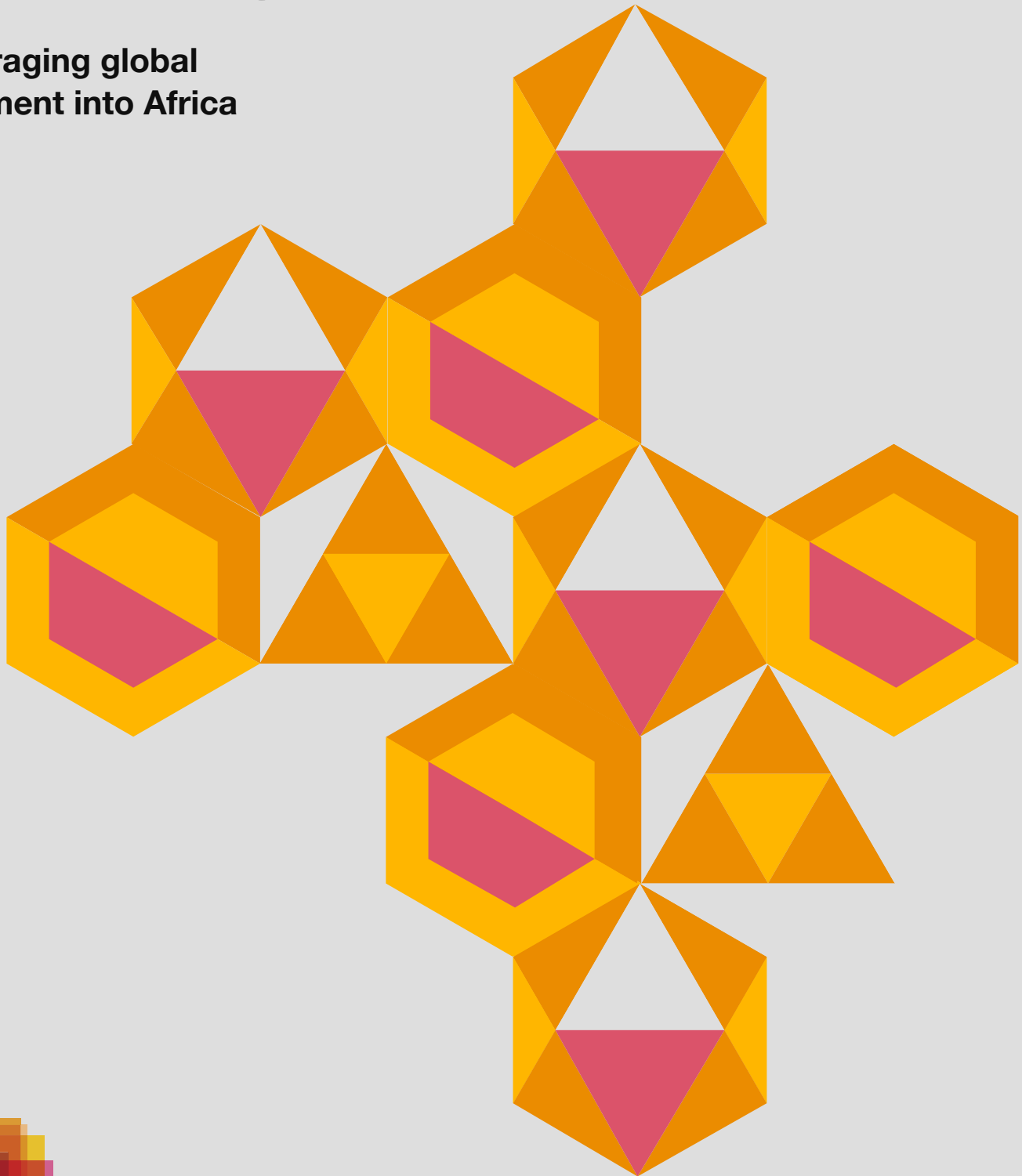


The New Global Climate

Encouraging global
investment into Africa





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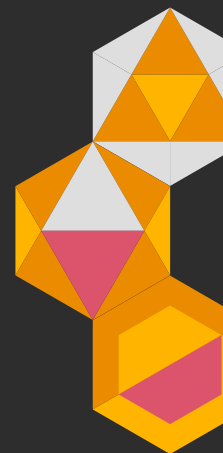
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Foreword



The past two and a half years have seen significant changes across the world as a result of the global pandemic, particularly in the mining sector.

With the world now dealing with a high inflationary and high cost environment, this post-pandemic period is a crucial time for African nations to continue to support their growth in the mining industry. Africa continues to present as an attractive option for investment in mining. As we have previously discussed in publications such as PwC's "Mine 2022"¹, this is due to not only increasing commodity prices, but its maturing institutions, improving stability, and its high mineral prospectivity that is relatively under-explored compared to other more developed mining jurisdictions.

With the world at a key juncture, this presents an opportunity - how will African countries encourage and attract global investment - through increased incentives, broad base tax reform, or via other key changes?

In this publication we compare five African tax regimes to analyse the impact they can have on investment and growth in the mining sector. We also consider other key matters which have the opportunity to positively impact the mining sector such as ESG.

Continuing with our "Battle of the Taxes" publication series, we have performed an analysis of a hypothetical gold mine operating in five different countries under the same conditions; meaning the same capital, operating costs and timeline. This year we have modeled: Tanzania, Ghana, Egypt, Namibia and Zambia.

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Key findings

Together with global trends, the mining industry is changing in many ways. There has been a shift in the market with the energy transition and the race to net-zero emissions. It is evident that those countries that can adjust to a low carbon environment and encourage sustainable mining will benefit above others. Building trust with stakeholders and strengthening mining's social licence to operate via a strong Environmental, Social and Governance (ESG) strategy is absolutely critical to the success of future African mining operations. The question is - which African countries will capitalise on this significant opportunity?

In our 2018 publication 'Battle of the Taxes'², Namibia was the only African country which exceeded the Internal Rate of Return (IRR) target of 25%, suggesting the hypothetical PwC gold mine (in Namibia) would generate a viable investment return. Despite the large scale impacts to the world economy over the past four years, there has been minimal variation in the IRR outcomes of the PwC hypothetical gold mine in the African nations modeled. This is a result of negligible taxation adjustments and changes which would lead to a meaningful impact on the returns generated by the miner or by the host government. However, this does represent fiscal stability, which is a critical factor for investors who want "certainty" in the fiscal regimes as outlined in our 2019 report titled 'Investing in Africa'³.

In 2022, Zambia as the new country added into our publication, holds the lowest IRR at a percentage of 12.8% which is largely due to an export levy of 15% which we note has been suspended, however, we have continued to model this for illustrative purposes only to demonstrate its impact if the levy was still applicable at this rate. In Egypt, the IRR fell from 20% in 2018 to 17.2% in 2022 as a result of increased profit share to the government due to increased commodity prices. In Ghana, the IRR fell from 24.2% in 2018 to 21% in 2022 which was largely due to the increased cost of levies. Tanzania remains at a comparatively low IRR compared to its peers as its tax regime has not changed markedly since the significant tax changes of 2017 which adversely impacted investment in Tanzania. Whilst Namibia has maintained its position as the most attractive investment destination despite the highest headline corporate tax rate. This is due to Namibia having a relatively favourable royalty rate on gold, no government free carry and higher rates of amortisation and depreciation for mining projects.

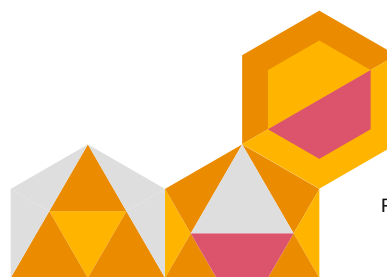
An important distinction compared with our model from 2018 is although the overall IRRs are now below our previously set threshold of 25%, the cost of capital since 2018 has arguably reduced. Companies seem to be willing to take on more debt and/or less exposure and risk (which is somewhat due to increased commodity prices) which can allow for projects with lower returns to be approved.



The opportunity is now for countries to take the lead in encouraging socially responsible, low carbon mining - to be leaders in the future of the minerals sector. African nations have an opportunity to be at the forefront of this shift through their policy settings - encouraging responsible and sustainable investment, which will support their people for generations to come.



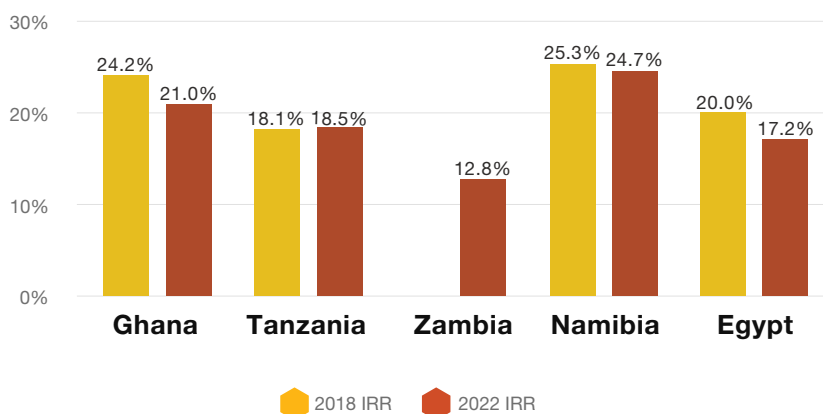
Ben Gargett
PwC Australia-Africa Leader





As we enter into a period of inflation and rising interest rates there will however come a time when the cost of capital shall result in the projects being undesirable, but a lower IRR in today's market may not necessarily result in a decision not to move forward with an investment.

2018 vs 2022 IRR



These results reflect the ability for the other African countries to become attractive investment options through small changes to fiscal policy. This can include taxation treatments but, as shall be examined, there are other areas which African countries can make themselves competitive, for example by encouraging ESG opportunities and working with companies to provide value outside the purely financial metrics.

The goal of this year's publication is to stimulate the discussion further following the past four years about what could potentially be done to increase investment in African countries. As has always been the case, there is the balance between the government attempting to obtain an appropriate level of return for its people on its mineral endowment and the mining companies aiming to maximise returns for shareholders and stakeholders.

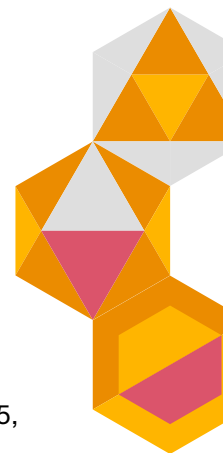
What is clear from the global trends which have occurred in the past four years is that the consideration of ESG factors is a big opportunity. Those countries that can adjust to a low carbon environment and encourage sustainable mining (through various means such as ease of doing business and obtaining relevant licences/applications, incentives, supply chain management etc.) will attract global capital and achieve economic growth above others.

We welcome your engagement on the contents of this publication.

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Background



As has always been the case when considering an investment decision there are a multitude of factors that need to be assessed. Following the global pandemic, this has only increased with impacts to supply chain security, access to capital and the ability to find and maintain staff whilst staying within the various health guidelines proving challenging. As investment in mining increases following the pandemic, companies are faced with various options of countries and projects to direct their investment. Ultimately, an important part of this decision making process is which country/project shall provide the greatest return on their investment and benefit shareholders. In today's ever changing global climate, ESG matters are also playing a critical role in this decision making process as expectations from stakeholders continue to rise.

The PwC Australia-Africa Practice has been releasing publications in this series since 2015, with the first publication named 'Over Taxed? Does the tax regime encourage new mines⁴', which compared various African countries and their taxation systems to determine whether they encourage the investment needed to both unlock the mineral potential and economic activity a mine generates, as well as providing a sufficient return to the mining company.

Due to the overwhelmingly positive feedback from our previous publications, and the significant changes in the global economy since our latest publication, this year, we investigate the comparison of our gold mine operating in Tanzania, Ghana, Egypt, Namibia and Zambia.

The hypothetical mine: PwC Gold

To be able to compare our gold mine with the one used in previous iterations, and allow for cost inflation over time, we have made the following key assumptions (amounts are US\$):

- Open pit mine, with processing plant on site to produce gold doré;
- Exploration costs of \$30 million have been incurred to date;
- Four year permitting and approvals process, during which development costs of \$150 million incurred to construct the mine and processing plant;
- Production of 200,000 ounces p.a.;
- Assumed real gold price of \$1,600 per ounce;
- All in Sustaining Cost (AISC) of \$945 per ounce; and
- The mine employs 1,100 local staff and 11 expatriates.

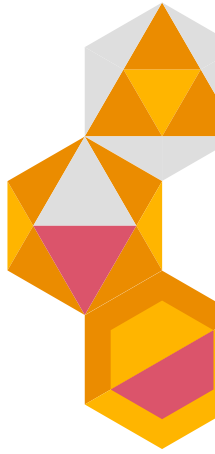
Cash flows have been discounted to present value using an 8% discount rate.

Based on analysis performed across a number of mining companies, we have assumed a minimum required internal rate of return (IRR) of 25%.

To ensure our analysis focuses on and isolates the impact that differing tax regimes have on investment decision making, we have normalised all other factors such as the grade, metallurgy, operating costs, production levels, construction times, capital costs etc. to the extent possible. Whilst our gold price assumption has increased to reflect current market conditions, as well as increased operating costs leading to a higher all-in sustaining cost (AISC), we have assumed the same annual sustaining capital expenditure and all-in sustaining cost margin. We have also removed the impact of any limitations in access to skilled labour and critical infrastructure, along with the availability of parts and contractors. As such, we are able to assess the impacts to IRRs and government cash flows that result from these different taxation regimes on the project economics and ultimate decision to mine.

Refer to Appendix B for a complete set of assumptions.

Funding – the movement of capital to ESG focused markets



Global capital typically flows toward investment climates with good risk-return payoffs. However, the ability of companies to access capital is - more so than ever - also dependent on ESG factors including the positive impact that a project/ company can have in the community.

Following the Covid-19 pandemic there was an increase in the barriers between countries and the ability to readily move and access capital with supply chains were significantly impacted. As we enter into the post Covid-19 phase of the global economy, together with the race to “net zero”⁵, the ability to attract global capital not only relies on there being a good return on investment, but also the ability for companies to make a long term and positive ESG impact to the community in which it operates.

Traditionally, there have been various factors (that in combination) can attract mining investment to a country, these include but are not limited to:

- Rich geology with mineable minerals
- Conducive business environment including infrastructure access and distribution channels
- Availability of technology
- Energy
- Stable fiscal and legal regime
- Security of tenure
- Political stability
- Readily available skills in the population

The ability to attract global investment will depend on the ability to maximise these factors or counterbalance those which are lacking. We have also seen West African countries present value by having rich geology along with greater access to labour at competitive rates.⁶



An industry's growth is not just a product of the economic factors it faces, it is also dependent on a country's institutions such as its judicial, legal and political systems, and the perceived trust among the public. Where there are differences in public policy and the judiciary's practices, more often than not this is a hindrance to economic growth. A country's perceived corruption level is indicative of a country's stability. Perception drives investment, and thus whether or not the actual level of corruption reported is inaccurate may be irrelevant.

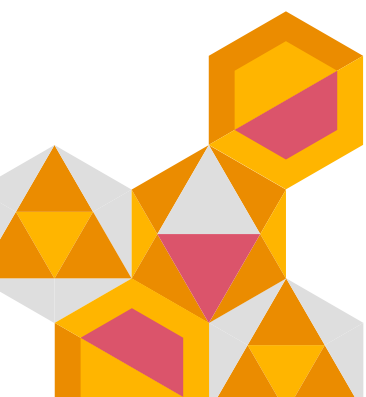
A recent report released by Transparency International, an organisation that works together with both governments and the private sector, demonstrates the perceived corruption in each of the countries analysed. In our previous publications, we considered this Corruption Perception index as a factor in establishing political stability and a conducive business environment.

As we can see from their findings, Tanzania and Ghana have improved in their ability to provide an environment which is perceived as being reliable for investment. Conversely Namibia and Zambia have fallen, with Zambia in particular holding the same ranking as Egypt. The question which arises is whether these rankings impact the investment attractiveness of particular countries? If so, how will governments attempt to address this? Despite the extremely strong geology in Africa, will there be a need to make investment even more attractive such as incentives, and ESG opportunities?

Corruption Perception Index

Country	Ranking	Change since 2017
Namibia	58	Down 5
Ghana	73	Up 8
Tanzania	87	Up 16
Egypt	117	No Change
Zambia	117	Down 21

Source: Transparency International



ESG - sustainable outcomes



Whilst there is (of course) the ability to offer attractive fiscal regimes to be able to provide value and attract global capital, there is also the significant value add of ESG. Environmental, Social and Governance factors has become one of (if not) the most important topics of discussion and sources of value in mining over recent times. At its core ESG is how a company can add value to society at large, build trust with stakeholders, and act in a more responsible and sustainable manner.

The term Corporate Social Responsibility is a more widely known term and this is the framework often used whereas ESG is the measurable outcome of the applicability of that framework. PwC research indicates that three-quarters of organisations operating in Africa are aware of ESG and beginning to reorient their businesses towards a value creation ecosystem beyond purely financial metrics.⁷

ESG has also been found to create financial value as outlined in another PwC publication 'Global Mine 2022'⁸ whereby there has been greater returns by companies genuinely engaging in ESG when compared to those that were not.

This has led to S&P Global creating a pricing index for 'green aluminium', the first example of distinguishing companies that are engaging in sustainable processes compared to those who don't. Notably for example, we have already seen significant investment funds such as BlackRock put ESG front of mind:

Our investment conviction is that climate risk is investment risk, and that integrating climate and sustainability considerations into investment processes can help investors build more resilient portfolios and achieve better long-term, risk-adjusted returns.

We believe that society is on the cusp of transformational change towards sustainability. Companies, investors and governments must prepare for a significant reallocation of capital. BlackRock's sustainability strategy focuses on two structural themes driving this change: transition finance and stakeholder capitalism.⁹

Source: BlackRock



ESG has no longer become optional or a point of difference for companies, instead it has now become the minimum standard.

ESG is relevant to companies as they look to comply with these increasing demands from stakeholders. This is also relevant to African countries as they need to initially look at whether the companies that are operating or looking to invest in their countries are going to follow ESG best practices, build trust in the communities they operate, give back to society and maintain the environment of their country.

This may involve the governments determining whether they wish to enforce this ESG onto companies through reporting and fiscal regimes.

There is also the opportunity that ESG presents to the countries in terms of attracting investment. If a government can present ways in which a company can easily and effectively implement ESG initiatives, this can add value to their operations and add value to the country - a win-win for both.

ESG from both a government and corporate perspective should be seen as an opportunity rather than a threat or risk to their business model - although clearly not focusing on ESG will pose a risk to companies seeking to prosper in the ever changing global climate.

Environmental

Environmental considerations relate to how the company is able to reduce and record their impact on the environment. This is typically focused on climate change and the impact of pollution but also involves water and waste pollution management and consideration of sustainable energy.

African countries can encourage investment into their countries by potentially offering benefits such as:

- Offering tax incentives for projects that limit emissions
- Provide renewable energy investment opportunities
- Assist in providing water, waste and pollution management solutions

These are some simple examples which, if implemented, could entice capital investment in the nation and provide benefit to both the people of the country and the companies which are investing. In return, environmental stewardship—responsibly addressing biodiversity conservation, tailings management, water quality and mine closure should be a focus of mining companies and is critically important to their legacy.

Rightly or wrongly, whole industries are often judged by a few bad projects or companies. Every miner has a role in improving mining's social licence.



Social

The social component of ESG relates to the company's ability to build trust with their stakeholders and positively impact the community in which they operate. Strengthening the social licence requires forming genuine partnerships that truly respect and benefit local communities and the rights of indigenous peoples. The miners of the future are community centred and focused on providing skills, decent jobs, worker protection, social and economic development, and inclusion and fairness.

These can be elected choices by the company but there are also examples where a commitment to social endeavours is enforced. One such example is the 1% royalty payment in Egypt which is called a social responsibility contribution. This funding is targeted to benefit the local community. In Tanzania there was an amendment to the Mining (Local Content) Regulations in 2018 which introduced local requirements for Tanzanian mines to increase local participation. This is in terms of employment opportunities and equity participation of its people. We have seen a trend of companies seeking to employ and promote opportunities for local members of the community which is a positive example of social contribution which can have lasting impact in countries through continued education, training and on the job skills development which will provide value beyond the financial outcomes.

Governance

Governance holds importance in ensuring the leadership of companies and governments are committed to the ESG process and understand the value it adds. Good governance reduces the risk of the company or government acting unethically and is a framework which rewards performance outside of the financial metrics. Beyond risk-mitigation, good governance promotes diversity, transparency of operations and promotion of human rights. For all companies to add value to their operations and ensure compliance with the increased demands of shareholders and society, there needs to be good governance practices that can also assist in ESG reporting.

Importance of ESG to Africa

Being part of an ethical supply chain, protecting the environment and dealing fairly with communities can help miners win new business and create a premium for their products.

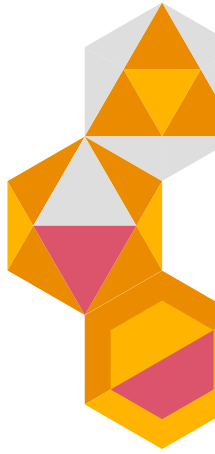
During the Covid-19 pandemic, companies had the opportunity to assist in the response process, helping to distribute vaccines and endorse safe hygiene processes. As noted in First Quantum's ESG Report for 2021 for example, they ensured essential consumables as well as oxygen to those in need in Zambia were provided. This type of example is particularly important in areas which are more remote or countries with limited access to such supplies, by being able to support the community builds trust between the mining companies and the people of the nation in which they operate, which further leads to better returns for both groups.

Given the overall economic position of certain African countries in comparison to other nations, it is important for mining companies to have a strong ESG focus to contribute to the communities they operate in. As an example, in their recent sustainability report, a leading African focused gold miner (Perseus Mining Limited) outlines three key drivers of social responsibility which they focus on. The first driver is the focus on ensuring there are no workplace injuries occurring to the local employees. The secondary driver is the financial contribution made to the community which goes beyond just the salary of the staff. The final driver is the percentage of the workforce made up of the local community, currently 96%. These are all valuable examples of how social awareness can be utilised by a company to better the community and create better relations with the community and in turn their shareholders who are increasingly demanding a strong ESG focus.

Companies and Governments, when presented with the growing importance and requirement for ESG practices, can choose to see it as a burden or as an opportunity to find new ways to add value to their projects and the country they invest in. African nations which encourage and support ESG arguably make themselves more attractive for investment for the companies which are alert to the changing world and benefits of ESG.



The African tax landscape



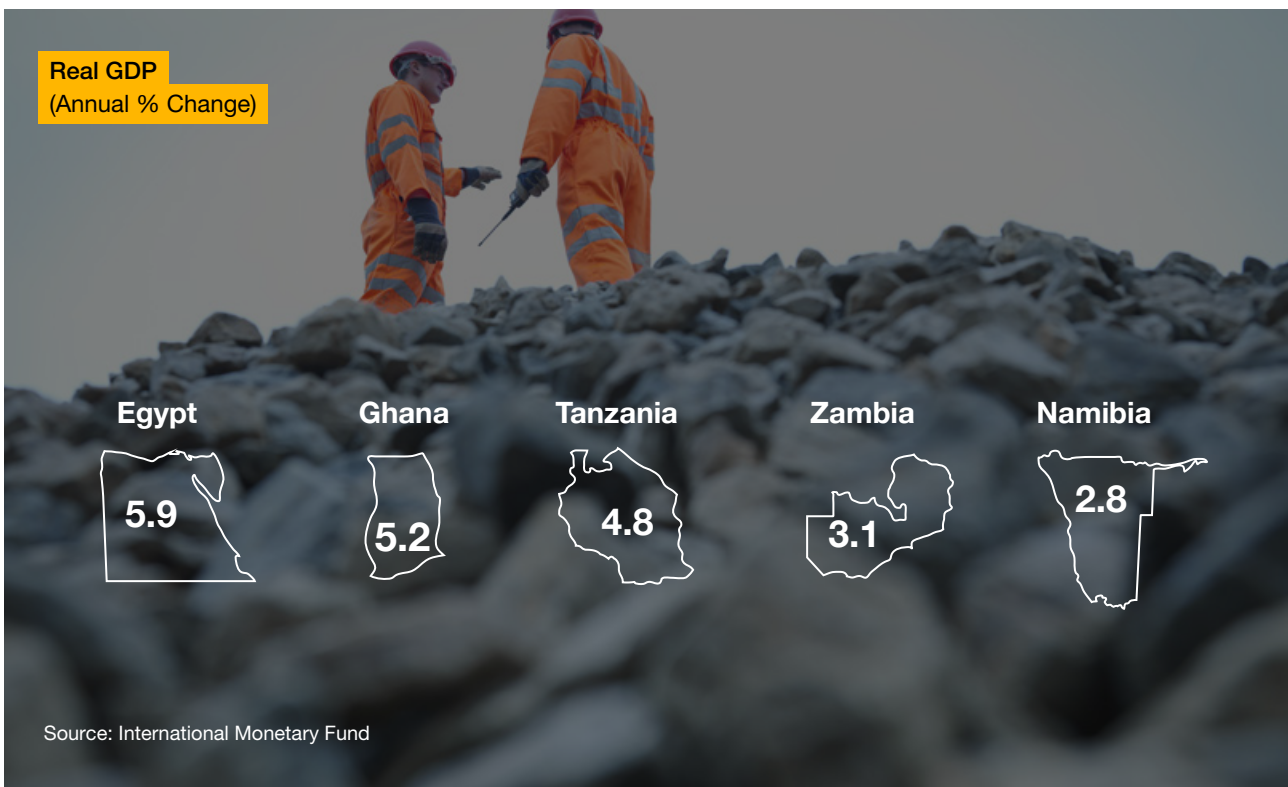
During the Covid-19 outbreak, various countries provided generous concessions to try and stabilise and stimulate the economy. For example, Australia utilised the JobKeeper Payment¹⁰ stimulus package which incentivised businesses to keep employees on despite the economic uncertainty. There were also various tax concessions introduced such as the Temporary Full Expensing measure which provides an immediate write-off (for income tax purposes) in an attempt to stimulate business activity and encourage capital investment.

From our review of the African countries modeled in this publication, there were genuine attempts to provide support to businesses, however, we also saw the introduction of increased levies/taxes such as the 1% Health Recovery Levy in Ghana.

As with any period of change and uncertainty, this presents opportunities for governments to better prepare their economies to prosper notwithstanding such volatility. A key lever for governments in this regard is tax reform.

Throughout the heights of the Covid-19 pandemic, there was a relatively small amount of tax reform and incentives established in the African countries modeled. Despite this, interestingly the African countries we have modeled have (mostly) seen solid growth in respect to their GDP growth as outlined below (particularly when compared to US, UK, Australia who ranged from 3.7% to 4.2%).

A contributing factor (with regards to the mining industry) to the above has been the strength of commodity prices and the demand for critical minerals.



The importance of Tax Reform

Following the Covid-19 pandemic, we are seeing a period of rising inflation and governments attempting to intervene to reduce the impact of these effects on their economy. As such, if there is sufficient inflationary pressure then it can substantially impact mining companies' willingness to start new operations/new projects. To attempt to combat the impacts of inflation and to maintain the level of investment in their countries, one lever governments can look to use is tax reform - that is to provide concessions for companies to offset this impact. Beyond providing new concessions and reduction in rates as shall be examined, tax reform should also look to reduce uncertainty in the law and/or law administration. This would help to improve confidence from investors regarding expected outcomes from their investment.

Tax reform is a consistent topic of debate in the global political climate. The ability to increase the taxation of large corporations would result in an influx of revenue but is mirrored by the possibility of restricting investment.

Tax reform can also change the source of the revenue collected by the government to alter the economic investment decisions. Increasing royalty tax leads to the company being required to pay a greater level of tax. Increases in individual income tax on the contrast directly impacts the employees of the company. To be able to increase investment whilst maintaining government revenue collection may mean broad based tax reform is required.

An example of such changes which are aimed at reducing inflation, and encouraging new investment (particularly in domestic and clean energy) is the recent Inflation Reduction Act introduced by the United States - as this was only recently introduced, it will be interesting to see the impact this has to the US economy, and if effective, whether other countries may follow suit.

In this regard, we outline below a brief summary of some of the tax changes introduced into the five African countries modeled.

Zambia

Without having included Zambia in the previous models we are limited in our ability to make comparisons, however we can outline some of the key taxation changes that have occurred over the last year that would impact a prospective mine investment.

In 2022, there was the re-introduction of the deductibility of the Mineral Royalty tax.¹¹ This was to avoid double taxation which had been raised as a concern, but also to make Zambia a more attractive investment for mining. Further to this there was an increase in the carry forward period of unutilised disallowed interest expense.

Given that the mining sector is highly capital intensive, the increase in the carry forward period for unutilised disallowed interest expense is expected to incentivise the mining sector to raise the necessary capital required to expand production capacity and cash in on the high prices that are projected in the medium term.

There has also been an amendment to the mineral royalty tax determination. This was done to result in a more competitive, predictable and stable mining tax regime to again present as an attractive investment.

These tax changes, whilst not broad based tax reform initiatives, demonstrate an indication of the government to promote the prospective benefits of making their nation more attractive for investment both in the medium and long term. However, the 15% export levy introduced in 2019 has had a negative impact on mining investment in Zambia. We note this levy has since been suspended however, we have continued to model this for the purposes of this publication only to demonstrate its impact if the levy was still applicable at this rate.



Tanzania

A tax regime amendment made by the Tanzania government since our previous report is the reduction in royalty on gold sold in local refinery centres. The rate of royalty on gold is reduced from 6% to 4% when the company elects to refine the gold within Tanzania, thus stimulating the economy and providing more jobs. There has however been no progress with respect to the government minimum non-dilutive free carry interest with the government being entitled to up to 50%. This change continues to increase uncertainty for investors and there is continued lobbying with the government in this regard. This taxation treatment was discussed in our previous publication 'Battle of the Taxes' as well as other PwC publications such as 'Two steps forward, one step back: The African tax landscape'¹² which reinforced the need to reform this tax regime.

Although the government free carry rate of 16% has been seen to apply in cases where there are no additional tax concessions, this continued uncertainty can make investment riskier and arguably makes Tanzania less competitive to other jurisdictions.

However, in recent times, we have seen an increased appetite from the government to negotiate and agree individual mining conventions with mining companies. This has started to pave the way for certainty and investment in Tanzania.

Egypt

Egypt has long adopted a revenue split/production sharing regime. In summary, typically, the Egyptian government enters into a Production Sharing Contract (PSC) with a miner whereby the miner agrees to operate and fund a project, while rather than extracting royalties and income tax, the government instead is entitled to a share of the profits earned by the project.

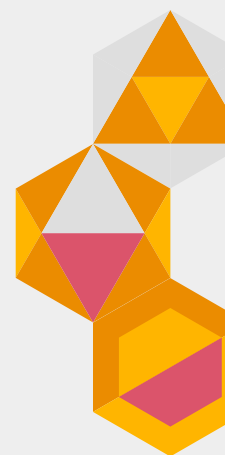
The main features of the Egyptian PSC system are as follows:

- The Egyptian government is entitled to a production share (normally referred to as a "profit share") determined on a contract by contract basis of typically between 40% – 50%;
- The miner is entitled to recover operating and capital costs before any profit is allocated. This recovery is normally limited to a percentage of revenue between 60% – 90%, depending on expected operating margins plus an allowance for capital costs recovery;
- No corporate income tax is payable on the miner's share of profits; and
- No withholding taxes on interest and dividends are chargeable.

It is important to note that the terms of the PSCs vary from contract to contract and are individually negotiated. Hence the terms noted above are guidelines.

In recent times, Egypt has sought to implement fiscal and legal policy changes to attract foreign investment. This was a result of various amendments to the existing law making investment and operations more feasible and economically beneficial. One amendment was (where rather than a PSC, a traditional tax regime applied) the capping of royalties at an overall 20% where previously there had not been a cap. Further, measures were introduced in an attempt to make obtaining the relevant licences/approvals to mine more easily obtainable. However, the impact of these changes are yet to be at scale and whether a traditional tax regime compared to a PSC style regime will be adopted more commonly in Egypt remains to be a question.

On an ESG front, Egypt has sought to introduce specific (and mandatory) ESG reporting including metrics on diversity and anti-discrimination to the overall environmental footprint and commitment to minimising pollution.



Dividing up the pie - the distribution of project returns



Mining is a long-term game. Substantial capital is placed at risk and invested up-front, with the goal of generating returns over a number of years and in many cases, decades. The mining industry is generally cyclical. Over the course of an average mine's life, it is likely to experience the whole cycle, from booming highs to desperate lows. The cycle is driven by supply and demand variations which lead to volatility in the price at which products are able to be sold to customers.

The key decision for a mining company is whether to develop the mine. Until this decision is made, expenditure is lower and performed in stages as exploration progresses. Once development has been approved, a significant amount of capital is spent to construct the mine, associated processing facilities and financial resources associated with infrastructure.


Throughout the process for assessing the viability of a mining project, ahead of a development decision, the miner and host country government will be in close contact over many factors, including licensing, operating conditions, local content, taxes and incentives.

The culmination of these negotiations drives the decision to develop the mine. It is at this stage that the government can have the most impact on the project, either positively or negatively.

The table below shows the profits and cash flows generated by the miners along with the taxation and other revenue provided to the government, over the life of the PwC Gold mine. Note that total project cash flows are fixed across all countries, at US\$956m.

Our gold mine generated cumulative free cash flows (to the miner) of US\$503m in Namibia, US\$383m in Ghana, US\$350m in Egypt, US\$255 million in Tanzania, and US\$202m in Zambia. All of these are on an undiscounted basis.

It is important to note that these cash flows are only generated if the mine is actually developed – without the development decision, the government revenue is nil, as is the cash flow generated by the miner.



2022 Government and Miner Cash Flow					
	Namibia	Ghana	Egypt	Tanzania	Zambia
Total Government cash flow	453	573	606	701	754
Miner cash flow	503	383	350	255	202
Total	956	956	956	956	956

For the purpose of this table we have assumed that all projects moved ahead regardless of the IRR threshold.

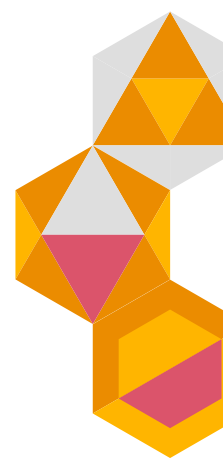


Sharing the returns

The revenue split from the gold mine between the government and miners is shown below. It can be seen that in Namibia, 53% of total project returns are retained by the miner, compared to only 27% in Tanzania. Importantly, the success of proceeding with the decision to mine and the subsequent production which results from this decision, and therefore access to revenue income for the government, sits with the government accepting a lesser share.

For example, what if governments create a fiscal environment which rewards miners for investing in the local community or hiring locally? This creates benefits for both parties. A reduction in taxes leads to greater IRR and level of profits for the mining company which can in turn be shared with the government along with the benefits to their community.

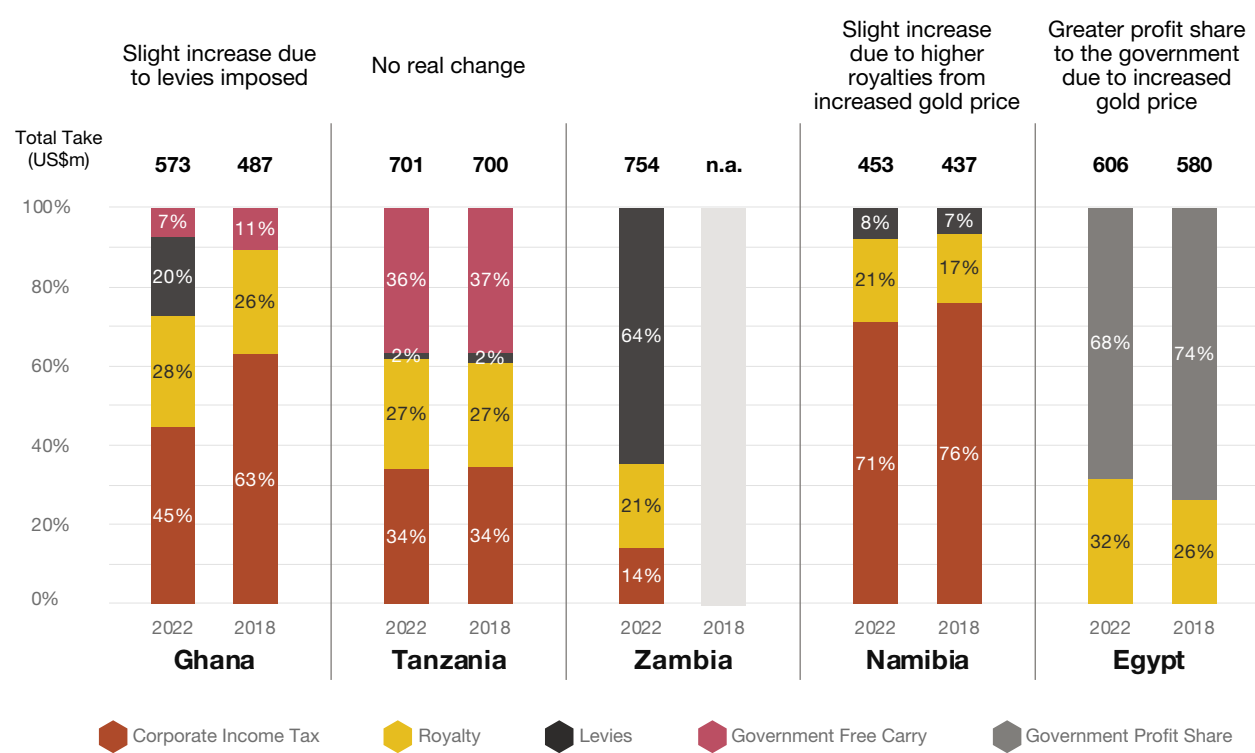




The table below shows the composition of government revenue generated across the five countries studied in 2022. As can be seen from the below, whilst there has been some minor changes (i.e. minor increases), there has not been any significant changes in the overall returns to government since our previous publication in 2018 - this evidences that there has not been any significant tax reform affecting the hypothetical gold mine. We do note however that there was a moderate increase in government returns in Ghana due to the imposition of new levies including a Covid Health levy.

Notably, despite having the highest corporate income tax rate (and therefore income tax cash flow), the Namibian government's total project cash flow is less than the other African countries modeled. This illustrates that royalty rates and government free-carry/ profit shares are a significant driver of project outcomes. In particular, we note that these items have the most significant impact on the PSC project cash flows in Egypt.

Government Take in 2022



Royalties represent a tax which comes off the top line revenue. Governments are generally in favour of royalties as they guarantee the mining company pays some form of tax and that tax is tied to the price of the commodity. As has been seen, the gold price has risen substantially in the past four years, tied heavily to the pandemic and reliance on gold in periods of economic instability. This rising gold price has led to a greater take from the governments in terms of taxation with royalties taking a larger relative component. This is important because with rising inflation expected the gold price may rise resulting in higher royalty payments. This will have an impact on the decision to invest in a jurisdiction.

What drives the outcome?

The profits and cash flows generated by a mining project are finite. If the government takes too large a share, there are insufficient funds left for the miner to generate a commercial return. The miner is bearing 100% of the capital and operating risk of the project. The miner's capital is mobile and decisions are made regarding the allocation of this capital on a regular basis. Furthermore, the decision may well be out of the hands of the miner and in the hands of financial investors.

If IRR thresholds are not met, these calculated government revenues may well be a theoretical exercise only as there may be no project at all. If there is no project, there will be no associated cash flows for the country. For their governments, a slightly smaller share would be better than a larger share of something that never eventuates.

Undoubtedly, there are new mining projects being approved and developed in all five countries. With the existing tax regimes, miners looking to invest in countries with lower returns (i.e. Zambia, Egypt and Tanzania) must look for a project that is one step above, in order to generate comparable returns to other countries such as Namibia. All of these five countries have high-quality projects, which may be developed under any scenario. However naturally, the higher the grade, the rarer these projects are. Over time, fewer projects will be developed as only the best meet the required IRR to allow development.

Working together

Working together collaboratively, the government and the mining company can achieve a better outcome for all.

While at times it can appear that the two parties are on opposite sides of the fence, there is no reason why governments and companies cannot work in tandem to drive improvements that provide benefits for both parties.



For example, if governments can work together with a miner to help them reduce costs, it will generate a higher level of profitability and therefore return a greater share, through higher income taxes for the governments and potential expansion of operations for the miner. In addition, the encouragement and support for ESG accretive outcomes will undoubtedly result in more investment flowing to a particular country as miners (and their stakeholders) seek ESG positive investments. One thing remains clear however, for any viable solution, the outcome must be a win-win for both the miner and government.





Conclusion

As has always been the case, the key to investment and economic growth is the ability for the mining companies and the government to work together to create mutually beneficial outcomes.

To be able to attract investment and remain competitive in the global market requires governments to look beyond their natural resources and focus on how else they can add value to companies whether than be taxation based or community engagement. From the mining company's perspective, there is the consideration of the financial implications of the investment but also the increasing focus on ESG and non-financial metrics. To remain competitive as a company and return value to shareholders in this new global climate requires a focused approach to ESG and working with local governments to find avenues to promote it.



Appendix A

Information on tax regimes

Tax Type	Tanzania	Ghana	Egypt	Namibia	Zambia
Corporate income tax	30%	35%	22.5%	37.5%	30%
Royalty Rate on gold	6% (4% on gold refined internally)	5%	6%	3%	5%
Government Free Carry	16% - 50%	10%	0%*	0%	0%

*Subject to whether a PSC approach is agreed.

Country Amortization Rate	
Tanzania	20%
Ghana	20%
Egypt	20%
Namibia	33%
Zambia	20%

Assumption	Details of assumption
Value-added tax (VAT) /goods and services tax	All mining companies are assumed to be either exempt or able to receive a refund for VAT/GST, and therefore the net effect is assumed to be zero.
Withholding taxes	Withholding taxes are assumed to be already included in costs (including payee taxes) and that the analysis excludes repatriation of profits and funding to shareholders.
Customs and excise duties payable on inputs	Customs and excise duties payable on inputs are assumed to be already included in costs.
Other tax assumptions	In many countries taxes can be varied, such as through the provision of tax holidays in the mining development agreement. We have assumed no variation from the statutory rates. We have not allowed for repatriation taxes.



Appendix B



Key Project Assumptions

Life of mine

Exploration	Before commencement
Development	4 years
Production	10 years
Closure and rehabilitation	1 year

Production

Yearly (ounces per annum)	200,000
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Capital Expenditure (US\$)

Exploration	30 million
Mine development and construction	150 million
Sustaining capital (per annum)	15 million
Closure and rehabilitation	20 million

Gold Price (US\$)

Per Ounce	1,600
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Costs (US\$ per ounce)

All-in sustaining costs	945
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Discount Rate

Rate used to discount future cash flows	8%
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Benchmark IRR

IRR required for positive investment decision	25%
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Employment

Local employees	1,100
Expatriate employees	11

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