AFRODAD

Policy Brief

NOVEMBER 2017

Impacts of Fluctuating Commodity Prices on Government Revenue in Four Selected Countries in the SADC Region

ANGOLA, DEMOCRATIC REPUBLIC OF THE CONGO, ZAMBIA AND ZIMBABWE

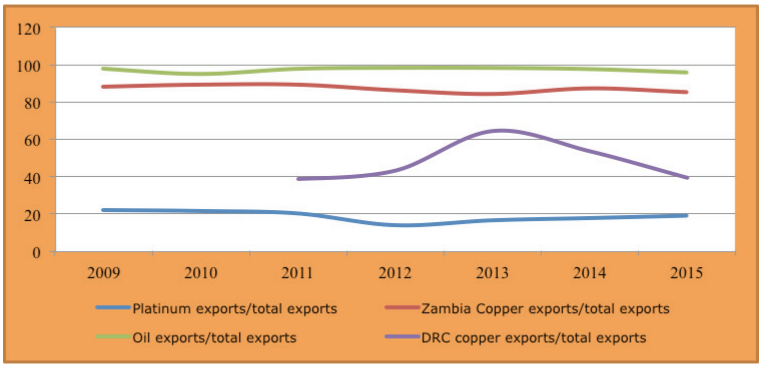
1. Introduction and Background

This policy brief is based on four country studies commissioned by the African Forum and Network on Debt and Development (AFRODAD) on the **'Impacts of Fluctuating Commodity Prices on Government Revenue in the SADC Region'.** The four country studies aimed at deepening the understanding of the drivers and impacts of fluctuating commodity prices on the revenues of four commodity dependent economies in the Southern African Development Community (SADC) region namely: Angola, Democratic Republic of the Congo, Zambia and Zimbabwe. The selected commodities in the country papers are as follows:

- Oil and gas for Angola;
- Copper for DRC;
- Copper for Zambia; and
- Platinum for Zimbabwe.

The selected commodities are all significant contributors to total exports although this is more pronounced for Angola and Zambia than the DRC and Zimbabwe (Figure 1). Oil exports as a percentage of total exports in Angola averaged about 97 percent between 2009 and 2015 while for Zambia copper averaged about 87 percent. In the DRC, copper exports as a percentage of total exports averaged about 47 percent between 2011 and 2015. Relative to other countries, platinum, the selected commodity for Zimbabwe, is not the main export product, given that between 2009 and 2015, platinum exports constituted only about 18 percent of total exports.

Figure 1: The ratio of commodity exports to total exports in the four countries



Angola and Zambia have a higher commodity exports to GDP ratio compared to DRC and Zimbabwe. During the period 2009 to 2015, Angola had an average oil export/GDP ratio of about 53 percent followed by Zambia (31 percent), DRC (19 percent) and Zimbabwe (5 percent) (Figure 2). The impact on the economy of any shocks in exports is expected to be more pronounced in Angola and Zambia than in the DRC and Zimbabwe.

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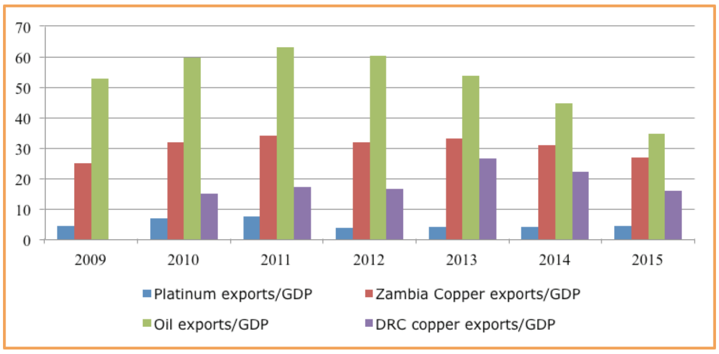
Figure 2: The ratio of exports to GDP for the selected commodities in the four countries



With respect to employment, mining is generally a heavily mechanized industry with overreliance on capital than labour. The mining industry in Zambia only accounts for 10 percent of the total national employment. In Angola, agriculture employs 85 percent of the people, leaving mining and other industries to share the remaining 15 percent. In Zimbabwe, the three platinum mining firms' level of employment constitutes about 23 percent of total mining sector employment. In DRC, the contribution of the extractive sector to employment was only 10.9 percent in 2014, even though it was 23.8 percent in 2012. This underlines the importance of the growing need for value addition and beneficiation of the commodities before they are exported, as this would create employment opportunities across the whole supply and value chain.

Mining companies in the four countries are also involved in development projects in the local communities where mining takes place. Through corporate social responsibility, the mining firms have built schools, hospitals and have also engaged in philanthropic initiatives to ensure that vulnerable groups get access to basic services. However, corporate social responsibility remains largely voluntary in the four countries, given the absence of statutes that make it mandatory for the firms to do so. Society however believes that communities should benefit more from mining, highlighting that existing infrastructure such as access roads to the mining firms are often poor, while pollution and other environmental impacts of mining activities are rarely addressed. There is need to ensure that firms are made liable to invest in such activities through legislation, rather than maintaining this as a voluntary initiative.

2. Policy, legal and regulatory frameworks governing the mining sector in the four countries

Mining companies in the four countries are well regulated, both with respect to taxation and their operations. However, Angola has gone a step further in ensuring active state involvement in exploration activities. International exploration companies are required to function through joint ventures with Sonangol (Angolan State Oil Company), which gives technical and financial reviews when exploration companies engage in tender processes. Foreign oil companies are also required to operate while observing three operational regimes:

- Regime Exclusive for Angolan Companies, where activities that do not require heavy capital investment and with non-specialized know-how cannot be done by foreign companies.
- Semi-Competitive Regime for activities that require a reasonable level of capital investment and higher level of know-how, though not with a great level of specialized knowledge. In this case, foreign companies are permitted to participate through association with an Angolan company.
- Competitive Regime where activities with heavy capital investment and a higher level of specialized know-how may be considered for foreign participation without Angolan company partnership, though local partnership is not excluded.

There are a lot of similarities in these four countries with respect to the general regulatory structure, where a specific legislation that governs operations was enacted in each country and a government Ministry responsible for mines was put in place which oversees its implementation. The regulation of the mining industry is also undertaken in collaboration with a number of state agencies regulating specific aspects of the mining operations, for example environmental issues. The application of taxation principles to the mining industry is also similar across the four countries, for example, corporate income tax, value added tax and royalties are common in these mineral economies. Mining is an activity which generates concerns from many fronts and as such, it is also subjected to a number of legislations, typically with financial implications.

3. The impact of commodity price fluctuations in the four countries

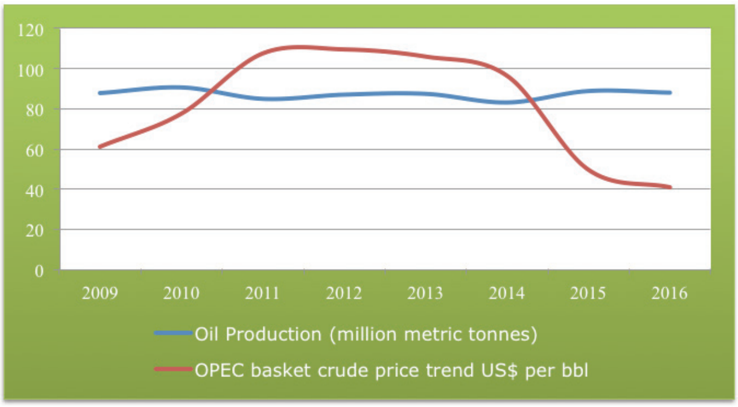
The impact of fluctuating commodity prices can be looked at from four perspectives as follows:

3.1 Impact on production volume decisions

Given that commodity price fluctuations affect revenues, the firms' mining production decisions could be made to smoothen their returns. If this is the case then production levels would be expected to increase during periods of lower prices and decrease during higher price periods. Conversely, mining firms might decide to maximise when prices are high by producing more during boom period and less during low price periods. However, a look at the four countries shows that this is not generally true.

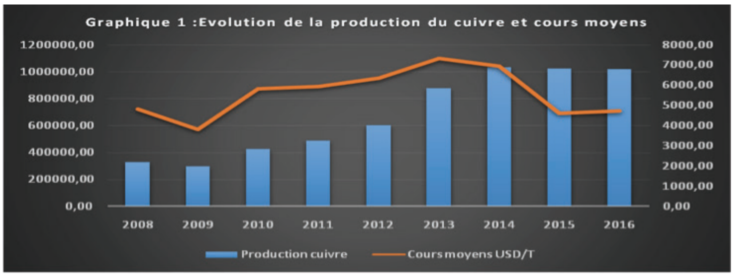
For the case of Angola, production levels have been fairly constant between 2009 and 2016, even though there have been a lot of fluctuations in the prices (Figure 3).

Figure 3: The relationship between oil production in Angola and global oil price movements



In the DRC, the movement in prices has a direct influence on the production decisions by the copper mining firms. Increases in prices between 2009 and 2013 corresponds to the period in which production also increased (Figure 4), which suggests that production decisions were influenced to extract more during the boom period. When prices started falling from 2014, production stabilised. The incentive to increase production, in this case the price increases appears to have been removed.

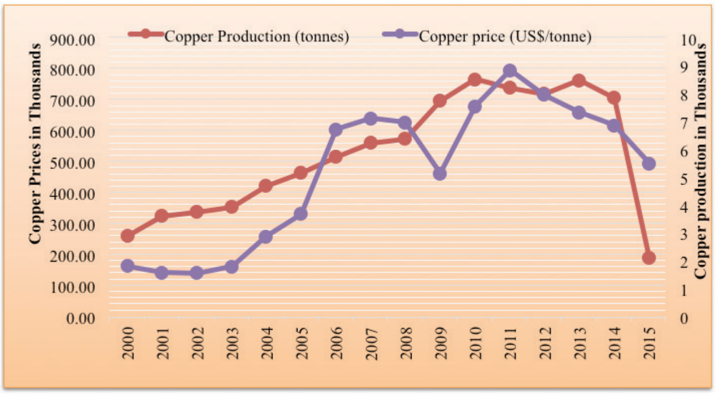
Figure 4: Copper production in the DRC and international copper price movements



For the case of copper in Zambia, the relationship between copper production volumes and price movements also appears to be related to that of the DRC, where the tendency is to increase production during the boom periods, and reduce production during low copper price periods.

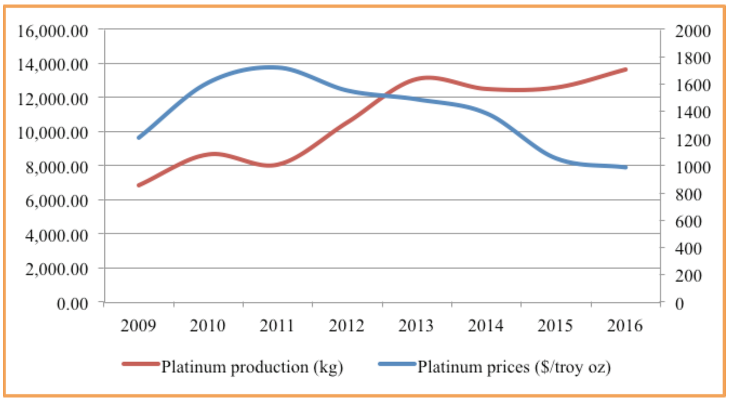
When the prices were increasing between 2000 and 2008, production was also increasing in a consistent manner (Figure 5). Although the fall in prices in 2009 was not accompanied by the immediate fall in production, there is a general tendency for the production levels to move along with the prices.

Figure 5: Zambia copper production volumes and international copper price movements



However, for the case of platinum in Zimbabwe, platinum production levels are based on other factors outside prices as there is no relationship in the movement of production levels and prices (Figure 6).

Figure 6: Zimbabwe platinum production volumes and international platinum prices



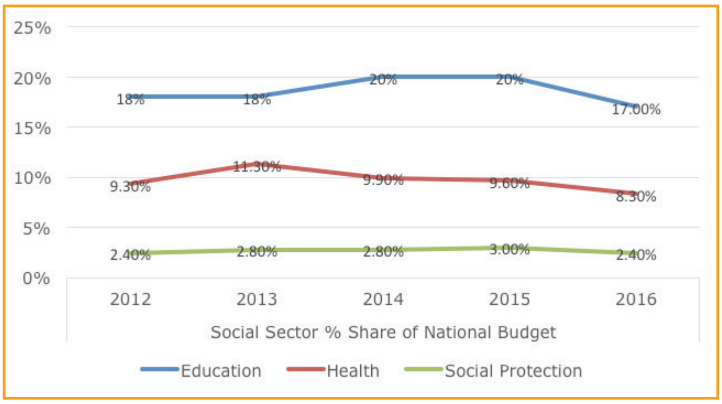
3.2 Impact on government revenue

As expected, all the four governments were affected by the movement of commodity prices in terms of revenue. In Angola, between 2014 and 2015, when the global oil price dropped sharply by 48 percent, central government oil revenues in Angola dropped by 46 percent. Econometric estimations further show that a 1 percent change in oil price leads to a 1.5 percent change in government revenue. In the DRC, the fall of the prices copper by about 19 percent in 2015 resulted in the growth of the revenue collected in the mining sector falling from 41.5 percent in 2014 to 20.9 percent in 2015. However, the government introduced reforms to the tax system to ensure that the domestic budget of the state improved from 14 percent to 16.7 percent in 2015, despite the decline in metal prices recorded on the international market. In Zambia, mining revenue as a percentage of total tax revenue dropped from 19.7 percent in 2012 to 12.3 percent in 2013, 11.8 percent in 2014 and further dropped to 10.6 percent in 2015 as copper prices fell. In Zimbabwe, econometric estimates show that in the long-run, price has a significant negative impact of 0.789 percent on tax revenue as a percentage of GDP for every 1 percent increase in price.

3.3 Impact on social investment

Given that the movement in commodity prices affects government revenues, it also follows that the ability of governments to invest in social services can become easily compromised. Econometric estimates show that in Zimbabwe, a 1 percent increase in platinum price would cause a 0.409 percent increase in the share of social investment in total expenditure in the long-run. When platinum price volatility increases by 1 percent, the share of social investment in total expenditure for Zimbabwe declines by 0.091 percent. For Angola, the fall in oil prices resulted in the government decreasing fuel subsidies from USD7.35 billion in 2014 (5.4 percent of GDP) to less than USD 0.9 billion in 2016 (about 1 percent of GDP). Social expenditure averaged 28 percent of total GDP in 2016 which was a 50 percent decline from the level registered in 2014. In the DRC, the negative impact on social spending was not felt as government was at least able to continue to find resources to allocate towards social expenditure despite the falling prices. This is also true for Zambia, where the government was able to mobilise alternative financing to finance social services outside its primary revenue sources. The share of education expenditure in the national budget for example remained unchanged between 2014 and 2015 at 20 percent despite the 19 percent decline in copper prices (Figure 7).

Figure 7: Social expenditure budget share in total budget for Zambia

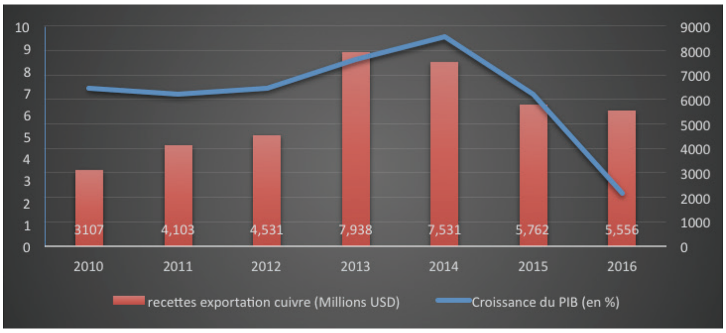


Source: Zambia National Budgets 2012 - 2016

3.4 Impact on economic growth

Given the high dependence on commodities by the four economies, it is also expected that the impact of fluctuating commodity prices would go beyond revenues to also affect economic growth and development. There is a general positive relationship in the DRC between copper prices and GDP growth. The GDP growth pattern between 2010 and 2014 corresponds to the increasing export receipts from copper (Figure 8). The decline in receipts in 2014 and 2015 eventually slowed down economic growth in 2015 and 2016. The GDP growth trend and the copper export receipts trend appear to suggest a lagged response of economic growth to the export revenues realised.

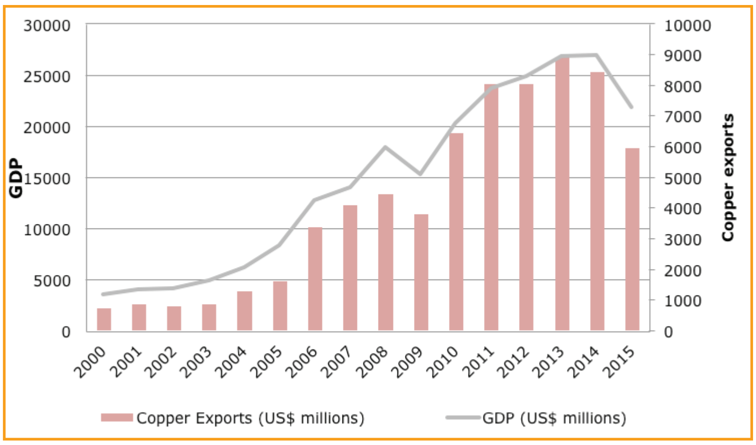
Figure 8: GDP growth rate and copper export receipts in the DRC



Source: AFRODAD 2017[1]

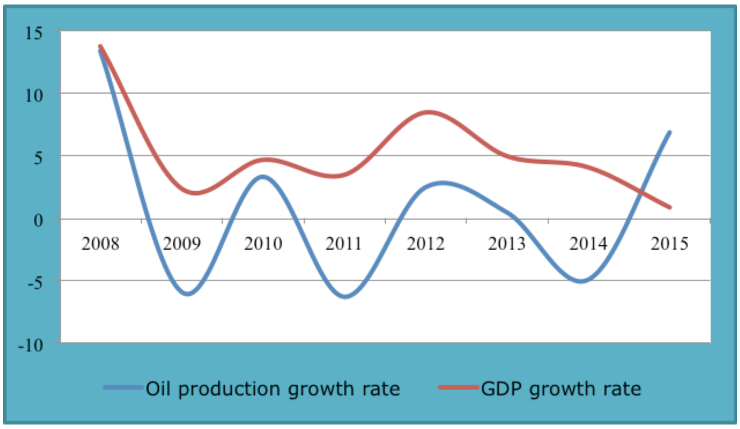
In Zambia, the GDP growth rate is a mirror reflection of the copper exports growth rate, underlining the impact that falling copper prices are a concern to the Zambia government. The same trend is also apparent in Angola where the growth rate in oil production is closely related to the growth rate in the GDP making economic growth in Angola highly sensitive to developments in the oil price movements. For Zimbabwe, econometric estimations show that there is a weak relationship between platinum price movements and GDP growth in Zimbabwe.

Figure 9: Zambia Copper exports and GDP, 2000 - 2015



1 AFRODAD report on *"Impacts of Fluctuating Commodity Prices on Government Revenue in the SADC Region-The Case of Copper for DRC"*

Figure 10: Oil production growth rate and GDP growth rate in Angola



Source: AFRODAD, 2017[2]

4. Responses by governments and private mining sector firms

Governments and the mining firms have both tried to develop strategies to cope with fluctuations in commodity prices. In Zambia, the government has tried national revenue management strategies, which include changing the mining tax regime, establishing a sovereign wealth fund and initiating steps towards adopting the Africa Mining Vision (AMV) to leverage the country's resource potential to benefit its citizens. Similarly, Zimbabwe has also initiated steps to establish a sovereign wealth fund with the Sovereign Wealth Fund of Zimbabwe Act [Chapter 22:20] (No.7 of 2014) in place. Zimbabwe also unsuccessfully tried supply side management strategies in the form of export taxes for unbeneficiated minerals, which could not be sustained and was subsequently suspended.

Angola has used both revenue management and supply side management strategies as a response to the fluctuating oil prices. Revenue management strategies included removing subsidies for asphalt, light and heavy fuel oil and gasoline while LPG, diesel and kerosene are still being subsidized except at much lower rates as a way of managing revenue. The government also established a Sovereign Wealth Fund (FSDEA) in 2012 as a stabilisation fund. As a member of OPEC, Angola also reduced production as part of the OPEC deal to lower output. In the DRC, measures to respond to falling revenues cut across all sectors of the economy, as part of the broad revenue management strategy.

Private mining sector firms have also undertaken strategies in response to the falling commodity prices. Similar strategies across all the countries include cost management as a way of enhancing revenue. In Zambia and Angola, cost management strategies include scaling down production costs during periods of depressed prices. This is mainly done through cutting down of labour and non-core operations of the mine awaiting to resume full capacity at times of favourable global copper prices. In Zimbabwe, cost-cutting strategies include lobbying government, through the Chamber of Mines as well as through different forums, to institute reforms aimed at reducing the cost of doing business. Expansion strategies were also postponed while dividend declarations were suspended as a result of limited revenues due to plummeting platinum prices.

5. Policy challenges arising from commodity price fluctuations

The assessment on the impacts of fluctuating commodity prices unearthed a number of policy challenges which the four governments are facing and are working to address effectively. First, there is need for an adaptation strategy, a policy regime that can optimize on revenue collection during boom periods to ensure that the excess proceeds are used to bridge gaps during bust periods. While stabilization funds are being set up in Angola, Zambia and Zimbabwe, all the four countries need a proper and effective

2 AFRODAD report on *"Impacts of Fluctuating Commodity Prices on Government Revenue in the SADC Region-The Case of Oil for Angola*

mining sector fiscal regime that optimizes revenue collection to promote broad economic and social development. However, having such a regime is a challenge due to both capacity constraints and technical challenges among the government officials responsible for mining sector fiscal regime management. There are generally three types of mineral royalty methods that are found across the world; unit based, value based (ad valorem) and profit based. The regimes currently in use present a policy challenge in that they do not optimise mineral revenues accruing to these mining countries and do not match the finite mineral resources being extracted from the ground. A hybrid approach incorporating both the unit based method and value based method would achieve better results in terms of optimising revenue accruing to governments.

The second perspective is on reducing reliance on raw mining products through beneficiation and value addition. This also has its own policy challenges, especially at the initial stages of transformation. First, beneficiation of minerals, especially beyond refining, needs to be pushed through both mining and industrial policies as it might not be within the capability of the mining firms to take on beneficiation.

The third policy challenge is diversification and movement from overreliance on primary commodities. The 'natural resource curse' effect has made it difficult for other sectors to develop in Zambia and Angola where the dependence on primary commodities is higher.

The fourth policy issue lies on ensuring that there is a constant increase in production volumes to counter any loss in tax revenue payable to government. Accordingly, investment attraction into exploration as well as new mines remains paramount. This also makes it critical that the tax regimes in place are not seen as deterrent to investment, calling for the need to balance between optimum revenue collection and mining sector viability.

6. Key recommendations on enhancing economic growth, macroeconomic stability and poverty reduction in the midst of commodity price fluctuations

Six key recommendations coming out of the four country papers can be summarised as follows:

a) Economic diversification

There is need to establish essential policies to promote economic diversification from the commodity sector to spread the risk over the different economic sectors, such that the full impact of the fall in commodity prices does not directly translate into falling revenues, declining economic growth and worsening poverty. Industries that are not related to the mining industry such as agriculture and the rest of the manufacturing sector need to be equally promoted with incentives to develop which equal or exceed those given to mining sector firms.

b) Investment in tax administration and monitoring

It is not easy to establish an effective tax system that optimises revenue collection while ensuring that the mining sector remains viable. There is need for government officials that are responsible for tax administration and reforms to constantly have the necessary skills and knowledge to adequately perform this role. It is in the interest of the mining firms to exploit the information asymmetry to their advantage, calling for government officials to be adequately prepared to identify such exploitation. Efficiency in tax administration also helps ensure that there are minimal levels of leakages (through both illicit transactions and tax avoidance) from the industry.

c) Establish an effective beneficiation and value addition policy

Governments need to put in place effective beneficiation and value addition policies. However, such a policy needs to be established as an industrial policy as opposed to a mining sector policy in isolation. The benefits of using the industrial policy is that it encourages the development of secondary industries which are competent in beneficiation and value addition instead of being limited to mining companies that might not have the requisite competence. This approach has worked in countries such as China and Japan where minerals are beneficiated and value added despite that the minerals are imported.

d) Strengthen natural resource governance institutions

The volatility of commodity prices can never be avoided, but its adverse impacts on growth and social investment can be mitigated. Literature indicates that the negative impact of commodity price volatility is limited in countries with strong institutions, efficient application of fiscal rules and higher standards of transparency. Therefore, governments should consider working towards strengthening natural resource governance institutions to ensure that the laws, regulations and institutional practices enable comprehensive disclosures, open and fair competition, and accountability.

e) Modify royalty system

There is need for governments to consider shifting the royalty method to a unit based method to realise more revenue. This would ensure that the government is assured of revenues regardless of the level of commodity prices. However, the unit based system should be carefully structured to ensure that the mining firms also earn a return during the periods of low commodity prices, as the unit based system would be independent of the price movements. This can be enhanced to take into account the price movements, as the case with the Zambia new regime.

f) Establishing country mining visions (CMV) that domesticates the AMV

In 2009, the Heads of State and Government of the African Union (AU) came up with a framework at the continental level to promote mineral resource based development and structural transformation of mineral endowed African countries. The framework, known as the AMV, is focused on fostering transparent, equitable and optimal exploitation of mineral resources so as to be the anchor for broad-based sustainable and socio-economic development. Among other focus areas, it also outlines guidelines on fiscal mining regime as well as revenue use and management. The strategies were established as a response to the realisation that mining fiscal regimes in Africa were generally regressive, with the share of revenues accruing to governments falling as profitability of mining operations rose.

While Zambia has identified the need for domesticating the AMV, it also, like the rest of the three countries, is yet to adopt a serious stance towards the issue despite being a signatory to the AMV. There is need for all the four countries to take the domestication of the AMV seriously to enhance maximum benefits from mining.

This policy brief is based on the 2017 AFRODAD Synthesis Report on the *"Impacts of Fluctuating Commodity Prices on Government revenue in four selected countries in the SADC region – Angola, Democratic Republic of the Congo, Zambia and Zimbabwe"*, See: http://afrodad.org/index.php/center-of-excellence/research.

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