WORKING PAPER

working paper **number 191**
july, 2021

ISSN 1812-108x

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The International Policy Centre for Inclusive Growth is jointly supported by the United Nations Development Programme and the Government of Brazil.

Working Papers are available online at www.ipcig.org and subscriptions can be requested by email to ipc@ipc-undp.org.

Print ISSN: 1812-108X

SUMMARY

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MINING REVENUE, FISCAL SPACE AND SOCIAL POLICIES: THE CASE OF ZAMBIA

Rafael Aguirre Unceta[1]

1 INTRODUCTION

Mining resources, whose extraction and export were initiated during colonial times, have played an important role in the economy of Zambia, a landlocked country in central southern Africa. The nationalisation of copper mines some years after independence (1964) and their subsequent privatisation at the beginning of the 21st century constituted key economic policy decisions in this country. The legal and fiscal framework applicable to private mining activities still represents a major national issue for the Zambian government and public opinion. As in other developing countries, it is expected that these activities, extracting national natural resources, yield a benefit to the country and its population. A significant part of this benefit should be channelled as a contribution to the public budget—what Hirschman (1981) called 'fiscal linkage'. Even if this contribution has varied, affected by fluctuations in the mining economy (production, prices) and by frequent changes in the government's mining taxation policy, its impact on national budgetary capacity has not been negligible.

Zambia still faces crucial development challenges, such as high poverty rates, food insecurity and precarious living conditions of a large part of its population, and poor public infrastructure. The question arises as to what extent the mining of natural resources has facilitated public action regarding these challenges or whether, on the contrary, mining has had a neutral or even counterproductive impact, as predicted by the 'resource curse' theory. Indeed, the level of public spending rose significantly during the period studied. The issue is thus how this increased budget has been managed to meet certain key development needs.

After presenting a brief summary of Zambia's profile and recent history (section 2), this paper will consider the size of the mining revenue collected (section 3) and its impact on the overall public finances over the last 15 years (section 4). Finally, the paper will examine the budgetary choices adopted during that period (section 5). Public policy and spending in certain sectors (education, health, agriculture, social protection, roads) will be subject to specific attention.

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2 ZAMBIA'S SOCIO-ECONOMIC AND POLITICAL PROFILE

After belonging to the colonial Federation of Rhodesia and Nyasaland, Zambia (formerly Northern Rhodesia) gained quite peaceful independence from Great Britain in 1964. The British legacy was not propitious. The economic and administrative centre of the Federation had been Southern Rhodesia (now Zimbabwe), and Zambia inherited poor transport infrastructure and a low level of education.

Apart from indigenous subsistence agriculture, the most significant productive resources (representing 47 per cent of gross domestic product—GDP—in 1964) were minerals (copper, and cobalt as a by-product). The mines had begun to be exploited in the Copperbelt (in the north) in colonial times, under the control of, first, the omnipresent British South Africa Company founded by Cecil Rhodes, and later, two private companies (Anglo-American Corporation—AAC—and the Rhodesian Selection Trust—RST), in which US investors had majority interest. The mines were nationalised in different phases after independence, by the government headed by Kenneth Kaunda.

Zambia has a vast territory and a dispersed population (18 million people in 2019). Its annual demographic growth has been approximately 3 per cent in recent years, one of the highest in sub-Saharan Africa, as a result of an elevated fertility rate (5.3 births per woman). Although to a lesser extent than other southern Africa countries, Zambia has suffered the ravages of HIV/AIDS and its social and economic consequences. HIV prevalence and AIDS mortality tend to decline following active prevention measures and generalised treatment. Zambia's Human Development Index has risen from 0.584 in 2019 and is slightly above the average for sub-Saharan Africa (SSA) of 0.547 (UNDP 2020). By 31 December 2020, Zambia had more than 20,000 confirmed cases of COVID-19, with an incidence of 113.56 cases per 100,000 habitants, which is below the SSA average of 167.72, and a case fatality rate of 2.1 per cent, close to the SSA average of 2.2 (ASSET 2020). Health and education indicators have improved since the turn of the century, but Zambia did not reach the Millennium Development Goal (MDG) 2015 targets in areas such as maternal and child mortality or access to drinking water.

The privatisation of mines, completed at the beginning of the 21st century, contributed to increase mining investment and production in subsequent years. However, it had a very negative impact on the national public interest. The resulting legal and fiscal mining regime later had to be the object of successive reforms by the national government. These reforms were basically initiated in 2008, after the commodities 'boom', but have seen other developments over the last decade, too frequently according to different sources (Manley 2017).

Facilitated by mining expansion, the country experienced substantial macro-economic growth (annual average GDP growth of 6.2 per cent between 2006 and 2015), but this growth was far from being inclusive. The proportion of people living in monetary poverty is still high: in 2015, 54.4 per cent of the population were living below the national poverty line, and 40.8 per cent were in extreme poverty, just below the figure of 42.7 per cent observed in 2006 (CSO 2016).[2] Poverty is concentrated in rural areas (more than 85 per cent of extreme poverty) and coupled with high and growing levels of inequality (Gini index of 54.6 in 2006 and 57.1 in 2015, according to the World Banks's World Development Indicators) that are among the highest in Africa.

2. Estimations based on the multidimensional poverty methodology, which uses social deprivation indicators (education, health, living conditions), give a quite similar proportion of people living in (multidimensional) poverty: 53.24 per cent in 2013-2014 (Oxford Poverty and Human Development Initiative 2019).

Foreign assistance to Zambia has been quite substantial in the past: official development assistance (ODA) in the form of non-reimbursable aid and concessional loans was equivalent to 12.01 per cent of its gross national income (GNI) between 2005 and 2007. Nevertheless, this ratio of ODA to GNI has fallen by two thirds in recent years, according to the Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC).

Zambia has exhibited a relatively stable political path since independence. First President Kaunda's one-party regime (the United National Independence Party) and socialist tendency was succeeded in 1991, after multiparty elections, by a government headed by F. Chiluba, founder of the Movement for Multiparty Democracy, which privatised the previously nationalised mines under a global economic liberalisation policy. Since then, democratic elections have been held regularly, allowing a variety of political parties into power.

This democratic stability, a basic respect for civil liberties and gradual efforts to improve public systems place Zambia above the sub-Saharan average in various international governance indicators. According to the 2018 Ibrahim Index of African Governance (Mo Ibrahim Foundation 2018), Zambia ranked 18th out of 54 African countries, with a score of 56.2 against an African average of 49.9. The most serious governance problem in Zambia has been public corruption, which was particularly prominent during Chiluba's presidency (1991–2002). Corruption is not something that can be addressed easily in the context of a country such as Zambia, with entrenched habits of corruption in some public spheres and frequent bribery practices by foreign companies (OECD 2012). It is recognised that the State has made legal and institutional efforts to reduce corruption, although the efforts are still considered insufficient (OSISA 2017). In the specific area of extractive resources, Zambia achieved Extractive Industries Transparency Initiative (EITI) compliant status in 2012 and has published reports on payments from the extractive sector up to 2018.[3]

3 REVENUE COLLECTED FROM MINING EXTRACTION/EXPORT

Extractive industries (mining, oil) often operate as 'enclaves', with weak direct links to other domestic productive sectors (Hirschman's 'production linkages'),[4] particularly in developing countries. Therefore, the 'fiscal linkage' of these industries may become more important as a way of increasing their budgetary capacity. However, for this potential benefit to materialise, two conditions have to be met: 1) there must be an adequate public capture of the rent

3. Regarding governance in the extractive sector, Zambia ranks in an upper middle position when compared with other African countries, according to the Governance Index elaborated by the Natural Resources Governance Institute (NRGI) (11th out of 28 countries) or the Aggregate Mineral Governance for the Southern Africa region (4th out of 10 countries) reported by Southern Africa Resource Watch and the *Open Society Initiative for Southern Africa (2016)*.

4. The weakness of 'upward' or 'forward productive linkages' of extractive industries in developing countries is well illustrated in Zambia: only 4.4 per cent of goods and services provided to the mining industry were locally produced by Zambian firms (Kasanga 2012). Various attempts have been made to increase the local content in the mining value chain, such as the Zambia Mining Local Content Initiative (2012), the 2013 Mineral Resources Development Policy or the China-sponsored Chambishi Multifacility Economic Zone, focused on the copper supply chain. However, the scope and effectiveness of these initiatives have been limited so far. These local content policies, formulated in too vague terms, have been offset by other economic policies (Kragelund 2017, 4), hindered by structural weaknesses (regulatory environment, human and technological capital, endogenous entrepreneurship, macroeconomic context) (Lombe 2018) or opposed by vested interests of intermediaries and importers (Ramdoo 2016, 8). Through fiscal measures (taxing exports of unsmelted concentrates of copper), Zambia has also tried to incentivise a first processing of the mineral within its territory, but the smelting activities are operated by foreign companies owning the mines.

generated by extractive resources; and 2) the revenue received must be effectively used to serve the general interest and respond to the needs of the country's development. The challenge is to avoid the scenario of rent-seeking and public inefficiency also evoked by Hirschman (1981) and by the 'resource curse' theory.

In Zambia the public revenues derived from mining activities have been subject to considerable fluctuation throughout recent history, both during the nationalised period (a sharp decline along with depressed prices) and under private ownership (from initially tiny amounts to more balanced magnitudes). The evolution of mining revenues over the most recent period deserves more detailed attention. Figure 1 presents the evolution of revenues from 2006 to 2018, as well as the international copper prices and copper production in Zambia. While the production figures show a fairly consistent growth trend, the variable amount of mining revenue is essentially linked to copper prices and to the applicable fiscal regime (the 2008 reform, in particular). Significant fiscal changes were decided in subsequent years (2015 and 2019, in particular), with royalties becoming a pivotal tax instrument.[5] However, price contraction from 2012 meant a decline in revenues, which was reversed only in 2018.

The revenue data shown in Figure 1 (red line) refer only to **specific mining taxes** (mainly royalties, tax on profits and the short-lived windfall tax) and do not include other fiscal or parafiscal **payments by mining companies**. The annual reports of the EITI also provide information on these other payments, among which are those related to value-added tax (VAT)[6] and customs duties, withholding taxes from employees' *wages (pay as you earn—PAYE), dividends yielded by* Zambia Consolidated Copper Mines/Investments Holdings,[7] *and payments made to local communities and councils. Total payments by companies (green line in Figure 1)* are available from the Zambia Revenue Authority for 2004–2007 and *from EITI reports for 2008–2018.*

It is difficult to anticipate the medium-term impact on public revenues of the last mining taxation reform (2019), which again increased the level of royalties, among others. While this reform could increase the potential legal revenue, the actual impact will depend on different factors: investor response, market price trends and more effective public capacity to implement the new regime and recover taxes.[8]

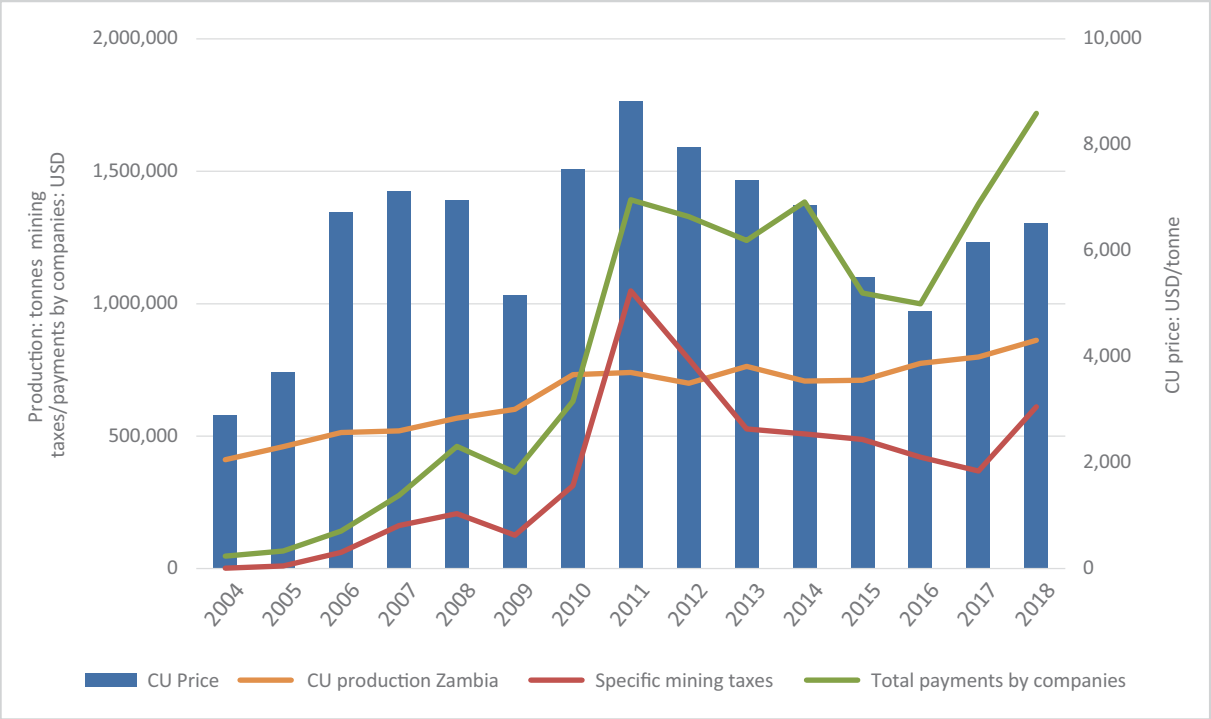
5. As in other developing countries, the Zambian mining tax regime contains two main instruments: royalties and tax on company profits. The first is easier to administer and control to the extent that it is based on the mining company's sales (prices, quantities); nevertheless, it does not allow for the capture of all profits in the event of a boom and may induce marginal firms to stop production in the opposite case. The second instrument (profit tax) is more accurate at taxing profits but involves complex management and less consistent public revenues, also allowing accounting manipulation by companies through 'transfer prices' (UNCTAD 2016; Redhead 2016). The amount of the resulting fiscal loss is important but difficult to estimate, and better control of these practices remains a key challenge (Liebenthal and Cheelo 2018).

6. A correct recording of VAT payments is complicated, however, because the companies are entitled to a refund of at least part of these payments when exporting their products. The long delay in these refunds, for alleged verification reasons, has been one of the disputed issues between companies and the government in recent years. In fact, the volatile course of the line 'Total payments by companies' in Figure 1 (in particular between 2016 and 2018) is due, among other reasons, to different ways of accounting VAT payments in recent EITI reports.

7. The successor to the former public entity that ran the nationalised mines is now managing the State's participation in the privatised mines. This minority stake (between 10 per cent and 20 per cent normally) was negotiated with each company.

8. Compared with figures for 2018, those for 2019 show a reduction of 8.3 per cent in copper output and an almost equivalent drop in copper prices (-8.2 per cent), but an increase (in local currency) of company profit taxes (+31.8 per cent) and royalties (+8.4 per cent) collected (Ministry of Finance 2020). It should be noted that the Zambian Kwacha depreciated by 23 per cent against the US dollar on an annual average between 2018 and 2019. The recovery of copper prices and production throughout 2020 may imply an appreciable increase in mining revenues. Copper export volumes increased by 13.1 per cent between January to November 2019 and January to November 2020 (CSO 2020).

FIGURE 1. Copper production and price, specific mining taxes and total payments by companies



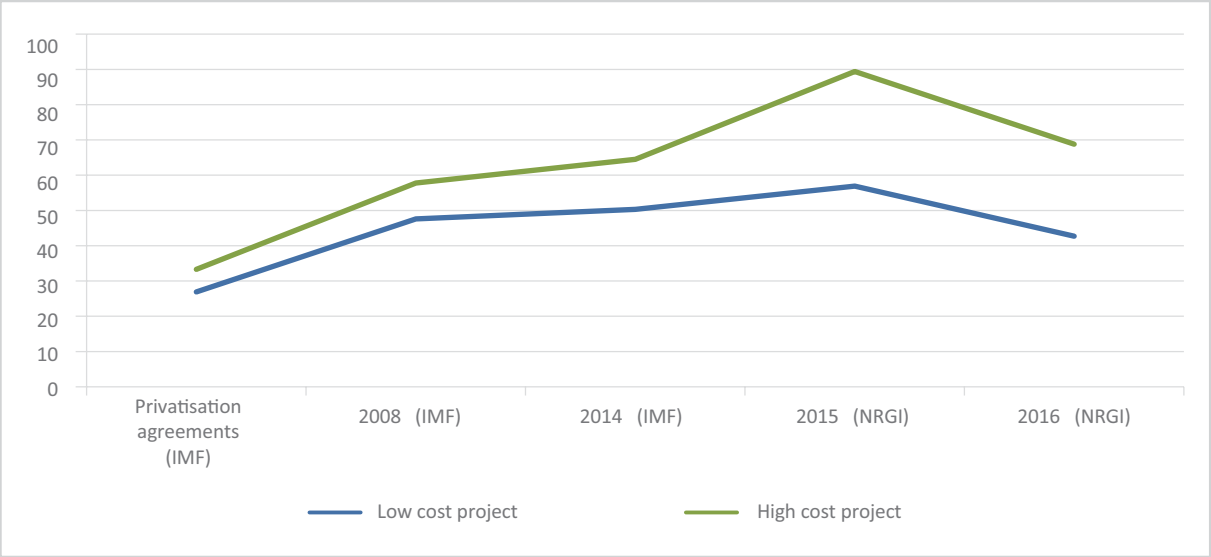
Source: Central Statistical Office; London Metal Exchange; International Monetary Fund Art. IV reports; Zambia Revenue Authority data; EITI reports.

The amount of public revenue obtained from extractive activities (oil, mining) depends on the degree of participation in the rents[9] resulting from these activities. To assess this public participation, the overall fiscal (or parafiscal) burden borne by extractive companies must be measured. The most sophisticated measure, although complex, is the average effective tax rate (AETR), which estimates the percentage of the net income flow generated over the life of the (oil or mining) project assigned to the State. It is a projection of the theoretical potential for raising public revenue according to the established legal and fiscal regime and does not reflect real flows. Some simulations have estimated variable AETRs of 30–60 per cent, depending on the country and the mining product in question (60–90 per cent for oil-producing countries). However, recorded data show lower levels, because the theoretical estimates of the AETR do not capture different tax erosion factors (deficiencies in tax management, evasion by companies etc.) (IMF 2012).

Figure 2 shows the variation of estimated AETRs in Zambia due to the successive changes in the fiscal obligations of mining companies. A distinction is made between low-cost and high-cost mines, which is particularly significant in Zambia. The highest levels were reached in 2015 with the large increase in royalty rates (up to 20 per cent) that were in force for only some months that year. The AETRs corresponding to the most recent changes (2019) are not included, but it can be presumed that they could attain levels like those estimated for 2015.

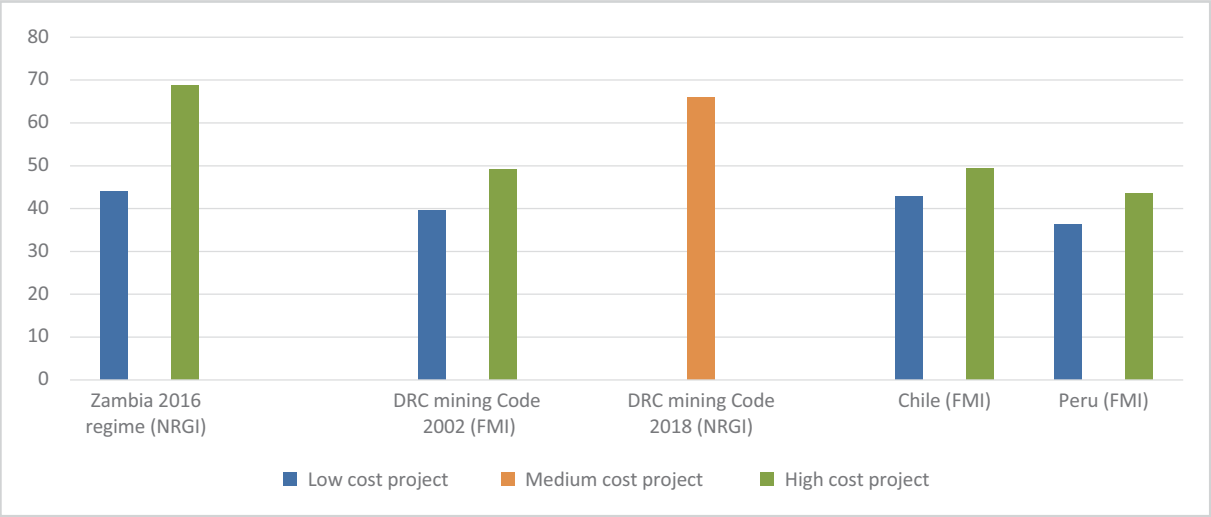
9. The concept of extractive rent, derived to some extent from the Ricardian notion of land rent, expresses the difference between the commercial value of the extractive resource and the amount of all costs incurred (from exploration to production), including the normal return on invested capital. Although variable according to market fluctuations, this exceptional surplus reflects the value of the natural wealth extracted.

FIGURE 2. AETRs in Zambia (%): recent historical evolution



Source: IMF (2015); Manley (2017).

FIGURE 3. AETRs (%) in different copper-producting countries



Source: IMF (2015); Lassourd et al. (2016); Manley (2017).

Figure 3 compares AETR levels in selected copper-producing countries. It is relevant to observe the sharp rise in the AETR in the Democratic Republic of the Congo (DRC) after the new mining code was adopted in that country in 2018. This could have motivated the 2019 fiscal move in Zambia. The DRC is Zambia's most direct competitor in terms of investment choices in the copper region the two countries share (the Copperbelt).[10]

10. The DRC and Zambia are part of the Southern African Development Community, which has been trying for some time to promote some harmonisation between the mining regimes of its member countries. In the recent tightening of mining taxation in the two countries, there seems to have been unilateral mutual alignment rather than explicit coordination.

4 MINING REVENUES AND THE OVERALL EVOLUTION OF PUBLIC FINANCES

The sharp increase in mining revenues in Zambia from around 2010 was driven by both exogeneous (copper market boom) and endogenous factors (2008 fiscal reform). While some of the decline in these revenues was associated with the contraction in the copper price after 2012, the revenues continued to have a financial weight in the national budget. Figure 4 illustrates this weight according to: 1) EITI reports on total payments by companies; and 2) data from the International Monetary Fund (IMF)/Ministry of Finance on specific mining taxes. The respective proportion of total domestic revenue has fluctuated in recent years between 25 per cent and 35 per cent according to EITI reports, and between 10 per cent and 15 per cent according to taxes recorded by the IMF and the Ministry of Finance.

FIGURE 4. Specific mining taxes and total payments by mining companies (% of total budget revenue)

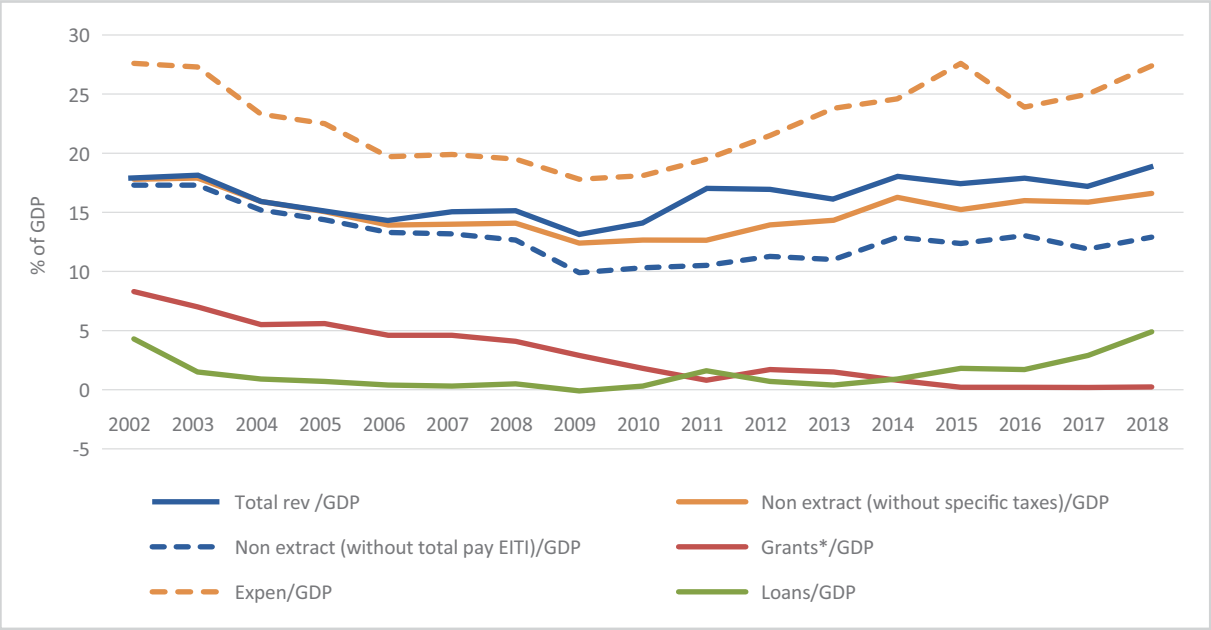
Source: IMF Art. IV reports; Zambia Revenue Authority data; EITI reports; Ministry of Finance annual economic reports.

The next issue to address is the presumable impact of mining revenues on Zambia's public financial capacity. For the sake of simplicity, the impact can be measured by the evolution of the ratio of total domestic revenue to GDP. The trajectory of this evolution (Figure 5, blue line) is changing: for the period examined (2004–2018), the ratio fell slightly until 2009 and then followed an upward trend. Certainly, mining revenues have something to do with this trend, but further analysis can be useful. To remove the impact of mining revenues, Figure 5 shows the ratios of global domestic revenue to GDP, with the exclusion of: a) total payments by mining companies (blue dashed line); and b) specific mining taxes (orange line). It is interesting to note that these two lines referring to non-mining revenues also rise somewhat from 2010.

Several studies (Bornhorst et al. 2008; Thomas and Treviño 2013; Crivelli and Gupta 2014) have concluded that growing extractive revenues can have a negative impact on other domestic revenues: being easier to earn, extractive revenues can replace other taxes on the economy and the local population, with the derived political rent for the power in place. In the case of Zambia, while this move could take place in a period of excessive expectations about mining prospects (as seen in the first decade of the 21st century), it seems to have been avoided in subsequent years. Nevertheless, non-extractive revenues are still recovering the relative level (as a proportion of GDP) they had at the beginning of the century. Actually, public

revenues have not grown that much in Zambia; neighbouring countries, such as Namibia and Mozambique (with lower per capita GDP), as well as most Southern African Development Community members, exhibit higher ratios of total domestic revenue to GDP.

FIGURE 5. Domestic revenue and expenditure/GDP, foreign financing/GDP



Note: Data for grants for 2006 do not include Multilateral Debt Relief Initiative debt cancellation (21.4 per cent of GDP).

Source: IMF Art. IV reports; Ministry of Finance annual economic reports; EITI reports.

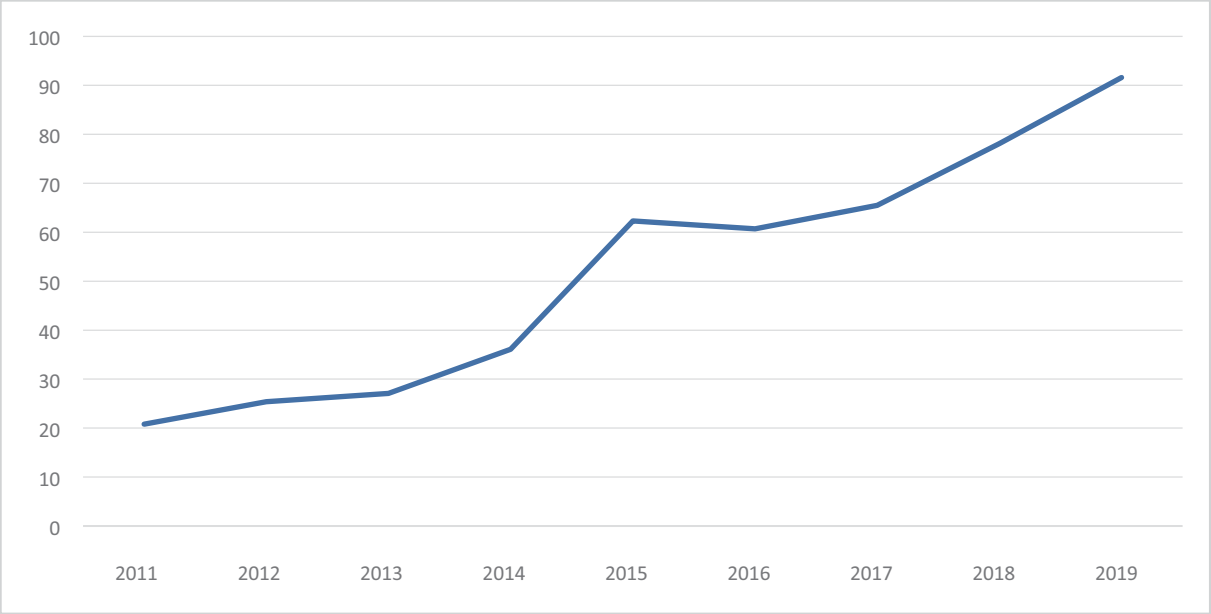
These facts raise the issue of fiscal effort in Zambia. Some recent analyses (Yohou and Goujon 2017; Coulibaly and Gandhi 2018) have estimated that the level of fiscal effort (excluding extractive revenues) is comparatively low in Zambia. Furthermore, that level has been following a decreasing trend for the last two decades, although the recent increase in the ratio of domestic revenue to GDP is not sufficiently captured in the time periods considered by these analyses. In any case, it is thought that revenue performance is hampered in Zambia by a series of features (tax exemptions, large thresholds, multiplicity of tax rates etc.) that shape its general tax system (IMF 2017a). These concessions weaken both direct and indirect tax collection. The productivity of VAT and corporate income tax, and the ratio of customs duty collection to GDP in Zambia are well below the regional average for members of the Southern African Development Community.

Another contingency affecting Zambia's fiscal position is the recent evolution of international aid, a traditional source of financing for public services in developing countries. Over the past 15 years, Zambia has faced a significant reduction in external assistance. According to OECD-DAC criteria, total ODA received by Zambia dropped from an average of 12 per cent of GNI between 2005 and 2007, to an average of 6 per cent between 2009 and 2011, and finally to an average of 4.25 per cent between 2016 and 2018. This decrease particularly affected assistance provided in the form of grants to the national budget, while foreign loans (for projects or budget support) have been increasing (see Figure 5, red and green lines, respectively).

Under the above conditions, the modest increase in total revenue has been unable to cover the substantial expansion of expenditures in recent years (Figure 5, orange dashed line), which has led to growing fiscal deficits.[11] A large part of these deficits has been financed through domestic and external non-concessional lending (mainly Eurobonds issued in 2012, 2014 and 2015). The global debt service now consumes almost half of the domestic revenue, and the public gross debt to GDP ratio was above 90 per cent at the end of 2019 (see Figure 6). Some spending adjustment took place in 2016, but it was not maintained in the following years (Figure 5). The mining tax hikes in 2019 were also intended to help bring down this mounting debt and confront the increasing cost of servicing it.

To summarise Zambia's budgetary track-record during the period of increased revenue from mining, the resulting fiscal space has been unsteady and contingent upon factors related to both the mining economy (prices, production, taxation etc.) and the other sources of budget financing. The low level and limited growth of non-extractive revenue, as well as the rapid reduction of external aid flows, have also reduced the impact of the additional mining revenue. Public expenditures grew substantially, but this was allowed by a large recourse to debt financing that seriously constrains the current fiscal space. In addition, the composition and efficiency of the expanded public spending raise other issues that will be addressed in the following section.

FIGURE 6. General government gross debt/GDP (%)



Source: IMF government finance data.

11. Zambia's financial position could become even much more critical in 2020 because of the effects of the COVID-19 pandemic, despite ad hoc external assistance. GDP is expected to drop by 4.8 per cent in 2020 and to recover only 0.6 per cent in 2021. According to the 2021 budget address (Ministry of Finance 2020), the additional fiscal gap (lost revenue, increased expenditures) will result in a 2020 budget deficit of 11.7 per cent of GDP, well above the previously projected 5.5 per cent of GDP. Further domestic debt has been contracted. Zambia should receive support under the G20 Debt Service Standstill Initiative, which suspends debt service payments to most bilateral official lenders until the end of 2020, and is seeking debt relief from one of its main creditors (China, around one third of its external debt). To support the government actions against COVID-19, international financial institutions (the World Bank and the African Development Bank) have provided urgent funding under their respective rapid response facilities. Access to the IMF Rapid Credit Facility has been requested since May 2020.

5 FINANCING AND IMPLEMENTING DEVELOPMENT POLICIES

As in other African countries, development policies and programmes in Zambia are defined through national multi-annual plans. These documents establish the priority areas and the objectives to achieve to develop the country, and further outline the necessary funding (domestic and external) to attain the intended results. To realise inclusive growth, these national plans tend to focus their attention and financial effort on certain core areas: agriculture and food security, human development (education and health) and public infrastructure (roads, in particular). When considering Zambia's national documents for the periods analysed—the fifth (2006–2010) and sixth (2011–2015) national development plans—a significant shift can be observed in the distribution of the foreseen funding between the above-mentioned sectors: the bulk of funding in the fifth plan goes to education and health, whereas in the sixth plan it goes to roads and other infrastructure.[12]

However, behind those presumptive financial forecasts, the relevant issue is how the needs of the different sectors have been effectively addressed through the annual budgets, including the composition, targeting and effective execution of the respective allocations. These matters, as well as some sectoral outcomes, will be briefly examined in this section for the period during which the expansion of public spending was facilitated from various funding sources: mining revenues, some increase in other revenues and debt financing (see the previous section). Some authors, including Gylfason (2001) and, more recently, Francken and Cockx (2014; 2016),[13] have argued that the resource curse can also involve the neglect of social spending (on education or health). This hypothesis will also be examined for the case of Zambia.

Harmonised and reliable information on public expenditure by sector is not readily available. The quality and regularity of this type of data is quite uneven in Africa. This section will use both Zambian national sources (in particular the annual financial and economic reports published by the Ministry of Finance) and statistics from international institutions, such as the United Nations Educational, Scientific and Cultural Organization (UNESCO), the World Health Organization (WHO) and the Food and Agriculture Organization of the United Nations (FAO), in the sectors of their respective competence (education, health, agriculture).[14] Without excluding some possible inaccuracies, it is assumed that this combination of sources can offer more consistency.[15] Data series from these sources are generally available up until 2018.

Figures 7, 8 and 9 present the recent evolution of public spending carried out in Zambia, as well as the average for sub-Saharan Africa, in three publicly recognised priority sectors (education, health and agriculture). Spending on road infrastructure in Zambia is shown in

12. This shift to infrastructure (roads) is maintained in the current Seventh National Development Plan (2017–2021).

13. Gylfason (2001) considers that natural capital abundance tends to crowd out human capital, with specific reference to education expenditures. By econometric estimates, Cockx and Francken (2014; 2016) conclude that a country's dependence on its extractive natural resources ('point source' resources) can lead to a decrease in public spending in the social sectors (education and health).

14. Some of these statistics (UNESCO, WHO) are also compiled in the World Bank's World Development Indicators.

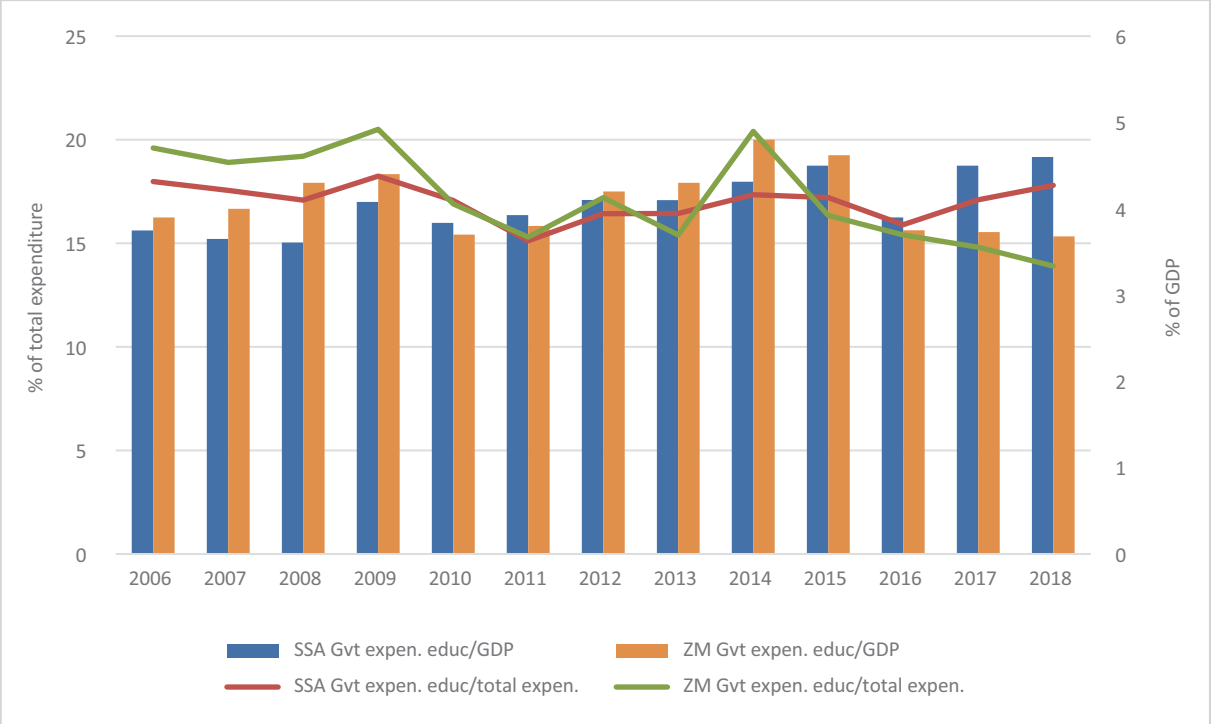
15. Difficulties are also encountered regarding sectoral indicators measuring results and progress. The development of statistical systems in Africa is under way, but the limitations of means and capacities remain significant. The flow of information from local public service levels to the national level is often complex and entails different quality/regularity, sometimes with conceptual or technical differences in the methods used. These differences may be even more pronounced when national results are transferred to international databases. With these reservations, the information used in this section will also be that published by the international institutions already mentioned, supplemented in some cases by data from national statistical bodies.

Figure 12; comparative regional information for sub-Saharan Africa is not available for this sector. For all sectors, the data contain the expenditure financed by external funds (grants or loans), to the extent that they are included in national budgets.

5.1 EDUCATION

Allocations for education increased during the period of mounting mining revenues and budget expansion (2011–2014).[16] Their relative weight, in terms of both GDP and total spending, tended to be slightly higher than the average for sub-Saharan Africa. However, these two ratios have subsequently declined in Zambia to below the sub-Saharan African mean: between 2015 and 2018, spending on education averaged 15.1 per cent of the total national budget in Zambia, against an average of 17.0 per cent in sub-Saharan African countries. According to budget data from the Zambian Ministry of Finance, the downward trend continued in 2018: education expenditures were equivalent to 13.9 per cent of total budget expenditures, representing 3.68 per cent of GDP.[17] Regarding other financing sources, it is worth noting that the contribution of external cooperation funds to education is limited and decreasing; the financial costs supported by households are low at basic education levels.

FIGURE 7. Govemment education expenditure (Zambia and sub-Saharan Africa)



Source: World Bank World Development Indicators; World Bank (2015); Ministry of Finance.

16. Budget allocations correspond to all levels and branches of the education system, under the responsibility (from 2015) of two different ministries: the Ministry of General Education and the Ministry of Higher Education.

17. Allocations for education were 15.3 per cent of total expenditures in the approved 2019 budget provisions, but much lower in the 2020 and 2021 budget provisions (12.4 per cent and 11.5 per cent, respectively).

Public budget expenditures in Zambia have concentrated on enlarging the supply of schools. Together with the introduction of free primary education (grades 1–7) in 2002,[18] this has led to a significant increase in school net attendance rates, from 57 per cent (primary) and 18 per cent (secondary) in 2004 to 78.6 per cent and 43.7 per cent, respectively, in 2015 in (CSO 2012; 2016).

Free education has enabled children from disadvantaged social groups, for whom payment of school fees was previously an obstacle, to enter the school system. Although some financial difficulties persist (operating grants do not reach all schools), the primary education policy tends to be socially equitable. This is not the case in secondary education, where progress is slower and less inclusive, and school attendance rates are low for pupils in rural areas or from poor families (CSO 2016).[19] Although the government has set the goal of gradually providing free secondary education (grades 8–12), this relatively costly reform, including considerable infrastructure investment, takes time to materialise. In the meantime, a public programme supporting families by paying for their secondary schooling covers only a small proportion of the poorest households.

Another relevant issue relates to the composition of the education budget. In recent years, personnel costs have represented between 80 per cent and 90 per cent of total allocations for the primary and secondary education levels.[20] Therefore, the amounts available for other recurrent costs (grants, teaching/learning resources etc.) and capital expenditures (infrastructure) remain relatively low. The significant financial investment in teachers has not yet had a major impact on raising the quality of basic education in Zambia. Weak pedagogical outcomes remain a serious problem, together with high repetition and drop-out rates for pupils.[21]

As reported by national and regional assessments, learning levels are low and below those of most countries in the region (UNESCO 2015). Among the main causes of this situation are the insufficient training and motivation of teachers, political interference in their hiring/deployment, high rates of absenteeism and abandonment, overcrowded classrooms and limited availability of teaching/learning materials. The measures taken by the government in these matters (increasing salaries and the number of teachers,[22] testing their competencies, improving the supply of textbooks etc.) have yet to yield results.

The COVID-19 pandemic has raised serious new challenges. According to a survey conducted in June and July 2020 by Innovations for Poverty Action (IPA 2020), after more than two months of complete lockdown, 50 per cent of primary pupils and 35 per cent of secondary

18. The 2011 Education Act, which made primary education compulsory for all school-age children, outlawed the giving into marriage of school-age children, implemented a re-entry policy for girls and vulnerable children and recognised 'community schools' (20 per cent of all schooling, generally created at the initiative of poor communities). The gender parity index (ratio of girls to boys) is now approximately 1 in primary schools (UNESCO 2016), thus reaching the MDG 2015 target.

19. According to the Living Conditions Monitoring Survey 2015 (CSO 2016), the secondary net attendance rate (NAR) was 31.5 per cent in rural areas, 59.7 per cent in urban areas, 24.4 per cent for extremely poor families and 62.3 per cent for non-poor families. Recorded differences were lower at the primary level, with NARs of 75.4 per cent and 84.1 per cent in rural and urban areas, respectively, and 71.3 per cent and 86 per cent for extremely poor and non-poor families, respectively.

20. After a sharp increase in 2013, average primary school teacher salaries are 6.7 times higher than the national GDP per capita, one of the highest levels in sub-Saharan Africa (World Bank 2015).

21. The low learning outcomes in Zambia contrast with statistics on the comparatively high number of years of expected schooling in the country; according to the 'Human Development Report' (UNDP 2020), the value of this indicator was 12.1 years in Zambia (average of 10 years in sub-Saharan Africa), higher than that of most countries in the Southern Africa region (see Figure A in annex).

22. The pupil-to-teacher ratio (PTR) was high in the past (national average of 57 in 2006) but has decreased (42.1 in 2017) (see Figure B in annex). Nevertheless, there are considerable PTR disparities between provinces (36.6 in the Copperbelt and 87.7 in the Eastern Province) (Ministry of General Education 2018).

pupils were still not attending school. Most of the schools in rural areas are under-resourced and ill-equipped to be able to provide support to students learning from home, and parents are unable to support children's learning, widening the equity gap between the well-off and worse-off in education (OCHA 2020a). The Global Partnership for Education is funding the Ministry of Education to implement a response and recovery plan that aims to support the continuity of learning.

5.2 HEALTH

According to WHO data,[23] government spending in the health sector has followed a U-shaped trajectory, illustrated in Figure 8, with a visible upward trend from 2009 to 2014 and some contraction later on. It should be borne in mind that a significant part of health expenditure is financed by external resources, mostly through extra-budgetary channels. Nevertheless, the relative share of external funding is decreasing in Zambia (from 48.3 per cent of health expenditures in 2008–2010 to 38.6 per cent in 2014–2017),[24] as is the funding from the population (out of pocket), from 28.3 per cent in 2008–2010 to 12.4 per cent in 2014–2017 (free health primary care was gradually put in place between 2006 and 2012).

The increasing government share of health financing (from 15.6 per cent of expenditures in 2008–2010 to 48 per cent in 2014–2015) compensated for the reduction in the other two other funding sources, although that share dropped to 38.5 per cent in 2016–2017. The relative level of government health spending (as a proportion of total spending or GDP) has declined since 2015 and was close to the sub-Saharan African average in 2018 (Figure 8).[25] Nevertheless, this downward trend seems more moderate than the one recorded for the education sector.[26]

Life expectancy at birth (a component of the Human Development Index) declined in Zambia in the 1980s and 1990s but has notably recovered more recently (Figure C in annex). The HIV/AIDS pandemic explains this trajectory, with a reduction of approximately 25–30 per cent in the proportion of adults living with HIV over the past 20 years and progressive access to antiretroviral treatment, free of charge since 2004.[27] Other health indicators, such as maternal and child mortality, have also improved, although the MDG 2015 targets for Zambia in these areas were not fully met.[28] Figure D in annex shows the decline in child mortality, which has been faster than the sub-Saharan African average. The number of deaths from malaria (all ages) has also fallen by more than half between 2010–2012 and 2015–2017 (WHO 2018).

23. Data for 2018 are taken from the Zambian Ministry of Finance budget execution reports.

24. According to OECD-DAC data, health is the most assisted sector in Zambia (65 per cent of total ODA in 2017-2018); a large portion of this assistance is devoted to fight HIV/AIDS.

25. Expressed in per capita terms, government health expenditure also decreased from a peak of USD32.92 at current rates in 2014 to USD27.58 in 2015 and USD21.65 in 2016, with some subsequent recovery in 2017 (USD26.13) and 2018 (USD28.40). According to WHO data, the African average for this indicator between 2015 and 2017 was USD56.70 at current rates.

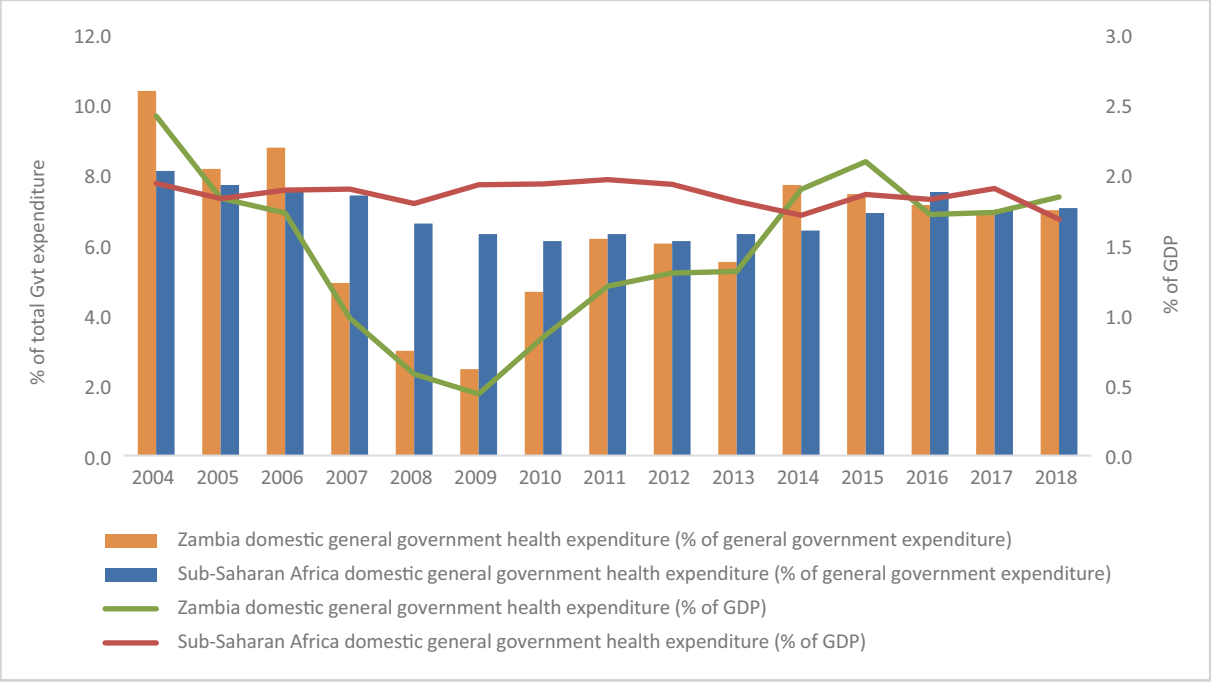
26. In terms of approved budget provisions, the proportion of total expenditures allocated to the health sector fell from 9.3 per cent in 2019 to 8.8 per cent in 2020 and 8.1 per cent in 2021.

27. According to the 2013-2014 Demographic and Health Survey (CSO and Ministry of Health 2014), Zambia's HIV prevalence was 15.6 per cent of the adult population in 2001-2002, 14.3 per cent in 2007 and 13.3 per cent in 2013-2014. The most recent prevalence is estimated at 11.3 per cent (UNAIDS 2018). In 2017, 78 per cent of adults and children living with HIV were receiving antiretroviral treatment.

28. Zambia was close to attaining the MDG 2015 target for child mortality with a rate of 66.1 under-5 deaths per 1,000 live births (target of 63.6 per 1,000); in maternal mortality, the gap was wider.

The free primary health care policy significantly increased the utilisation of public health care facilities, especially by disadvantaged social categories, constituting a step towards universal health coverage (Hangoma et al. 2018). However, equity issues in the provision of health care persist in Zambia. There is an urban bias in the territorial distribution of financial and human resources (Chitah and Jonsson 2015). Barriers remain to poor people's access to secondary- and tertiary-level hospitals (Phiri and Ataguba 2014), while supply deficiencies are still appreciable at the rural primary level; it has been estimated that global per capita benefits at all public health care facilities are greater for richer households (De la Fuente et al. 2017). A recently published review of public health care expenditures in Zambia (World Bank 2019a) provides more information on some of these issues from the point of view of the efficiency of public health care resources. Disparities in per capita public health care spending are quite substantial between provinces, with rural provinces less favoured. These provinces are in fact experiencing worse outcomes for some health indicators (child mortality and child stunting). The allocation of human resources is even more unbalanced, with rural areas having half as many health workers per 1,000 people as urban areas (Ministry of Health 2018); half of the doctors are concentrated in the province of Lusaka. The estimated health personnel deficit has been reduced overall (from 69 per cent in 2005 to 43 per cent in 2016), but it is still very high in most rural and remote areas.

FIGURE 8. Government expenditure in health (Zambia and sub-Saharan Africa)



Source: WHO Global expenditure database; Ministry of Finance.

Another question is raised regarding the distribution of health budget funds to different kinds of expenditures. The recruitment of health workers, whose number doubled between 2005 and 2016, and some sizeable salary and wage increases since 2011 increased the proportion of wages in the total health budget from an average of 36.7 per cent in 2006–2008 to 58 per cent in 2014–2016. This increasing share leaves insufficient room for other key expenditures, such as infrastructure development (and maintenance), medical equipment

and the acquisition of drugs, vaccines and other health supplies. Together with budget implementation problems (the partial or late release or use of funds, including subsidies to districts and health facilities, deficient procurement, erratic drug supply etc.), the unbalanced allocations weaken the quality of care provided. In response to the COVID-19 pandemic, the fragility of the public health care system is being mitigated to some extent by the provision of urgent/emergency external support and by reinforcing or stepping up community-based care (through community volunteers/workers). Nevertheless, the fact that over 80 per cent of reported deaths were occurring outside health care facilities (OCHA 2020a) indicates serious constraints on the management of severe cases.

5.3 AGRICULTURE

Despite some fluctuation, agricultural spending in Zambia[29] has followed an upward trend for the last decade. Its ratio to both GDP and total government spending is far above the sub-Saharan African average (see Figure 9). Unlike most African countries, Zambia has for some years (2011 and 2015) even met the target of the Pan-African Maputo Declaration (2008), which foresees allocating 10 per cent of national public expenditure to agriculture.

However, this comparative position is the consequence of a particular circumstance: the very costly subsidy policy implemented in Zambia during the period examined. A large part of the budget for agriculture has been devoted to subsidising: 1) the purchase of inputs (fertilisers, seeds etc.) by farmers through the Farmer Input Support Programme (FISP); and 2) the sale of their production (in particular maize) to a state agency, the Food Reserve Agency (FRA), responsible for storage and marketing. In 2010–2015 these two kinds of subsidies involved an expenditure equivalent to 1.9 per cent of GDP.[30] Their stated purpose has been to increase agricultural production and reduce rural poverty, but their effectiveness in achieving both objectives has been seriously questioned.

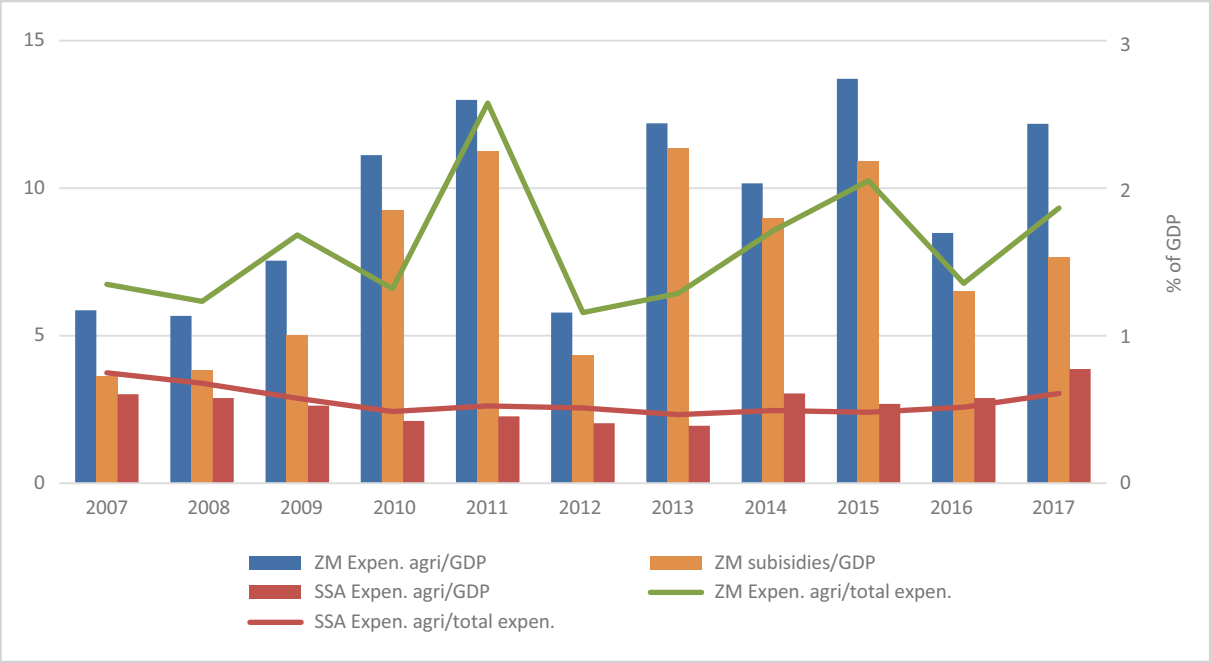
Agricultural production increased considerably in Zambia during the first decade of the 21st century (see Figure 10)—much more than in neighbouring countries with comparable climatic conditions (based on averages for southern and eastern Africa). In the absence of severe droughts, this increase was due more to the extension of cultivated areas than to improved yields; agricultural value added per hectare remained quite stable in Zambia during this period.

However, the recent trend (since 2012) has been irregular, with limited yearly average production growth. In addition, a dry spell has again markedly reduced crops in two of the most recent agricultural seasons (not included in Figure 10); production of the basic staple crop, rainfed maize, fell by 33.6 per cent in 2017-2018 and by 16.3 per cent in 2018-2019. Better weather conditions allowed a significant production recovery in 2019-2020, but the problem is that the high proportion of expenditure devoted to subsidies has prevented the development of other programmes that could promote more climate-resilient agriculture and enhance productivity (diversification from maize monoculture, irrigation, extension services etc.).

29. From 2015, agricultural spending includes allocations to two different budget holders: the Ministry of Agriculture and the Ministry of Livestock and Fisheries.

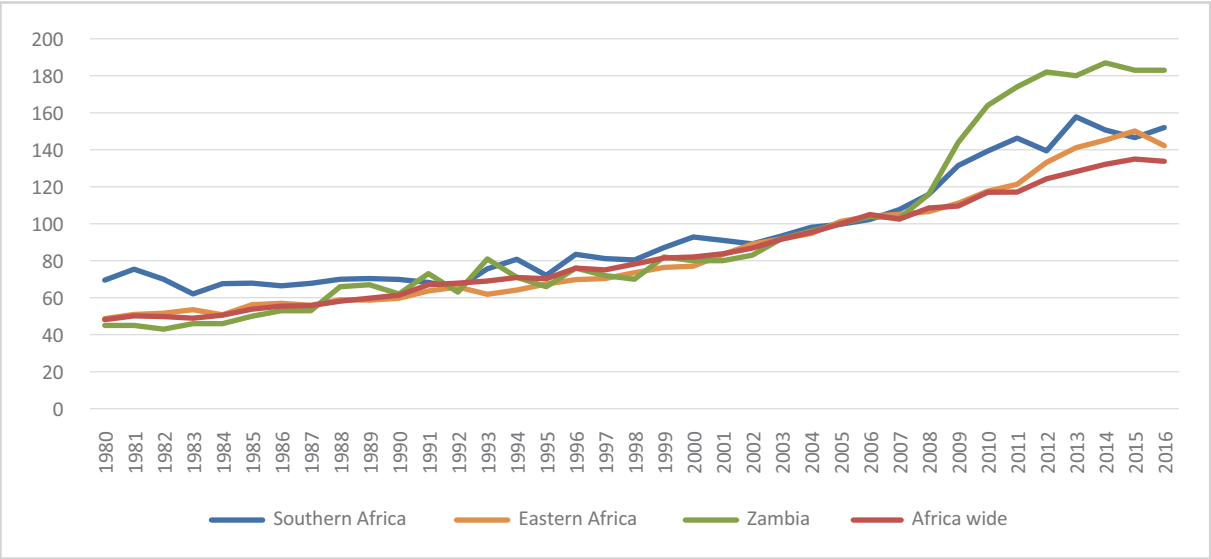
30. Allocations to the agriculture/livestock sector were reduced in the 2018 and 2019 approved budgets. The amount of subsidies paid fell below 1 per cent of GDP in 2018. Nevertheless, in 2019 the actual FISP expenditure was more than three times the amount of the approved budget and equivalent to 1.8 per cent of GDP (Ministry of Finance 2020).

FIGURE 9. Government expenditure on agriulture (Zambia, including subsidies, and sub-Saharan Africa)



Source: FAO-GEA Government expenditure on agriculture (data 2019); Ministry of Finance annual economic reports; IMF Art. IV reports.

FIGURE 10. Agriculture production index (2004-2006 = 100)



Source: Regional Strategic Analysis and Knowledge Support System (ReSAKSS).

5.4 RURAL POVERTY AND SOCIAL PROTECTION

The impact of agriculture subsidies on rural poverty is also far from obvious. Despite the large number of farmers concerned (1.5 million in the FISP), the main beneficiaries of the FISP and FRA subsidies have been found to be relatively well-off farmers (in the FISP, less than 100,000 farmers

own between 5 and 20 ha) (IAPRI 2016).[31] In fact, rural poverty remains extremely high in Zambia: 76.6 per cent of the rural population were living in poverty in 2015—only slightly lower than the 77.9 per cent in 2010 (CSO 2016). The substantial funding of subsidies[32] has not allowed any real expansion of safety net programmes which could directly benefit the poorest rural population (Harman and Chapoto 2017).

Furthermore, food insecurity remains high. Paradoxically, the large growth of agriculture between 2000 and 2012 referred to above did not significantly improve the poor nutritional status of wide sections of Zambia's population. In fact, poor consumers endured a sharp rise in food prices during that period. Zambia is among the African countries with the highest Global Hunger Index (GHI 2018),[33] ranking **115th** out of 119 countries assessed worldwide. The proportion of undernourished people in Zambia was estimated at 46.7 per cent in 2016–2018, well above the sub-Saharan African average of 22.4 per cent (FAO et al. 2019).

The largest anti-poverty programme is the Social Cash Transfer (SCT), which made unconditional transfers of ZMW90 per month (equivalent to USD23 purchasing power parity—PPP—at 2018 rates) to 700,000 households in 2020 (according to government figures).[34] Its budget experienced some increase during the period 2017–2020 but remained below 1 per cent of total government budget provisions.[35] In addition to the SCT, two emergency cash transfers have been operating in 2020: one of them, launched in 2019, to assist the communities most affected by recent droughts (over 90,000 beneficiary households), the other (Emergency Cash Transfer) to mitigate the social consequences of the COVID-19 pandemic (more than 250,000 households covered).[36] Both are supported by external funding. Besides these temporary programmes (six months), the government has announced the intention to scale up the SCT (Ministry of Finance 2020). Its increased 2021 budget (almost 2 per cent of total government expenditures) is expected to cover around 1 million beneficiaries with a ZMW110 monthly transfer.

31. A special input supply programme for the most vulnerable farmers (Food Security Pack—FSP) is also in place, but its financial allocation has remained negligible so far, together with a low rate of in-year disbursements (49 per cent of the approved budget on average in 2018-2019). A significant funding increase has been announced for the 2021 budget (Ministry of Finance 2020), allowing the number of FSP beneficiaries to triple.

32. In addition to the FISP and FRA schemes, other subsidies (fuel, electricity), whose social impact is clearly regressive (De la Fuente et al. 2017; Cheelo and Haatonga-Masenke 2018), have consumed sizeable budgetary amounts; between 2012 and 2017, the total amount allocated to subsidies was equivalent to 2.7 per cent of GDP.

33. The GHI is a peer-reviewed annual report, jointly published by Concern Worldwide and Welthungerhilfe. The GHI is calculated from four indicators: proportion of undernourished in total population, prevalence of stunting in children under 5 years, prevalence of wasting in children under 5 years and under-5 child mortality rates.

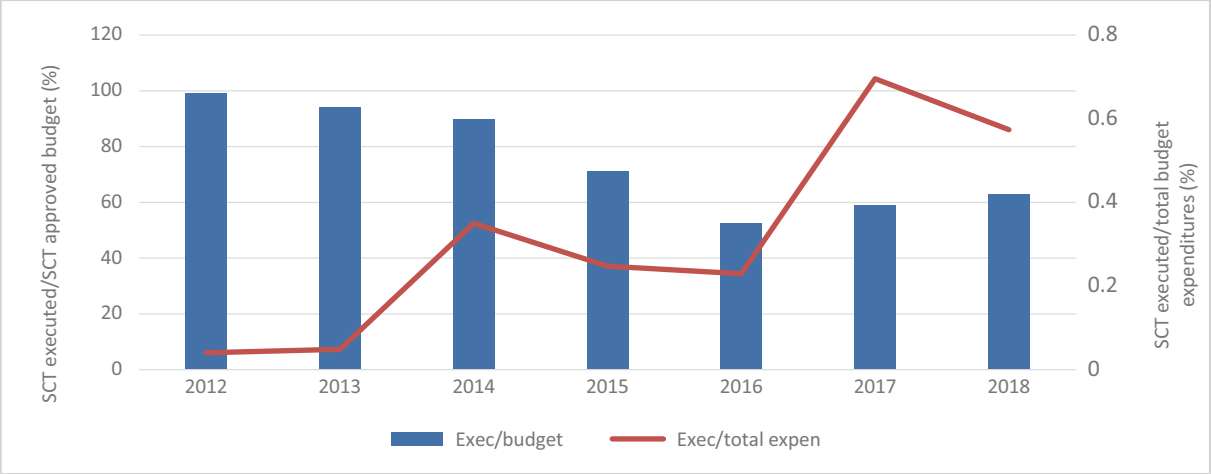
34. According to evaluations of their first period of implementation in Zambia, the cash transfer programmes (pilot phases and SCT) were achieving their primary objective of improving immediate welfare (consumption per capita) in the limited areas they covered. The impact on the asset base of the most vulnerable categories was less significant (Tembo et al. 2014; Handa et al. 2018).

35. The estimated contribution of the current SCT scheme to extreme poverty reduction is weak (about 1.55 per cent). To have a more significant effect (5.3 per cent), a combination of increased coverage (families with children aged 0–2 years) and a doubling of the transfer amounts would be necessary. These changes would also produce a sizeable reduction in the poverty gap and some decrease (3.7 per cent) in the Gini inequality index. The additional cost associated with these changes would be equivalent to 2–3 per cent of total government expenditures (Kampamba et al. 2019).

36. Living conditions for rural households in Zambia have been particularly difficult in 2020 because of the socio-economic impact of the COVID-19 pandemic (IPA 2020), together with the aftermath of the maize shortage of the 2017-2018 and 2018-2019 seasons. Around 2.3 million people were in severe food insecurity during the first quarter of 2020. The much better harvest of 2019-2020 is expected to improve the food situation.

Nevertheless, for these laudable intentions to have a real impact, implementation of the SCT requires a significant overhaul, since its performance and effective execution have been questioned (ZIPAR 2020). Past disbursements reveal a worrying trend. The ratio of actual in-year disbursements relative to the approved budget has been falling since 2012, and only improved slightly in 2017-2018 (Figure 11), which reveals substantial payment gaps and management flaws.[37] The average disbursements in 2017-2018 represented 0.64 per cent of total national budget disbursements. This level of financing (0.17 per cent of GDP) is a third of the average funding for similar programmes in other sub-Saharan African countries (World Bank 2019b).

FIGURE 11. Actual SCT expenditure, 2012-2018



Source: IMF (2017b); Ministry of Finance annual economic reports (2017; 2018).

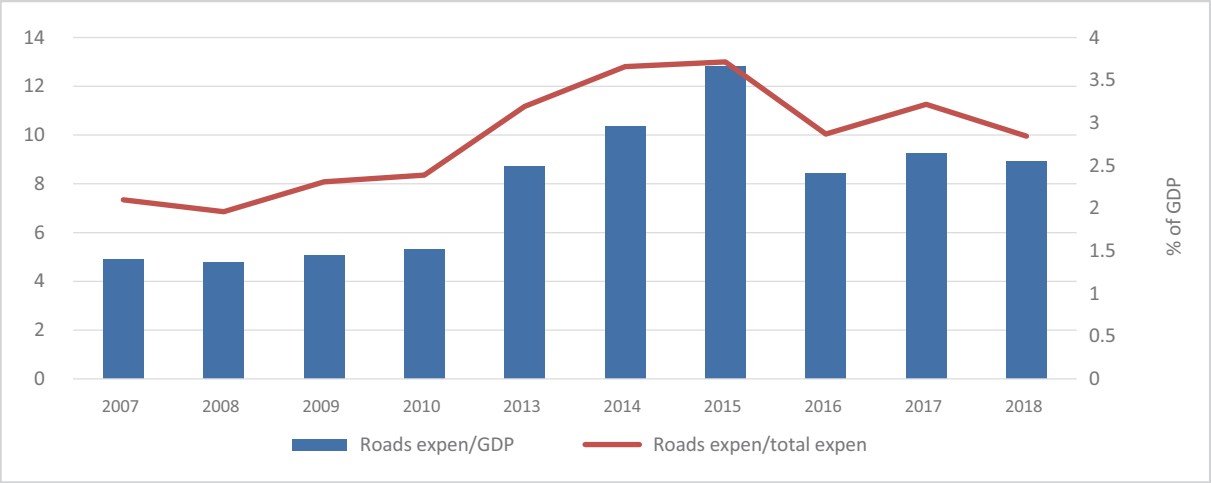
But problems of another nature have been also found regarding the SCT: a group of donors (UK, Finland, Sweden, Ireland and UNICEF) that was funding 25 per cent of the cost of the programme suspended its support in 2018 after allegations of fraud and corruption in the programme. USD4.7 million was allegedly diverted at the ministerial level (The Guardian 2018). Nevertheless, support from these and other donors resumed for the two emergency cash transfers in 2020.

5.5 ROAD INFRASTRUCTURE

Another priority sector for the Zambian government is infrastructure, particularly roads, budget funding for which increased from an average of 1.4 per cent of GDP in 2007–2009 to over 3 per cent of GDP in 2014–2015 (approximately 40 per cent of total public investment). In 2012 the Zambian government launched an ambitious road construction/rehabilitation programme (Link Zambia 8000) financed by both domestic and external resources (mainly from Eurobonds and the Ex-Im Bank of China). By August 2018, 756 km out of the 8,201 km of roads to be upgraded (initially over a period of five to eight years) were completed and open to traffic, while 4,959 km were at various stages of execution.

37. The SCT budget underspend continued in 2019. According to the Ministry of Finance's annual economic report for 2019 (Ministry of Finance 2020), SCT in-year disbursements that year dropped dramatically to 15 per cent of the approved budget. Delays and other gaps have also been reported in the distribution of the 2020 COVID-19 Emergency Cash Transfer programme (OCHA 2020b).

FIGURE 12. Road infrastructure expenditure



Source: Ministry of Finance annual economic reports; Road Development Agency annual reports; Office of the Auditor General (2017).

Investment in road infrastructure is most certainly a priority in a large, landlocked country, such as Zambia, to reduce transport bottlenecks for economic activities, promote diversification (from mining)[38] and address the heavy backlog of road maintenance and rehabilitation from 20 years ago. However, the challenge is to find the necessary balance in the public response to different national needs and prevent expensive infrastructure investment from affecting other priority expenditures. Road investment has been the main destination of the rising public debt, whose servicing costs have severely tightened budget margins in recent years.

Other important issues raised by capital investment in many developing countries are its composition and the competent management and efficiency of the projects implemented. Road investment in Zambia is a good case for the consideration of these questions. While the backlog mentioned above was widespread, it was particularly serious in the more extensive unpaved network (mostly feeder roads), essential for the rural population and agricultural activities.

Nevertheless, most funding has been devoted to rehabilitating or enlarging the paved network by upgrading, through frequently uneconomic projects, a few previously unpaved roads (Liebenthal and Cheelo 2018). This political choice has had crowding-out effects on rehabilitation and maintenance expenditure for the rest of the unpaved feeder roads (Raballand and Whitworth 2014). In total, 82 per cent of the primary feeder road network was in poor condition in 2014, to the detriment of rural accessibility (World Bank 2018). For the whole national network, the excessive expenditures on road construction/rehabilitation, compared to those that should be spent on maintenance, has also been questioned (Tembo 2015).

The *efficiency* of *public infrastructure investment* depends crucially on how the entire cycle is managed: from planning and project selection, to procurement and contracting, and to monitoring/supervision of the financial and technical implementation of works. All these steps require strong human/technical capacities in a country's public investment management system,

38. Other essential infrastructure for the development of Zambia's economic activities are energy facilities; the instability of the electricity supply has often disrupted the regular functioning of companies in areas such as mining, manufacturing and services. Investments are under way to increase the power generation capacity, taking advantage of Zambia's strong hydropower potential and expanded coal mining, in both cases, with the strong financial involvement of BRICS countries (China and India) and their construction companies.

and such capacities seem to be lacking in Zambia. According to the IMF Public Investment Management Assessment, an efficiency loss of 45 per cent has been estimated for Zambia's public investment, compared to an average of 36 per cent for sub-Saharan African countries (IMF 2019).

For roads, shortcomings are noted at different stages of the investment cycle, with issues such as insufficiently prioritised planning, project selection that is not always coherent or motivated by economic and social returns, a lack of competitive tendering, and deficient management of contracts (World Bank 2017). The unit cost of road construction or rehabilitation projects in Zambia is significantly higher than the average cost of comparable projects in Africa (African Development Bank 2014). The road programme is managed by a public body, the Road Development Agency, that does not appear to have the required capability to handle and supervise a high volume of operations.[39] The agency has been the object of much criticism by successive reports of the Office of the Auditor General (2010; 2017) concerning the irregular financial and technical management of contracts.

6 CONCLUDING REMARKS

The public revenue derived from mining activities in Zambia has fluctuated considerably in recent history, both during the nationalised period and under private ownership. Over the last 10 years, total payments from the mining sector have fluctuated between 20 per cent and 35 per cent of total public revenues in Zambia, according to the criteria and data considered in EITI reports. Although these levels are lower than those recorded during the extractive boom in other African countries (particularly oil producers), the additional funds collected could create some fiscal space, also considering the negligible mining revenue previously raised. However, these revenues have been unstable and contingent on factors relating to both the mining economy (prices, production, taxation etc.) and other sources of budget financing. The low level and limited growth of non-extractive revenues have also reduced the impact of the additional mining revenues. Public expenditures have grown substantially, but this has occurred through much recourse to debt financing that now seriously constrains the fiscal space. The COVID-19 pandemic will also have a significant impact on the Zambian public fiscal position.

Progress in social services (education and health), the expansion of agricultural and food production, and the development of basic infrastructure (transport, energy etc.) are among the main priorities of public policies in Zambia. These priorities have been met with mixed financial responses. Within a general trend of fiscal expansion, spending on social sectors and agriculture has increased significantly. By 2014-2015, prior to the restrictive measures adopted later, Zambia's expenditure-to-GDP ratio was above the sub-Saharan African average in these sectors. This evolution accompanied progress in social indicators, such as primary school enrolment, life expectancy and infant mortality. The hypothesis of reduced social spending as a consequence of the resource curse does not appear to have been strictly confirmed in Zambia for the period of the mining boom.

However, the increased budget resources failed to seriously address structural problems, such as imbalances between rural and urban areas in the provision of social services or the

39. In the absence of large enough local companies, most road contracts have been awarded to foreign companies, in particular Chinese and South African contractors. By legal provision, these companies must subcontract at least 20 per cent of the value of their contracts to Zambian firms.

poor quality and performance of the education system. In addition, the significantly increased spending on agriculture could have expanded production for some time, but, paradoxically, it has barely improved the worrisome malnutrition and poverty indicators of the rural population. A lack of equity criteria in agricultural policy, with excessive allocations to subsidies that mainly benefit middle-income farmers, could be part of the problem. Social inequalities in the allocation of public funds have also been recorded in access to education and health services.

In fact, the temporary budget expansion referred to above was mostly driven by large public infrastructure investment (roads), rising public wages and increased spending on subsidies on agriculture and fuel. Servicing the growing public debt that originated from financing that expansion has subsequently obliged the government to reduce most other expenditure in recent years, especially in the education sector. Expenditure devoted to personnel costs has been gradually increasing, to the detriment of capital expenditures and the supply/operation of schools and health centres, with a subsequent negative impact on service delivery.

Given the country's territorial characteristics, investment in road infrastructure is perfectly justified to stimulate economic activity and improve people's mobility. Nevertheless, this investment must be compatible with the financial needs of other essential national priorities. The most urgent deficiencies of the overall road network must be addressed coherently, achieving the necessary balance between main roads of national interest and feeder roads serving rural areas. Like other public capital expenditure, the expensive funding of roads should be efficiently managed along the whole investment cycle. According to the reviews and data available, these different requirements have not been adequately met in Zambia.

As a final remark, it can be said that the development returns from mineral resources have been modest in Zambia. It is true that market volatility, considered by some authors to be the main reason for the resource curse, has made the public benefit obtained from these resources inconsistent, both during the nationalised period and in the most recent privatised scenario. However, it is also true that, as most resource curse analysts assume, in the absence of solid institutions and governance guarantees, rents from extractive resources can involve risks of public inefficiency or corruption.

Beyond the adequate public capture of these rents, their use to respond to national needs through the public budget raises other key questions. Although the proclaimed national policies identify poverty reduction as a major priority and designate the areas where public funds must be invested first, the real targeting and use of these funds involve critical political choices. One key question is how the government interprets and responds to national needs in a country such as Zambia, where poverty remains predominant and may increase because of the COVID-19 pandemic. Insufficient funding and equity in the allocation of public spending have been observed in crucial areas (education, health and social protection). Worthy purposes such as those announced for social protection in the 2021 national budget need to be confirmed at the implementation level. It is disappointing that Zambia, a lower-middle-income country (based on World Bank criteria) since 2011, continues to show (2015) poverty rates above 70 per cent among its rural population, as well as high levels of undernourishment despite the increase in agricultural production.

In addition to the appropriate allocation of funds to priority needs, another decisive issue concerns the available public capacity to implement and efficiently manage policies. In this regard, weaknesses have been raised in fields such as education (teaching), road investment and management of the SCT. Together with better technical and organisational systems, public human capital should be strengthened to achieve the required degree of effectiveness, motivation and integrity. Progress in these matters is not simple; it demands time and a persistent political effort.

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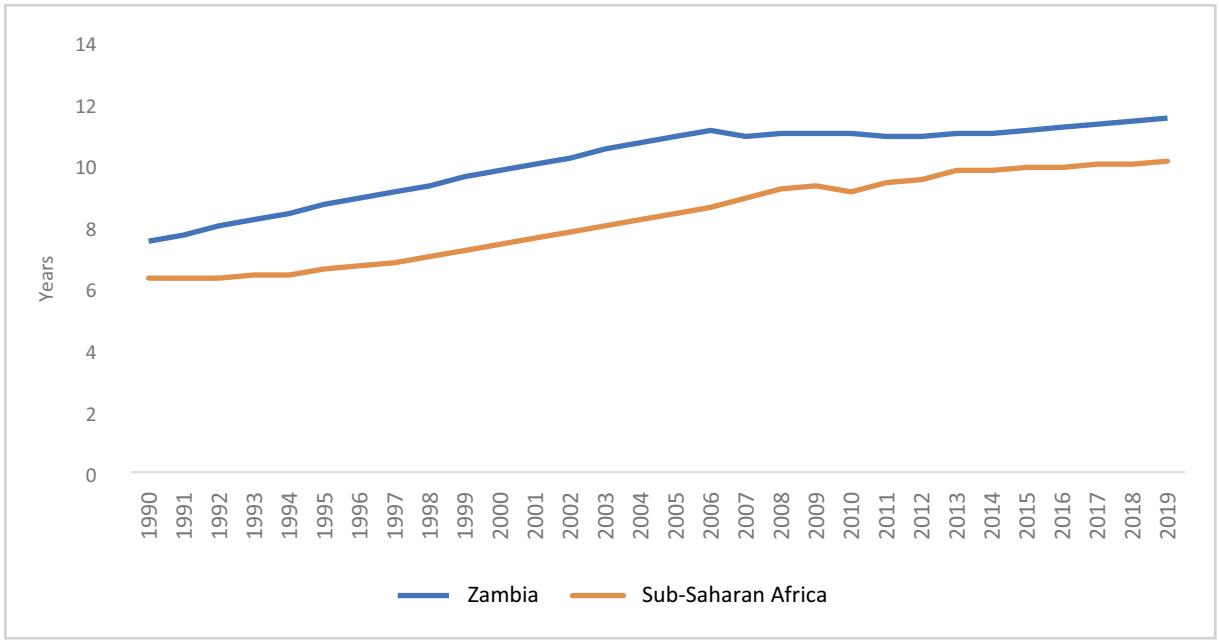
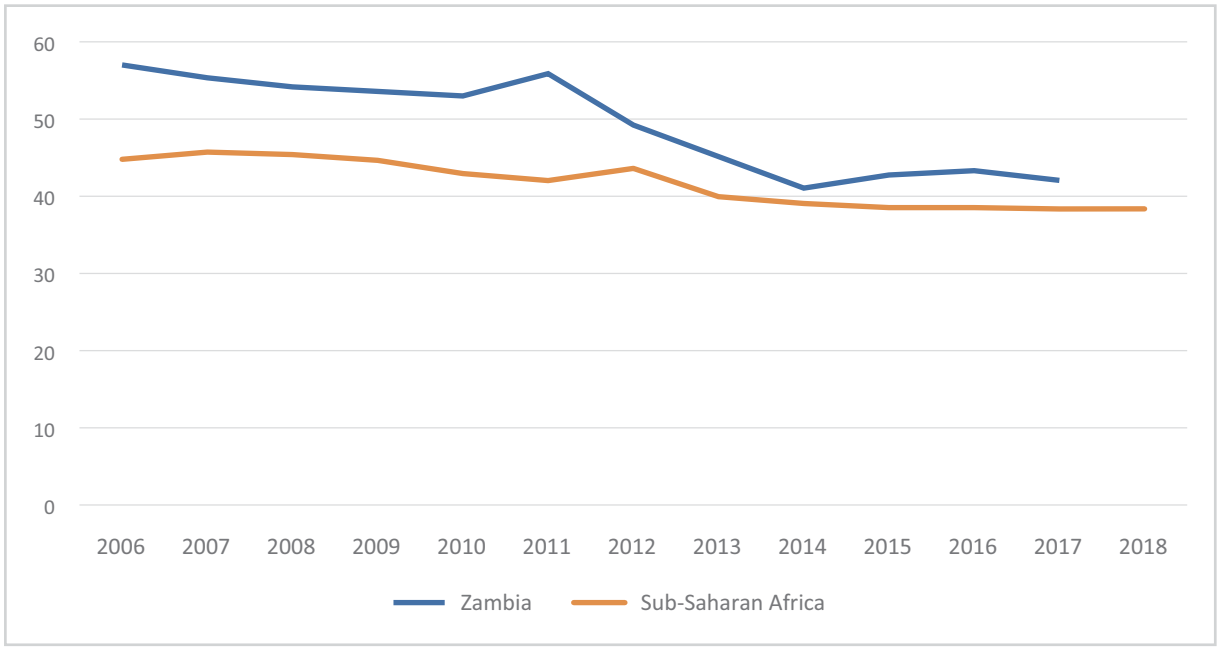
ANNEX: EVOLUTION OF SELECTED SOCIAL INDICATORS

FIGURE A. Expected years of schooling



Source: UNDP (2020).

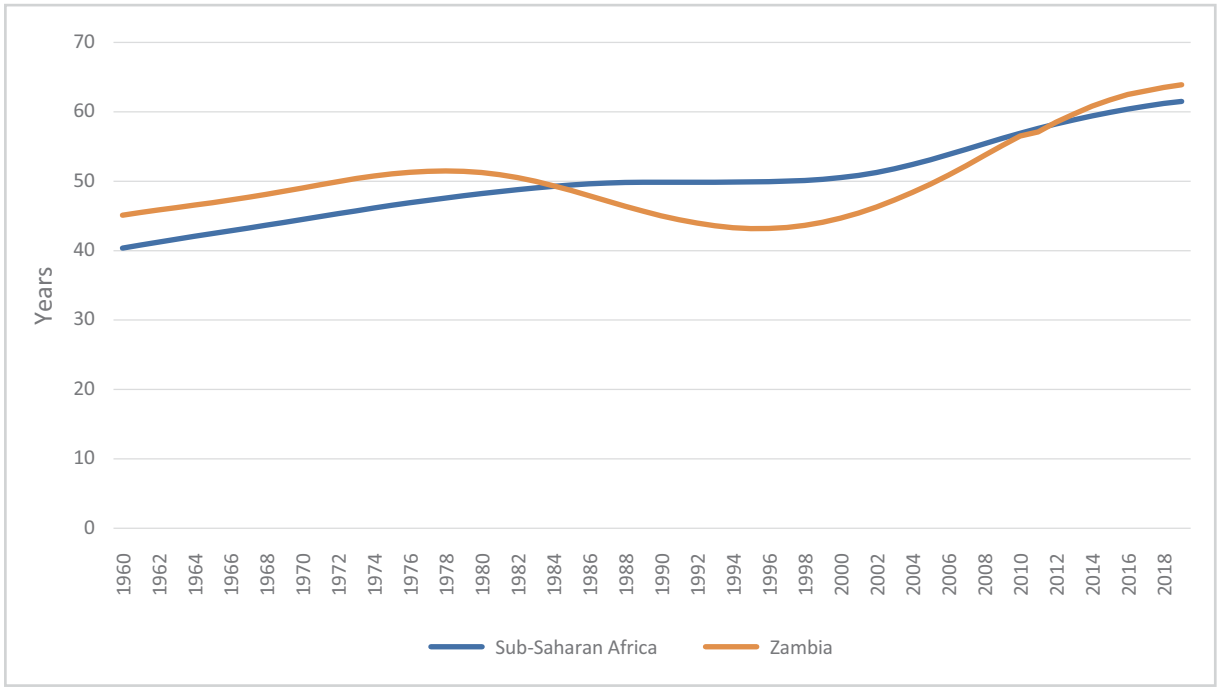
FIGURE B. Pupil-to-teacher ratio in primary education



Note: No data available for Zambia for 2018.

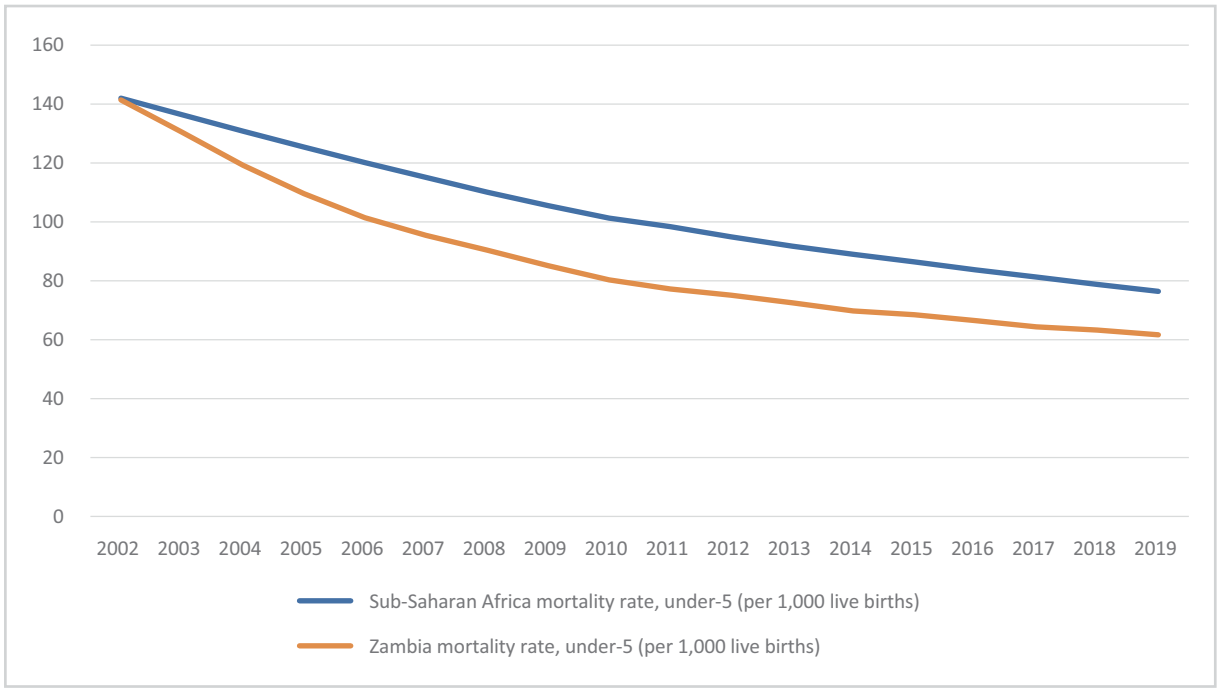
Source: UNESCO Institute for Statistics (2021).

FIGURE C. Life expectancy at birth



Source: UNDP (2020).

FIGURE D. Under-5 mortality rates (per 100,000 live births)



Source: United Nations Inter-agency Group for Child Mortality Estimation (2020).

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