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COVID-19 AND GOLD MINING IN AFRICA
Turning Challenges into Opportunities

Ousman Gajigo* and Jerry Ahadjie°

KEY MESSAGES

- **Despite other commodity prices falling as a result of the effects of COVID-19 pandemic, gold prices have increased significantly since January 2020 due to the commodity's status as a safe investment haven.**
- **While this increase in prices should be expected to benefit gold producing African countries, this is not automatic.**
- **Appropriate mining legislations and policies are needed to ensure that countries benefit from windfall price increases, and that benefits are inclusive so that artisanal and small-scale miners are not forgotten.**

1 | INTRODUCTION

The COVID-19 pandemic has caused major disruption in all economies. One saving grace for African economies, however, has been the surge in the price of gold. The commodity's recent price increase—driven by demand for gold as a safe haven during a crisis—presents an opportunity for the continent's gold-producing countries. Fiscal revenues from gold can serve as a source of counter-cyclical financing when other sources of development finance are drying up, especially for countries that depend heavily on other commodities, such as oil, whose prices have dropped precipitously. This brief discusses the potential opportunities for African countries.

Many complicating factors may prevent countries in the region from fully enjoying the anticipated benefits of a quick rise in gold price. The degree to which countries benefit from mining operations is determined by mining concession agreements that they signed well before the COVID-19 pandemic. It is therefore possible for large-scale mining companies to benefit while African countries see little gain. Another important fact is that gold mining is an active sector for small-scale artisanal miners, who are likely to miss out on any benefits because of their precarious status of being mainly in the informal sector. While the potential gain for African countries is high, there is nothing inevitable about it. We discuss some relevant policy implications below.

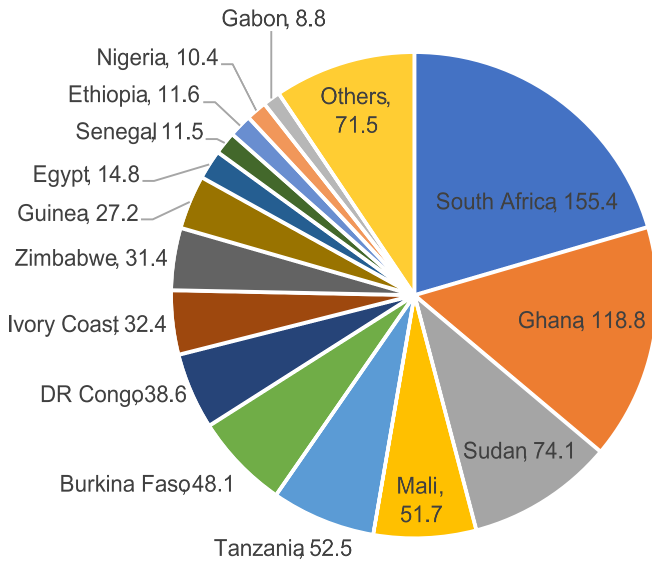
2 | IMPORTANCE OF GOLD FOR AFRICAN COUNTRIES

Gold is an important commodity and a significant source of fiscal revenues for African countries. At least 20 countries in Africa—spread across all sub-regions of the continent but concentrated in the west—engage in commercial gold mining; 10 of these produce at least 15 tons per annum each. African countries account for about 22 percent of the total gold mined in the world and the continent holds 13 percent of known global gold reserves (USGS, 2019). The continent's gold production has been growing at an average annual rate of about 4 percent between 2010 and 2018, a percentage point higher than the global average growth rate

* (o.gajigo@afdb.org), Manager, Macroeconomic Policy, Forecasting & Research Department (ECMR).
° (j.ahadjie@afdb.org), Chief Minerals Officer, African Natural Resources Center (ECNR).

over the same period. Figure 1 provides the distribution of the commodity mined on the continent between 2014 and 2018.

FIGURE 1 AVERAGE GOLD PRODUCTION FOR AFRICAN COUNTRIES BETWEEN 2014 AND 2018, INCLUSIVE (IN TONS)



SOURCE World Gold Council, 2020.

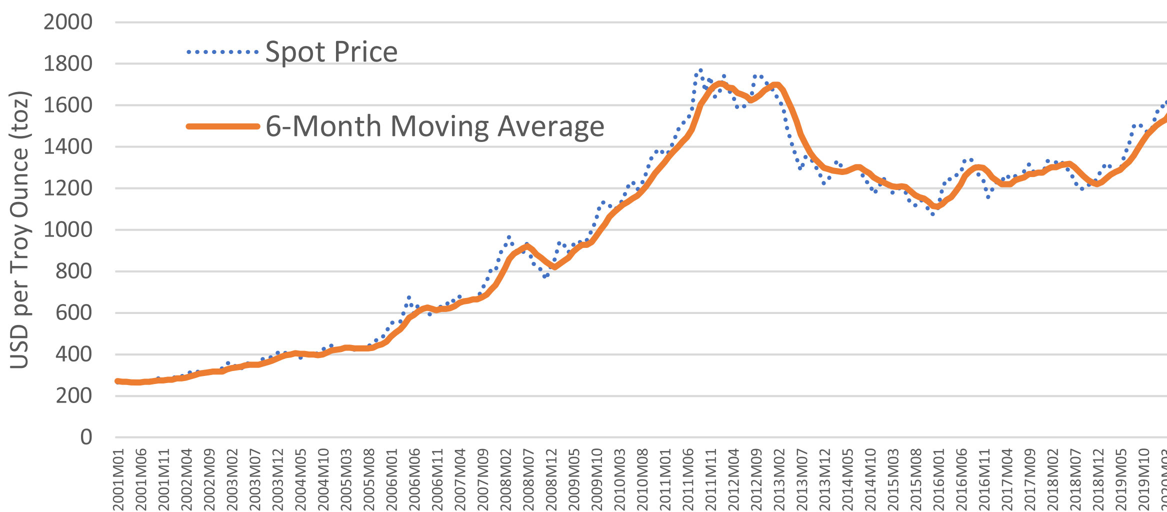
For numerous African countries, gold is a significant source of revenues. To get a sense of the sector's magnitude, the estimated value of the gold mined in Africa in 2019 was approximately USD 40 billion, using the average prevailing price that year. In many countries, the commodity is the largest source of government revenues and net foreign exchange earnings. In Mali, for example, gold accounts for 6.5 percent of GDP, 65 percent of the value of exports, and 20 percent of government revenues (IMF, 2018). While oil is now competing with gold as Ghana's chief commodity export, the precious metal still remains the top commodity export for the country. Indeed, gold revenues still account for 5 percent of government revenues and 36 percent of exports (IMF 2019a). Due to the relative size of its economy, gold revenue share of South Africa's GDP and export (7 percent) is small but the value of the country's production averaged about USD 7 billion per annum over the past five years. In Burkina Faso and Sudan, gold share of export is 68 percent and 22 percent respectively. In other words, gold represents a significant source of development finance, due to its fiscal effects, and source of foreign exchange earnings.

3 | GOLD MARKET DYNAMICS

Like other commodities, the price of gold undergoes significant fluctuations (Figure 2). Despite these fluctuations, the commodity has experienced a sustained upward trend in prices. Indeed, over the past two decades, gold prices grew at an average monthly rate of 1 percent. In other words, golds prices rose by about 250 percent over the past two decades. To put this in perspective, the S&P 500 rose by 96 percent over the same period.

The global supply of gold is quite steady, with most of it coming from gold mines. The growth rate of gold mined globally has been growing at an average annual rate of about 3 percent per annum over the past decade. The demand for gold comes from three main sources, which are industry use, jewelry, and safe investment. Over the past

FIGURE 2 MONTHLY GOLD PRICES BETWEEN 2001 AND 2020 (1 TROY OUNCE = 31.103 GRAMS)

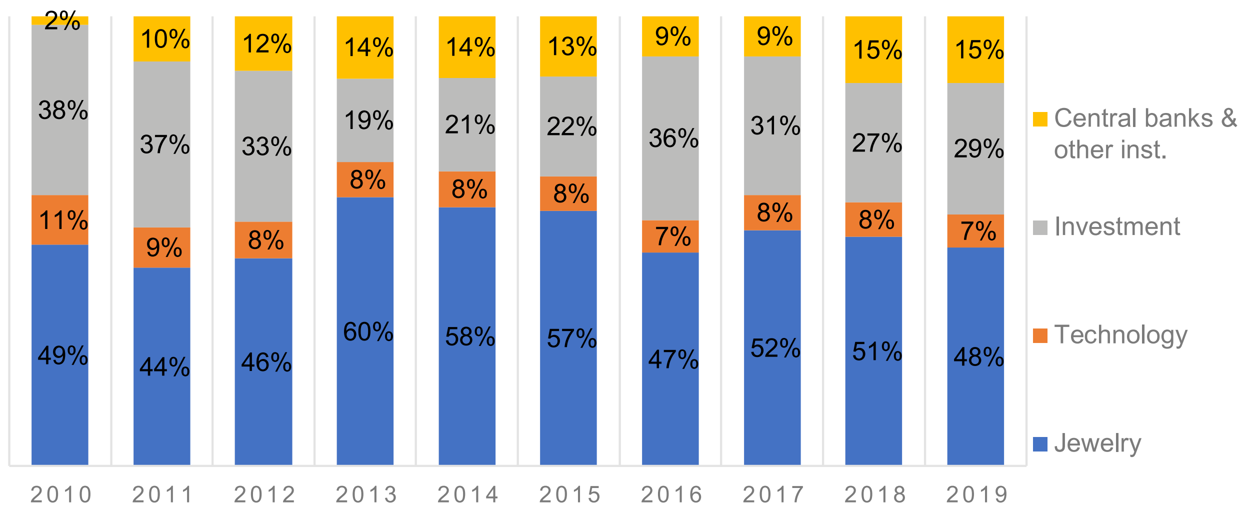


SOURCE World Gold Council, 2020.

decade, gold held by central banks began to account for a significant share of the commodity's demand. As Figure 3 shows, demand for gold from technology has been constant over the past decade. Variations in prices are driven largely by changes in demand for jewelry and investments, which move in opposing directions. Specifically, during periods of economic boom, the demand for jewelry goes up and while the demand for gold as safe investment decreases. The roles are reversed during economic crises. Indeed, the correlation coefficient is –0.9 in these two sources of demand between 2010 and 2019.

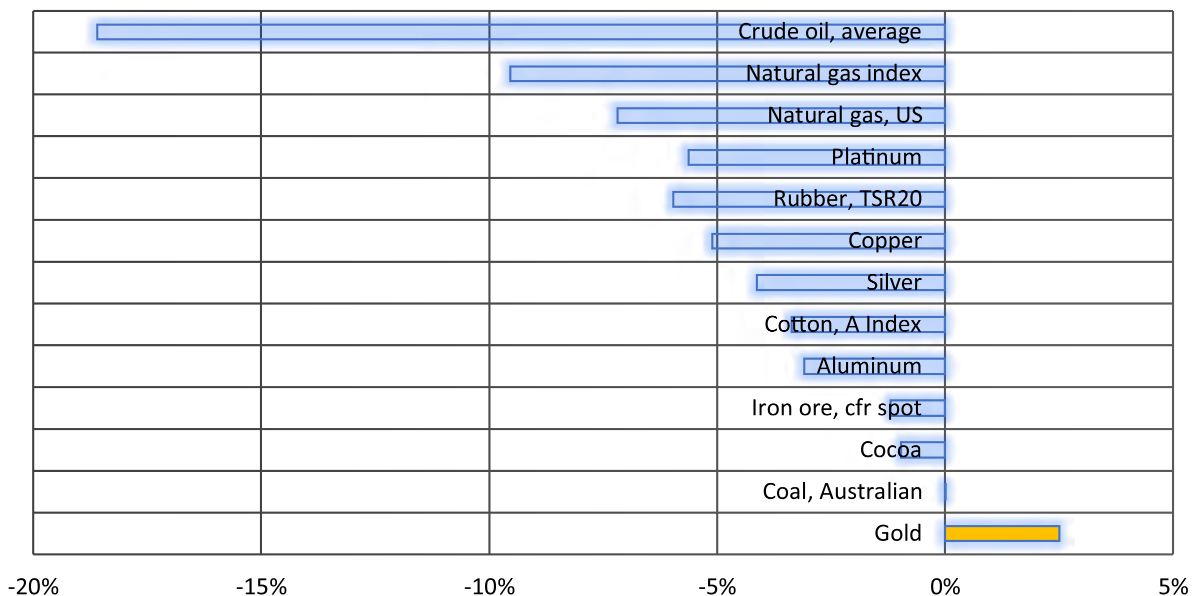
Gold is a unique commodity because of its demand as a safe asset, which causes the price of gold to move differently from other assets, including other precious metals such as silver and platinum. While most other commodities experience a price decline due to falling demand in a recession, the price of gold often goes up during such periods because of its attractiveness as a safe investment when economic conditions are uncertain. Indeed, as the COVID-19 pandemic spread earlier this year, the demand for most commodities has been falling since February. Even other precious metals, such as silver and platinum, have not been spared from

FIGURE 3 GLOBAL GOLD DEMAND BETWEEN 2010 AND 2019



SOURCE World Gold Council, 2020.

FIGURE 4 CHANGES IN THE PRICES OF VARIOUS COMMODITIES BETWEEN JANUARY AND APRIL 2020



SOURCE World Gold Council, 2020.

lower demand. As Figure 4 shows, the price of gold, on the other hand, has been going up throughout the first quarter of 2020. As a result, while the values of companies that are heavily exposed to other commodities fell, major gold companies experienced a strong growth in stock prices between February and May 2020. Most companies took major hits to their stock prices (Figure 5).

4 | ARE RESOURCE-RICH COUNTRIES AND ARTISANAL MINERS ALSO GAINING?

The preceding evidence shows large-scale gold mining companies are undoubtedly benefiting from the recent increase in gold prices. Indeed, if we assume that gold production in 2020, in Africa, stays at the same level as the previous year, the recent price increase (using prices from the first quarter of 2020) would result in an additional USD 7 billion in the value of the commodity in Africa. However, one cannot assume that it is inevitable that the resource-rich countries and the small-scale miners will also benefit to the same degree. Several complicating factors include: volatility of the commodity itself; market disruptions caused by the COVID-19 pandemic, which can adversely affect the operations of mines; mining concession agreements signed well before the COVID-19 pandemic, and unpredictable impacts on the artisanal and small-scale miners.

A | Price Volatility

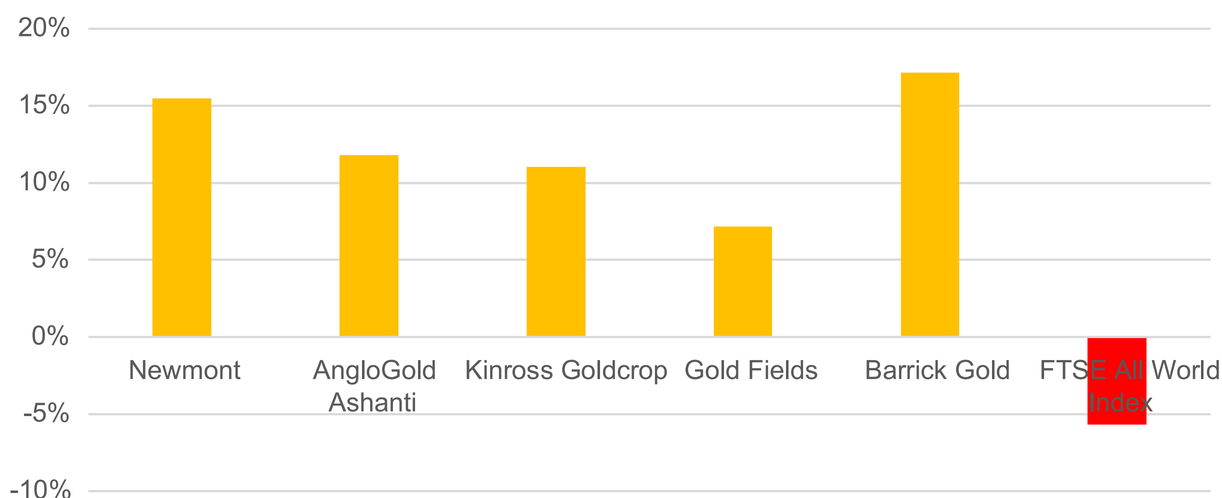
Despite their recent upward trajectory, gold prices are quite volatile, as Figure 2 shows. This volatility is hard to predict because demand is driven by the interplay among the sources of demand: industry, jewelry, and investment. While the current upward swing in prices is largely driven by investment demand (safe instrument), the pandemic-induced recession could severely depress industrial and jewelry demand to such an extent that it could overwhelm the positive effects of gold as a safe haven. While such an effect has not yet been observed, it cannot be ruled out.

B | Disruptions in Global Supply Chains

The disruptions caused by the spread of the COVID-19 pandemic has not spared mining operations. Some companies even initiated procedures to trigger force majeure clauses in their mining agreements, to allow them to suspend operations, though that has been met with counter arguments from governments for justification. Even if force majeure has not yet been exercised by companies, growing potential use underscores the general uncertainties caused by this crisis.

All normal business operations have been disrupted by measures taken to stem the spread of the coronavirus. In some African countries, social distancing measures put in place have adversely affected a large number of mining operations.[1] A mining sector analysis of suspensions in operations by S&P Global showed that Africa and the Americas were the hardest hit in terms of the number of suspended mining operations. South Africa suspended operations in 54 mines as of April 30, 2020. The United States shut 42 mines and Mexico and Canada shut 29 and 28, respectively. In total, production at 260 mines in 33 countries has been halted since early March. However, South Africa has lifted the lockdown for mines to operate, from May 1, 2020, but at half capacity for underground operations, in order to observe all the health protocols, especially social distancing.

FIGURE 5 AVERAGE MONTHLY INCREASES IN STOCK PRICES OF THE MAJOR GOLD MINING COMPANIES BETWEEN FEBRUARY AND MAY 2020



SOURCE New York, Toronto, and Johannesburg Stock Exchanges, 2020.

NOTE Over the same period, the Financial Times Stock Exchange (FTSE) All-World Index, which covers over 3,000 companies across 49 countries, showed a major decline.

[1] Mining.com website at https://www.mining.com/chart-covid-19-disrupts-6-9-billion-of-global-mining-output

Aside from mining operations, mining supply chains were also severely hit, especially in Africa where the majority of mining inputs are imported from outside the continent. The impact on supply chains resulted from, among other things, the shutdown of manufacturing industries in China. Given China's central role in the global manufacturing value chain, few businesses have escaped unscathed. The domino effects of plant closures and supply shortages across the extended network has caused significant supply chain disruptions across the mining value chain.

C | Deficiencies in the Fiscal Regimes of Mining Codes

Another consideration that may limit the extent to which countries benefit from the current increase in gold prices is their shares of resource rents have already been set in the mining concession agreements that were signed well before the start of COVID-19-induced crisis. The law that governs mining concessions are the mining codes or mineral laws enacted by countries. These laws regulate the exploration and production of minerals. Specifically, it codifies the rights and obligations of the private company (applicable taxes, freedom to repatriate funds, and access to foreign currency, among others) and the interests and obligations of the state. Consequently, it is the basis on which the mining concessions are negotiated, which determines the share of the resource rents enjoyed by countries in mining operations. In most of these mining agreements, there are provisions which are known as stability clauses that limit governments' ability to alter the agreement even through legislative acts. While many African countries are improving their mining codes or mineral legislations, there are several areas that need improvement to increase the likelihood that countries benefit from positive price swings such as those currently seen under the COVID-19 pandemic (Gajigo et al. 2012a).

Going into the details of mining codes is beyond the scope of this brief. Instead, we focus on the royalties since they are the most important source of revenues from mining operations. Royalties, by far, account for the largest share of government revenues.

While there are different types of royalties, the most prevalent in Africa is the ad-valorem type. This kind of royalty is based on the assessed value of the mineral. For instance, if the royalty rate is 5 percent, then the government would receive USD 18.75 million from a mining operation with a quantity of mined gold of 250,000 ounces and a prevailing price of USD 1,500 per ounce for that year. The advantage of such a royalty is that it is relatively easier for governments to track because it depends on company for only the ore produced rather than detailed accounting information. After all, gold is a homogenous, internationally traded commodity with standard price references that are easily accessible.

We highlight two main reasons why African countries do not capture more of the resource rents from gold mining operations.

(i) In many African countries, royalty rates for precious metals are simply too low given the tremendous rise in gold prices over the past two decades. Several governments are stuck in mining agreements that fixed royalty rates at low levels and are therefore unable to benefit from recent price increases. In addition, there are several instances of mining agreements on the continent that are not in compliance with the relevant countries' mining codes. As shown in Gajigo et al. (2012a), this includes examples of countries signing mining agreements in which the royalty rate is negotiated down from 3 percent to 2 percent. The effect of such a 1-percentage-point decrease in government revenues is significant. For example, at a gold production of 400,000 troy ounces (toz) and a price of USD 1,500/toz and an ad-valorem royalty rate of 3 percent, the relevant government would receive USD 18 million in a year in royalty payment. However, if the royalty rate is decreased to 2 percent, the government royalty revenues would fall by 33 percent.

(ii) Another reason why government revenues from gold mining are likely not to increase significantly with today's rising gold prices has to do with the fact that royalty rates are classified as expenses. A key advantage of the ad-valorem royalty is that it protects the government from downside risk because it will receive revenues even if gold prices fall, as long as the mine is in operation. However, with the standard ad-valorem royalty in most mining operations in Africa, the government does not benefit from a windfall increase when the price of the commodity unexpectedly increases. While both the government's share of resource rent and that of the company are increasing functions of commodity prices, the rate of increase is significantly higher for the

The mining code (also known as mineral act) is the legislation that regulates mining activities (exploration, production, and reclamations) in a country. In addition to specifying the rights and obligations of mining companies, as well as that of the government, this legislation also regulates the sharing of resource rents. It is also supposed to be basis for any mining agreement between a company and a country. However, it is not infrequent to see mining agreements that violate aspects of a country's mining code. While there are many fees and taxes, the most important sources of revenues that are specified in mining codes are royalties, free equity, and corporate income tax. Among these three, the largest source of revenue for the government is royalties. While there are different kinds of royalties, the most common one used in Africa is ad-valorem, which is assessed on the value of the mineral mined. Royalty rates tend to be highest for high-value mineral stones and gems (e.g., diamonds), followed by precious metals (e.g., gold and platinum) and lowest for base metals (e.g., aluminum and iron ore). The median royalty rate for gold in Africa is 3 percent.

latter. There are couple of reasons for this. The main reason is that the company, as the main equity stakeholder, captures virtually all the windfall gains that come with higher gold prices.[2] Furthermore, since royalties are recognized as deductible expenses in mining operations, the amount of revenues the government can get through corporate income taxes becomes even less when the government factors in royalty payments in its expenses. Owing to this reality, royalty rates are indexed to gold prices in many gold mining agreements in developed countries.

Recently, many African countries have been improving their mining codes whereby less discretion is given to officials in changing royalty rates. For example, Ghana previously had a range of royalty rates (from 3 to 5 percent) but mining companies uniformly got assessed at the lowest rate. The country updated its mining code and increased the royalty rate to a uniform 5 percent for all companies in gold mining. In addition, a few African countries, including Burkina Faso and Mauritania, have begun to adopt the practice of indexing royalty rates to gold prices. Another approach is for a country to introduce a clause whereby a higher tax rate would kick in if the price of gold exceeds a certain threshold. Without the indexation of royalties to gold prices, many African countries' revenues from gold mining operations do not increase significantly despite the fact that gold prices are reaching levels not seen since the period following the 2008 financial crises.

D | Artisanal and Small-Scale Miners

While most of the gold mined in Africa is from large-scale mines operated by multi-national companies, artisanal and small-scale mining (ASM) is a significant source of livelihood in Africa. There are close to 30 million people involved in ASM in 80 countries worldwide, 30–40 percent of which are in Africa. Those in the ASM sector mine and process more than 35 different minerals and make a significant contribution to the world production of critical mineral products. However, given the relatively low use of heavy machinery in ASM, individuals focus on high-value, low-volume minerals. As a result, ASM is largely absent in base metals and relatively concentrated in precious metals and gems. For instance, in 2005, 15 percent of the gold production (400–600 tons per annum) valued at approximately USD 20 billion was undertaken by ASM (IGF 2017).

During the COVID-19 pandemic, the ASM gold sector has been impacted in a number of ways. First, despite the relatively high gold prices, ASM has been adversely affected. The three major gold refineries in Switzerland that largely refine ASM gold temporarily suspended their operations. This disrupted the supply chain, as buyers and exporters were cash strapped. Disruption in the market has given some new entrants the opportunity to buy gold from ASM at cheaper prices (sometimes 20 to 25 percent less) as compared with the London Metal Exchange (LME) price.

On top of the above unfavorable factors working against ASM, these miners have been hit hard by the pandemic restrictions imposed by governments, though some are being loosened. It should be noted that ASM miners are a largely a vulnerable group that work in a sector that is mostly informal and with limited social protection. Hence, any adverse shock, either through restrictions on movements or market disruptions, is likely to significantly erode their purchasing power and increase their vulnerability. The informal nature of the work may also limit the extent to which they can benefit from relief efforts that are biased toward those employed in the formal sector. Given the reality and the fact that almost 80 percent of ASM is informal, there is little guarantee that the recent increase in gold prices will benefit this group of miners. Consequently, while the market for gold, overall, looks favorable, many ASM miners have experienced a decline in welfare.

5 | POLICY RECOMMENDATIONS

- It is important that countries enforce compliance of mining agreements in their operations with relevant countries' mining codes. Clear fidelity to the mining codes would require mining companies to put in place Disaster Risk and Business Continuity Plans (DRBCP), which would mitigate the adverse effects of the kind of shocks the sector is experiencing in a crisis such as COVID-19.
- Gold-producing countries should update their mining codes, as several countries have done recently, to automatically adjust for price volatility in times of windfalls. The updates should specifically include a windfall-profit tax, which would go into effect when gold prices reach a particular threshold. Mali's new mining code, enacted in 2019, introduced a windfall tax. Burkina Faso in 2011, Mauritania in 2012, and Ivory Coast in 2014 indexed their royalty rates to gold prices, which enable the countries to increase their shares of resource rents when prices increase.
- The current stability clauses, which tie the hands of governments in making policy changes that affect mining operations, need to be shortened. While some predictability in contracts is essential, stability clauses that extend for more than five years are disadvantageous to countries.
- While recommendations for formalizing the ASM sector have been discussed for a while, the COVID-19 pandemic underscores its importance. This sector, if well managed, has the potential to generate significant employment for Africa's youth, given that the sector is responsible for significant levels of gold production in key gold-producing African countries, e.g., Sudan, Ghana, South Africa, Tanzania and Burkina Faso.
- It is important that African countries put in place measures that encourage the establishment of gold refineries in the country, as a way of locally adding value to the product. It would not only enable the countries to capture more value out of the commodity, but it is also likely to reduce the market risk for ASM miners.

[2] Of course, it should be acknowledged that the equity holder is more exposed to the downside risk when gold prices unexpectedly fall.

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