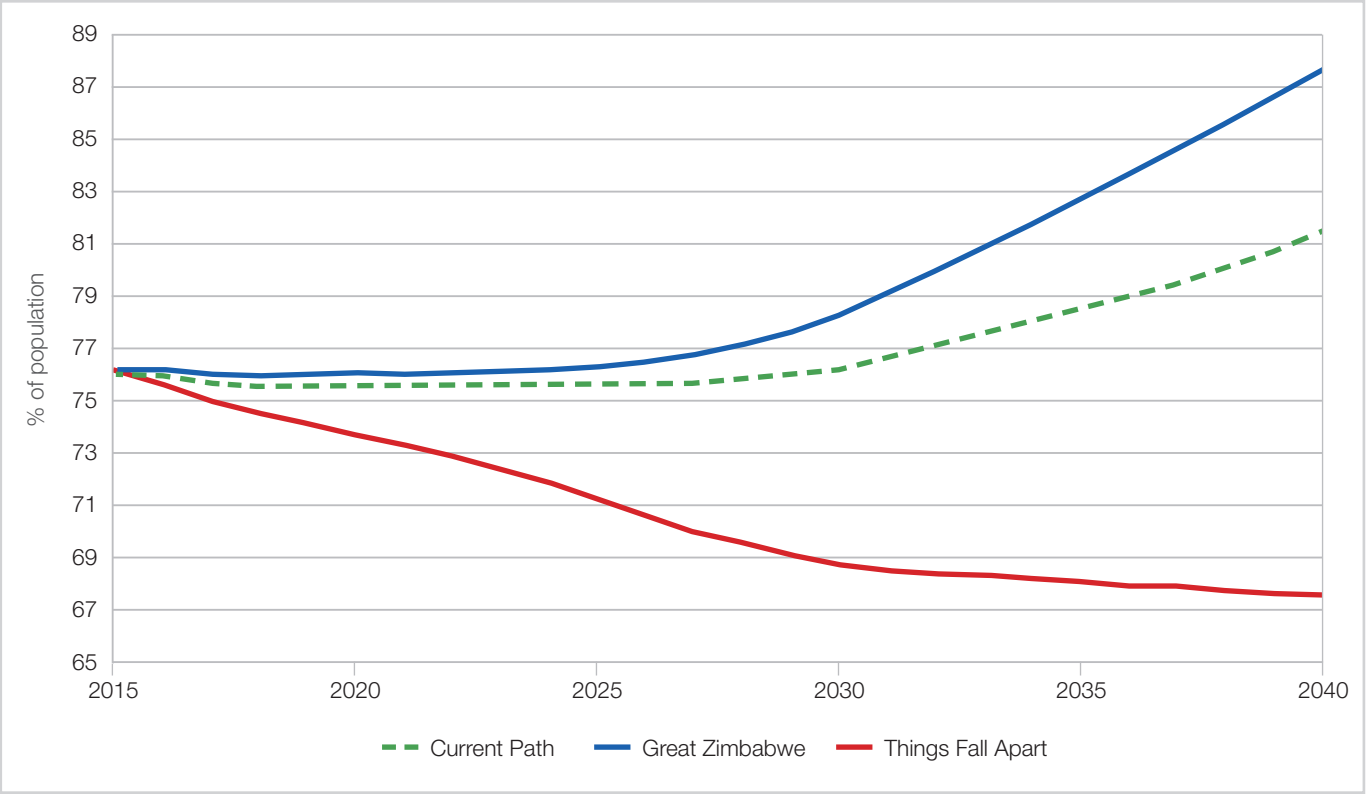
> The decline in safe water and sanitation access rates have devastating implications for health

It is unlikely that Zimbabwe would be able to continue on the Things Fall Apart trajectory without significant levels of social unrest. Dwindling revenue from diamonds and other minerals, mass protests, food insecurity, unstable currency and external pressure are likely to come to a head. The result would either be an internal process to forge a different development pathway or a violent rupture.

Figure 19: Extreme poverty (US$3.20 per person per day), Zimbabwe

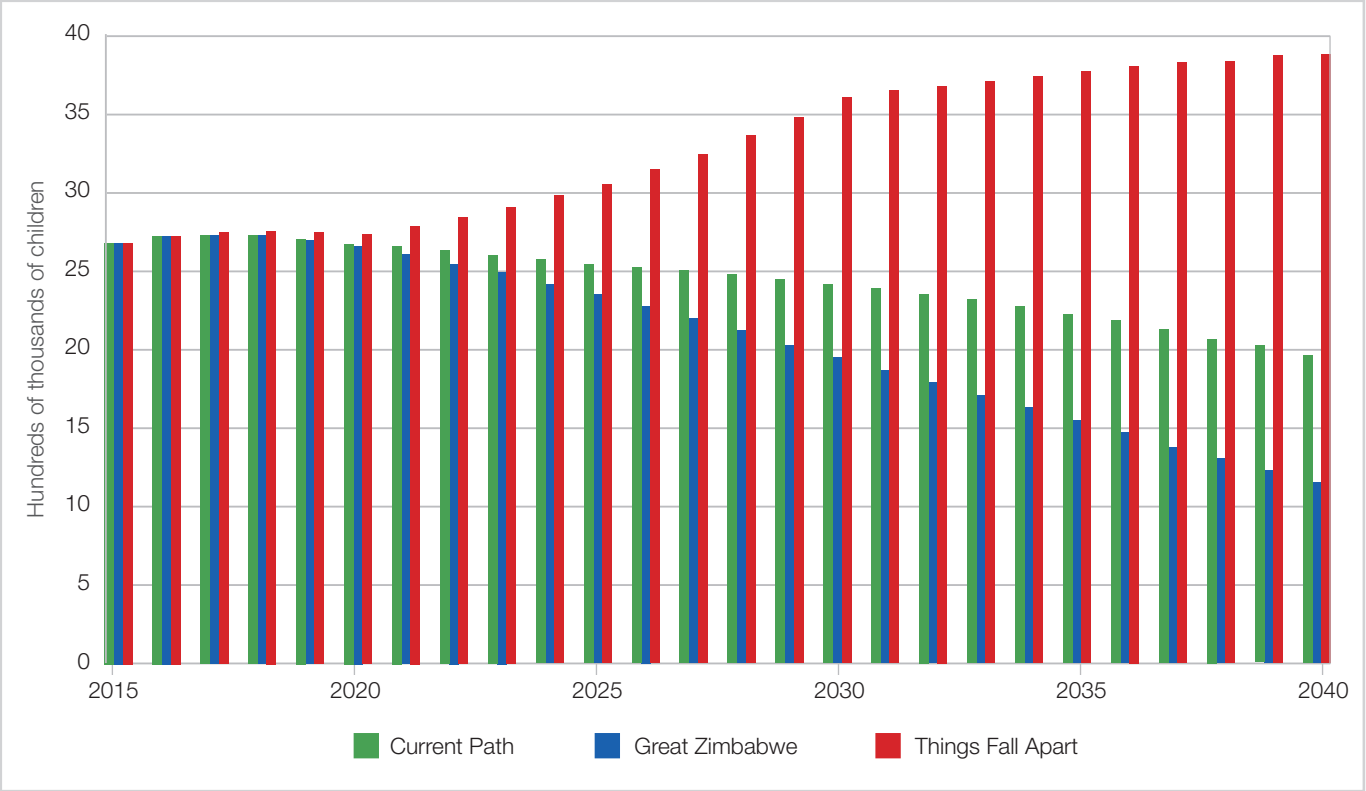
Source: Data from World Bank; forecast from IFs v 7.36

Figure 20: Improved water access rate, Zimbabwe



Source: Data from WHO/UNICEF JMP; forecast from IFs v 7.36

Figure 21: Childhood malnutrition, Zimbabwe



Source: Data from UNPD, forecast from IFs v 7.36

Conclusion and recommendations

The Current Path forecasts reviewed in this report suggest that Zimbabwe will continue to experience poor development outcomes unless the GoZ takes determined action to change the current trajectory. Current indicators paint a dismal picture of poor health outcomes, deteriorating infrastructure, a languishing agricultural sector and near endemic social and economic turmoil. The GoZ's command and control approach to developing the country, reflected in, among other things, land tenure insecurity and the Reserve Bank's control over exchange rates, appears to have stunted the potential of its well-educated population and significant natural resources to transform into economic growth.

Although an ambitious scenario, Great Zimbabwe shows that the GoZ could improve these bleak Current Path forecasts by revitalising the agricultural sector, improving Zimbabwe's investment climate and harnessing the nation's significant human capital. To do so, it would have to commit to substantive democratic accountability and improved service delivery.

First, making the agricultural sector more efficient is the clearest strategy to improve human development outcomes. It is Zimbabwe's historical sector of comparative advantage and previously high yields suggest that the country has a stock of agricultural knowledge and capacity.

> A commitment to substantive democratic accountability is necessary to harness the nation's significant human capital

A necessary step to achieving this is to make land legally transferable (i.e., 'tradable') to unlock investment and productivity in the commercial sector and enable farmers to cultivate currently idle arable land. An accompanying investment in rehabilitating existing irrigation schemes and building new ones within the constraints of Zimbabwe's available internal renewable water resources should follow. The introduction of more modern and flexible farming practices should complement these efforts.

Second, the public sector must be made for more efficient, flexible and adaptive if the GoZ is to improve Zimbabwe's investment climate. Zimbabwe currently performs very poorly in measures of economic freedom and regulatory quality, which are fundamental to economic growth and transformation. Achieving this requires the GoZ to move away from the centralist, control and command approach to economic governance towards a more service-oriented public sector, which would entail streamlining and eliminating redundancies.

Third, a commitment to substantive democratic accountability is necessary to harness the nation's significant human capital. Indeed, the GoZ's most valuable resource are Zimbabweans themselves, who have benefited from

MAKING THE AGRICULTURAL SECTOR MORE EFFICIENT IS THE CLEAREST STRATEGY TO IMPROVE HUMAN DEVELOPMENT OUTCOMES

a high-quality education system. Given better basic services and economic opportunities, Zimbabwe's large and growing workforce could generate a demographic dividend from the mid-2030s onwards.

This requires that the GoZ halt and reverse the emerging challenges of its education system with particular attention to improving performance at the Ordinary Level exams. The declining quality of education across all levels is an issue of increased concern and there are clear signs of stress in the system. Without early action, Zimbabwe is in danger of squandering one of its few remaining development assets.

It also entails that the GoZ develop a transparent, pragmatic long-term growth pathway supported by all stakeholders. Previous efforts to set out a clear developmental vision and realistic targets have not benefited from consultation with and buy-in from the business community, organised agriculture and the international community, never mind ordinary Zimbabweans.

> Zimbabweans continue to express enthusiasm for and in-depth knowledge of democracy despite having suffered recurrent political and economic crises

As such, the GoZ should consider partnering with the IMF in the crafting and implementation of the recommendations due from the Staff-Monitored Program in January 2020. Without external support, Zimbabwe is unlikely to extricate itself from its economic and developmental crisis.

In addition, demonstrably free and fair elections in 2023 that permit local, regional and international monitoring must be core to this long-term growth pathway. Zimbabweans continue to express enthusiasm for and in-depth knowledge of democracy despite having suffered recurrent political and economic crises and are an indispensable resource as the country continues to strive towards economic and political stability.

The GoZ positively must respond to their yearning for substantive democracy, for if not addressed, it could in time give way to more violent strategies that trigger widespread insecurity. Things Fall Apart shows that this scenario would exacerbate Zimbabwe's already alarming levels of food insecurity and preventable health concerns and dramatically escalate the risk of civil conflict.

ZIMBABWEANS CONTINUE TO EXPRESS ENTHUSIASM FOR AND IN-DEPTH KNOWLEDGE OF DEMOCRACY

Annex: Project data and scenario interventions

For this report we used a project data file to update the student flows through the education system with data from the Zimbabwe National Statistics Agency (ZimStat) on the following:[84]

- SeriesEdSecLower2Upper**(Female/Male/Total%)**
- SeriesEdSecUpperGradRateAll**(Fem/Mal/Tot)**
- SeriesEdSecUpperEnrollGross%**(Female/Male/Total)**

The following tables show the interventions made in each scenario.

Table A1: Current Path adjustments in IFs[85]

Parameter and country/region	Definition	Adjustment in IFs	2015/2040 value	Justification/Benchmark
sanitationm (improved), Zimbabwe	Improved sanitation access rate	From 2015, reduce to 0.5 by 2040	38.6%/58.9%	Addresses an issue in IFs v. 36 in which certain physical infrastructure forecasts were highly unreasonable. Adjustments made in line with historical progress
sanitationm (improved), low-income Africa	Improved sanitation access rate	From 2015, reduce to 0.7 by 2040	19.2%/44.2%	See above
watsafem (unimproved), Zimbabwe	Unimproved water access rate	From 2015, increase to 1.4 by 2040	23.9%/18.6%	See above
watsafem (unimproved), Africa low-income	Unimproved water access rate	From 2015, increase to 1.18 by 2040	34.4%/20.3%	See above
watsafem (piped), Zimbabwe	Piped water access rate	From 2015, decrease to 0.8 by 2030 and 0.7 by 2040	29.4%/56.5%	See above
GOVDEBT, Zimbabwe	Total government debt	98%	98%/77%	Increase government debt in line with Zimbabwe's estimated national debt of US$16.9 billion in 2018[86]

Table A2: Great Zimbabwe scenario interventions in IFs

Parameter	Definition	Adjustment in IFs	2015/2040 value	Benchmark
ylm	Agricultural yields	From 2020, increase to 1.5 by 2030 and 1.7 by 2040	1.8/3.2mt	This intervention results in a 1.4mt improvement 2020–2040. Target value of 3.2mt is just above average of low-income African countries by 2040, but still below Zimbabwe's peaks yields of 3.4mt in 1981 and 1986 Internationally, China improved yields by 7.9mt from 1993 to 2001 and Brazil improved by 7mt from 1990 to 2010. In Africa, Ghana increased by 1.8mt from 1989 to 2009 and Côte d'Ivoire improved by 0.9mt from 1993 to 2013, but neither countries have Zimbabwe's history of high yields
landirareaequipm	Land area equipped for irrigation	From 2020, increase to 1.4 by 2040	175 300/ 340 900 ha	GoZ currently estimates 206 000 ha are equipped for irrigation, while IFs estimates 175 000 (in 2015). GoZ plans to equip additional 237 550 ha, and claims that at least 400 000 needs to be equipped for Zimbabwe to have food security This intervention increases the area equipped for irrigation to 340 000 ha by 2040 (a near doubling over 20 years) Between 1990 and 1999, Zimbabwe increased area equipped for irrigation by 60%. Zambia more than tripled its land area equipped for irrigation between 1992 and 2002 (from 46 000 ha to 156 000 ha). Kenya doubled its area of land equipped for irrigation between 1992 and 2010 (from 73 000 ha to 150 000 ha)
goveffectm	Governance effectiveness	From 2020, increase to 1.1 by 2030 and hold	1.3/2.2	Zimbabwe's governance effectiveness deteriorated from 2.2 in 1996 to 1.3 in 2015, below low-income Africa (1.4) This intervention takes Zimbabwe back up to 2.2, which is more or less equal to lower-middle-income Africa, significantly above low-income Africa, and about the same as what Zimbabwe achieved in 1996
govcorruptm	Corruption levels	From 2020, increase to 1.15 by 2030 and hold	2.2/3.2	Zimbabwe scored 4.2 in 1998 and 2.2 in 2015, below low- and lower-middle-income Africa. This intervention takes Zimbabwe to just below average for lower-middle-income Africa by 2040

Parameter	Definition	Adjustment in IFs	2015/2040 value	Benchmark
govregqualm	Regulatory quality	From 2020, increase to 1.2 by 2030 and hold	0.84/1.87	Zimbabwe was above low-income Africa in 1998 (at 1.8). This intervention takes Zimbabwe to 1.87 by 2040 – about equal to low-income Africa (1.93) and below lower-middle-income Africa (2.2)
govriskm	Risk of instability	From 2020, decrease to 0.9 by 2030 and hold	0.34/0.66	The same intervention used by Dr Jakkie Cilliers in his forthcoming book on the future of Africa
econfreem	Economic Freedom index, Fraser Institute	From 2020, increase to 1.15 by 2040	5.6/6.8	From 2005 to 2015, Zimbabwe's economic freedom rose from 2.9 to 5.6. In Zambia, from 2000 to 2010, economic freedom rose roughly 10% (from 6.72 to 7.35) This intervention raises economic freedom from 5.6 in 2015 to 6.8 by 2040, a 30% increase over 25 years
gdpinformshrm	Informal sector	From 2020, decrease to 0.8 by 2030 and hold		See above
taxinfadjm	Impact of informal GDP share on tax rates	Set to 0.1	N/A	Offsets the dramatic unintended rise in revenue resulting from the reduction of informal sector[87]
tefinfadjm	Productivity adjustment from informal economy	Set to 1	N/A	Turns on the forward linkage from the informal economy as share of GDP to productivity
aidrecm	Net foreign aid receipts	From 2023, increase to 1.7 by 2030 and 2.2 by 2040	6.5%/7.4%	In 2015, net foreign aid is 6.5% of GDP. This intervention increases net foreign aid to 8.6% by 2030, after which it falls to 7.4% by 2040, more or less in line with low-income Africa Net foreign aid to Zimbabwe peaked in 1992 at 12% (year of severe drought) and in 2008 at 15%
xfdistockm	Inward FDI stocks	From 2020, increase to 1.2 by 2040	2%/6.4%	In 2015, FDI inflows were 2% of GDP. This intervention raises FDI inflows to 6.4% of GDP by 2040, which is slightly below Zimbabwe's historical peak of 7% in 1998, and above the average for the rest of low-income Africa

Parameter	Definition	Adjustment in IFs	2015/2040 value	Benchmark
clpcm	Available calories per capita per day	From 2020, increase to 1.15 by 2040 and hold	2 200/3 000	IFs estimates that in 2015, 2 200 calories are available per capita per day. This intervention raises calories per capita to nearly 3 000 by 2040, in line with the average for lower-middle-income Africa While this increase is dramatic, it marks a 20% increase between 2015 and 2030 – only slightly steeper than the 15% increase low-income Africa achieved between 1995 and 2010 and the 14% increase lower-middle-income Africa achieved between 1985 and 2000, and equal to the 20% increase Caribbean countries achieved (on average) between 1995 and 2010

Table A3: Things Fall Apart scenario interventions in IFs

Parameter	Adjustment	Reasoning
ylm	From 2020 decrease to 0.8 by 2030 and to 0.7 by 2040	Decrease caloric availability in line with decrease in agricultural production
taxinfadjm	Set to 0.1	Offsets the dramatic unintended rise in revenue resulting from the reduction of informal sector
gdsm (military)	From 2020, increase to 1.3 by 2025 and hold	Increase military spending
aidrecm	From 2020, decrease to 0.7 by 2025 and to 0.6 by 2040	Decrease the amount of foreign aid coming into the country
repaym	From 2020, increase to 1.2 by 2030 and hold	Pay back international debt at a slower rate
democm	From 2020, decrease to 0.5 by 2025 and hold	Decrease levels of democracy
goveffectm	From 2020, decrease to 0.75 by 2025 and hold	Decrease governance effectiveness
govcorruptm	From 2020, decrease to 0.8 by 2025 and hold	Increase corruption
econfreem	From 2020, decrease to 0.85 by 2030 and hold	Lessen economic freedom
infraelecm	From 2020, decrease to 0.85 by 2025 and hold	Decrease electricity access rate

Parameter	Adjustment	Reasoning
sanitationm (improved)	From 2015, decrease to 0.3 by 2040 (In the adjusted Current Path scenario, it is decreased to 0.5 by 2040)	Decrease access rate to improved sanitation
watsafem (unimproved)	From 2015, increase to 1.8 by 2040 (In the adjusted Current Path scenario, it is increased to 1.4 by 2040)	Increase access rate of unimproved water (complements watsafem (piped) intervention)
watsafem (piped)	From 2015, decrease to 0.6 by 2030 and 0.5 by 2040 (In the adjusted Current Path, it is decreased to 0.8 by 2030 and 0.7 by 2040)	Decrease access rate to piped water
svmulm (police conflict)	Increase to 3 in 2023 and hold through 2026, return to 1 and hold	Increase police brutality around the 2023 elections
govriskm	From 2020, increase to 1.75 by 2025, reduce to 1.1 by 2030, and hold	Increase risk of instability associated with government performance
confforsw	Switch on (to 1)	Turn to 1 to turn on the impact of intrastate conflict/state failure/ fragility on multifactor productivity or democracy
sfintlwaradd	From 2020, increase to 1 by 2025, then reduce to 0.7 by 2030, and hold	Increase the probability of internal conflict/state failure over time for a country. It increases or decreases the index value that the model calculates. (The normal value is 0)
svtohlsw	Switch on (to 1)	Turn to 1 to turn on the impact of societal violence to health

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79 See the Annex for a description of the interventions in the Great Zimbabwe and Things Fall Apart scenarios.

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