PwC Australia Africa Practice

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Battle of the taxes

Who comes out on top?

Australia and Africa compared

pwc

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Foreword

Africa's time is now. Combine many nations which have young populations that are experiencing strong growth, with a mining sector experiencing good times, and conditions are favourable for a sustained period of success.

According to the International Monetary Fund (IMF), the African continent has experienced an average growth in Gross Domestic Product (GDP) of 3.8%, beyond North America's average of 2.8% and the European average of 2.4%. With increased economic stability in the region and the lessening of sovereign risk attached, Africa is a hotbed for investment. As PwC's "Mine 2018" publication noted, mining continues to be a key industry in Africa's drive for economic growth and with the mining cycle on the upside, the relatively unexplored African continent is an attractive destination for mining investment.

With a global increase in the demand for resources following a period of positive economic growth, the mining sector has demonstrated growth by taking advantage of the increasing commodity prices and growing confidence in global markets. Australia's mining sector has also shown promise, with companies now adapting dynamically to innovation in technological advancements, and analysing big data to make significant improvements to their operations. Given Australia's increased efforts, is the African mining sector doing all it can to remain competitive?

The increased political stability in Africa and rising commodity prices present African countries with the opportunity to capitalise on this current positive market environment and attract significant capital to develop the resources of the continent. However, as outlined in our "Two steps forward, one step back" publication in 2017, we are seeing African governments increasingly looking to obtain a larger return from mining operations in their respective countries through increased taxes and royalties.

Governments and the private sector must continue to work closely together in order to succeed, and grow collectively. **It is in the interests of both the respective governments and private mining companies to achieve economic growth and attract foreign investment.** Together, governments and the private sector can tackle the challenge of improving living standards through the provision of infrastructure, increased economic activity, employment and educational opportunities.

In this publication, **we look at what has changed since 2017, and compare Australia's tax regime, to the four African tax regimes** to see what impacts they have on investment and growth in the respective countries. We also analyse the potential factors that could benefit both governments and the private sector in Australia and Africa alike, to provide continued growth and opportunity for the global mining industry.

The tax landscape

Continuing with the theme from our "Two steps forward, one step back" publication in 2017, we have performed an economic analysis of a standard gold mine operating under the same conditions, with the same assumed capital and operating costs. We have placed the mine in Western Australia, and four different African countries, being Tanzania, Namibia, Ghana and Egypt. We selected these countries to demonstrate the impact of different fiscal regimes on the decision making of a mining company – specifically the decision on whether to invest in the development and construction of a new mine.

To ensure our analysis focuses and isolates the impact that differing tax regimes have on investment decision making, we have normalised all other factors. We have assumed the same capital and operating costs, including those for energy consumption. We 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 have tested the current taxation regime and the impact this has had on both the decision to build the mine, and the income generated by the government and company over the operating life of the mine.

Key findings

As per our publication "Two steps forward, one step back" in 2017, Namibia continues to be the only country in Africa to generate a sufficient internal rate of return (IRR) to allow a clear decision for the mine to go ahead. Interestingly, Australia also demonstrated a sufficient IRR for the mine to be developed, despite increased tax activity including the introduction of recent tax measures to combat tax avoidance and profit shifting. The current fiscal regime makes the project marginal in Ghana where the IRR threshold is just below the target threshold of 25%, whereas significant changes to the tax regime over the past 2 years have resulted in Tanzania having an IRR of just 18.1%. Egypt also demonstrates an IRR below the required investment threshold.

Through its continued, attractive fiscal policies, Namibia has maintained its status as the most attractive destination for foreign mining investment capital of our sample African countries. Australia also demonstrates an attractive investment landscape, however the Australian tax regime must remain competitive against other OECD countries, and the pressure remains for Australia to undergo tax reform and lower income tax rates, to attract necessary foreign investment. In addition, fiscal stability, access to skilled talent and a consistent legal and judicial system also provide key drivers for Australia's overall investment success.

From our analysis, Australia generates government revenues of US$371 million. However, with Australia's IRR a mere 0.9 percentage points above that of Namibia, is Namibia, and indeed the African mining sector overall, on the cusp of overtaking the Australian investment scene? With some fine-tuning and some small changes to fiscal policy, does the African mining sector have the potential to be a world leader in global mining?

Key findings

Table 1: 2018 internal rate of return (IRR) and total government revenue generated by country

Country	Project IRR	Would the mine be developed?	Government revenue generated (US$m)	IRR Trend since 2017
Australia	26.2%	✓	371	–
Ghana	24.2%	Maybe	487	No change
Tanzania	18.1%	✗	694	↓
Namibia	25.3%	✓	435	No change
Egypt	20.0%	✗	579	No change

Source: PwC Analysis

For Namibia, this means the generation of government revenues of US$435 million over the life of the mine. Foreign direct investment of US$200 million is spent constructing the mine. Over the life of the mine's operations; expenditure of US$1.2 billion and sustaining capital of US$150 million is spent in country, and the mine has ongoing employment of 1,100 people.

Balance is key between returns for the miner, and the government.

The goal of this paper is to stimulate further discussion on what can be done by the Australian and African governments and the mining sector to maximise the potential of their respective mining industries and generate income for both. Balance is key between returns for the miner, and the government. For it holds true to both government and miners – a larger proportion of zero tax revenue or company profit remains a zero return for both parties. In contrast, the benefits of an operating mine continue for generations.

This paper also aims to outline how recent changes in Australia's tax stance can affect foreign direct investment and the success of mining projects, and the improvements that governments across both continents can make to ensure positive growth for the future.

We welcome your engagement on the contents of this publication.

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Background

There are many factors a company takes into account when deciding where and when to allocate their scarce capital to a mining project. Each company, even the most junior explorers, typically have more than one project where they could invest their effort and hard earned funds. Even those with a flagship asset, which appears well ahead of other investment alternatives within the company, will make decisions on whether or not to continue to allocate funds to the project.

Undoubtedly the mineral prospects of a country plays a large part in the initial selection process, with those countries assessed as having the greatest mineral potential benefiting. However, beyond mineral endowment, there are many other factors, which can be influenced by governments that make a project or a country attractive as an investment destination.

While mineral deposits are not mobile, the capital which is allocated to fund construction of the assets certainly is. This capital will naturally be shifted by companies to projects which generate the best return and in jurisdictions which provide stability and certainty. Stability is critical as the return generated by the miner on the substantial upfront capital investment is typically generated over a number of years. Certainty over right of tenure is also necessary for companies to allow them to spend the funds needed to explore, prove up and construct an operating mine.

In our 2017 publication "Two steps forward, one step back", we had analysed the key tax changes that have occurred in Ghana, Tanzania and Namibia in 2017, whilst also modelling a Production Sharing Contract (PSC) type arrangement in Egypt. In order to isolate the impact in the taxation regimes, we modelled the economic impact of each of the four countries' regimes on a gold mine, which we had standardised. We had equalised the grade, metallurgy, operating costs, production levels and construction times. We had assumed the same capital and operating costs and removed any variability due to limitations in access to power and water. We had also removed country specific input cost variables, such as regulated diesel fuel pricing, removing the impact of any limitations in access to skilled labour and critical infrastructure, along with the availability of parts and contractors.

Due to the significant inquiry and positive feedback from our last publication, this year, we investigate the comparison of our normalised mine operating in Western Australia and the impact Australia's tax regime has against our original four African countries.

Whilst in reality the cost of constructing and operating this gold mine in each country is likely to be significantly different due to many factors, these assumptions allow the modelling to examine the impact of each fiscal regime in isolation on the project economics and ultimate decision to mine.

A hypothetical mine: PwC Gold

Our gold mine has the following key factors (all amounts are US$):

- Open pit mine, with processing plant on site to produce gold doray;
- 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 $1,275 per ounce;
- Cash costs of $595 per ounce and All In Sustaining Costs (AISC) of $795; 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%.

Refer to Appendix B for a complete set of assumptions.

The mobility of capital markets

Capital is mobile. Investors decide where to invest their capital, and all countries must play to their strengths in order to remain attractive to investment flows. In a global economy where barriers to international investment continue to fall, the significance of competition for capital as well as its mobility, has risen. Global capital typically flows towards investment climates with good risk-return payoffs. This informs a decision that both Australian individual and institutional investors have to make in the investment cycle, and that is deciding whether to invest locally or abroad in regions such as Africa.

Our analysis shows that, from a tax perspective, Australia offers better returns than the African countries analysed. This implies that, all other things equal, a rational investor would likely invest in Australia before considering investments in Africa.

This outcome, albeit based on a hypothetical project, should be a starting point for African governments in assessing the competitiveness of their economies from a tax perspective. While tax is not the only factor that impacts investor returns, governments, not only in Africa but around the world, need to be more mindful of their use as a vital instrument to create the competitive incentive for inward capital mobility. The common pitfall in the past has been to overtax (particularly in times of higher profits) and discourage further investment which is self-defeating as it usually serves to limit future growth in tax revenues. A key example being the Australian Government's failed Resource Super Profits Tax (RSPT).

A good start would be to establish an optimal tax level for the economy. Optimal tax levels do not necessarily imply that taxes should be lowered but rather require the formulation of a tax charging structure that is consistent with other risk and return factors in the respective economies.

Risk and return factors could include – among others – price levels, infrastructure, quality of minerals produced and socioeconomic stability (for example, the level of adherence or continued changes to domestic laws, or resource nationalisation). Price levels and mineral quality may be favourable for an African investment compared to an Australian investment, which may justify higher taxes in African nations. Alternatively, infrastructure and socioeconomic stability are typically less favourable factors for Africa compared to Australia and may require lower taxes in African countries.

This is the analysis that investors perform before making investment decisions and it is therefore important that tax authorities make similar considerations in setting optimal tax regimes that are conducive for capital flows.

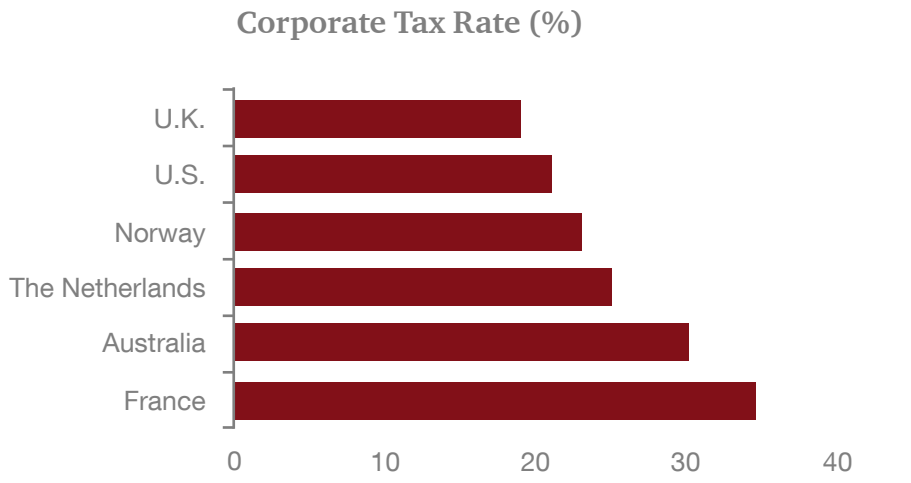
Australia: actually a 'safer investment'?

Having seen the results of the analysis, what can be concluded with regard to Australia's tax regime, and its impact on mining investment? Whilst on the surface, Australia's IRR of 26.2% demonstrates a clear decision to mine, a number of recent changes establish some of the mitigating factors that can negatively influence an investment decision in Australia.

Australia's evolving tax regime

Australia, like most countries, levies company taxes and royalties on mining projects. With Australia currently levying a relatively high 30% company tax (as demonstrated in figure 1), any increase to the corporate tax regime could be contentious. Recently, we have seen the Australian Government introduce new taxation laws such as the Multinational Anti-Avoidance Legislation, Diverted Profits Tax, anti-hybrid rules and changes to the tax residency rules, which have resulted in greater scrutiny from the Australian Taxation Office (ATO). These laws, in conjunction with an increase in government funding to the ATO, reinforce and compliment the ATO's focus on 'justified trust' to ensure companies pay their fair share of tax. Given this more targeted stance by the ATO and the Australian Government, are miners still going to see Australia as a favourable investment?

Figure 1: Global corporate tax rates among OECD countries



Source: OECD Statutory Corporate Income Tax Rates - 2018

Other factors to be considered when investing into Australia include macroeconomic factors such as Australia's relatively higher labour costs, the native title considerations, and the stance the Western Australian government seems to be taking on proposing changes to the gold royalty regime. According to the OECD[1], Australia's average wage is the 10th highest in the world, whereas in comparison, Namibia's average wage sits within the lowest 60 countries. As such, the cost of operating in Australia must be factored into any financial modelling, and in practice, would lower Australia's actual internal rate of return. Furthermore, the potential legal and other costs and risk associated with gaining licensing and the need for approvals from native title holders and the government should be considered.

Whilst Australia may have a relatively high corporate tax rate, stability, socioeconomic success and the strength of the Australian legal and fiscal system continue to prove attractive to investors in lowering the country's risk rating. For miners, a social license to operate should be as important as driving profits for shareholders, as well as safety operations. The Australian mining sector's interest in long-term relationships with their stakeholders and communities, in the safety of their people, and in the sustainability of the environment, has proven to be an attractive base for investment.

1 OECD Data 2018, *Average Wages* Doi: 10.1787/cc3e1387-en

Socioeconomics, done right

Societal and community prosperity

The appropriate focus on investment will lead to sustainable growth and long-term success, over a focus on immediate revenues. International best practice has proven that a company's mining policy that manages their wealth and investments in projects that continue to generate returns for future generations, leads to sustainable growth. By converting natural resource wealth into drivers of inclusive, national economic development such as improvements to industry and a focus on societal and community prosperity, a country is more likely to invite investment.

The advancement of technology and innovation

Another key driver of investment is the advancement of technology and innovation. No longer should innovation simply fall on the shoulders of those who enjoy creating, it should be a necessity. With Australia's mining boom earlier in the decade, a focus was on maximising the volume of production, which resulted in inefficiencies in operations. Australian companies were forced to adapt to close these inefficiencies, with innovation and technology providing the answer. Today, Australia is a leader in mining innovation, which has demonstrated increased efficiency, profits, and investment throughout the sector.

People are the most important assets

People are the most important assets, and Australia knows it. Australian legislation has provisions that require miners to receive comprehensive safety and mining operational training in order to maintain effective and safe mines. In Australia, the introduction of such legislation reduced fatality and injury rates by 65%[2], which in turn boosted investment in the sector.

The efficiency of justice

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, as summarised in table 4.

Table 4: Corruption Perception Index 2017

Country	Ranking*	Score^
Australia	13	77
Namibia	53	51
Ghana	81	40
Tanzania	103	36
Egypt	117	32

Source: Transparency International

**A country's ranking indicates its position relative to the other countries in the index. The lower the ranking, the better.*

^A country's score indicates the perceived level of public sector corruption on a scale of 0 (highly corrupt) to 100 (very clear).

Based on the perceived corruption index above by Transparency International, Australia, is by a fair score, the most attractive with regard to its corruption perception index. A trust in the government is attractive to investors, as sovereign risk is a key factor in investment decision making. Interestingly, the results of the corruption index to some extent mirror our analysis and ranking of the IRR of the hypothetical gold mine.

Could the two have a somewhat progressive correlation?

Despite a focus on increased ATO activity and complex tax laws, Australia has managed to remain an attractive jurisdiction for investment in the mining sector, demonstrating just how crucial socioeconomic and external risk mitigating factors are. With Namibia a mere 0.9 percentage points behind Australia's IRR for our mine, an improvement in the socioeconomic and risk positioning for the continent as a whole, could prove to be a valuable opportunity. With some tweaks, should Africa not be able to play on the same field as Australia?

2 Safe Work Australia 2018, Mining Regulation

Recent changes to the tax regimes

We received such significant inquiry following our 2017 publication "Two steps forward, one step back" – which coincidentally, was presented on the date of the WA Government's proposal to increase the gold royalty rate – we decided to analyse the state of play in 2018, with an emphasis on comparison with Australia's fiscal regime.

We note the State Government's announcement in September 2017 to increase the royalty tax rate, which came without any industry consultation, was met with surprise. With the mining industry being volatile to minor fluctuations, the WA Government's proposal was not received positively by the industry, and raised questions as to what other measures lay ahead for the industry as a whole. Ultimately, the proposed changes never made it into legislation.

Due to little change in Namibia and Ghana's corporate tax regimes, our report demonstrates an identical IRR to what was reported in 2017. Whilst there have been some changes in individual taxation and withholding tax rates in Ghana and Namibia, as our model equalises these factors, they do not impact our mine's IRR.

As reported in our 2017 publication, there have been significant tax changes in Tanzania, which have resulted in a significant decline in the IRR of our Tanzanian gold mine from 24.9% in 2015 to 18.1% in 2018. The Tanzanian government's decision to introduce significant tax changes in 2017 caused a state of flux amongst the many ASX listed, Tanzanian focused mining companies. This legislation was expedited through parliament and came without consultation with the industry.

The key tax changes in Tanzania for the period 2015 to 2018 as relevant for our analysis included:

1. An increase in the royalty rate from 4% to 6%;
2. Tax depreciation of mining capital expenditure over 5 years (straight line) compared to previously 100% upfront in certain circumstances; and
3. The government minimum non-dilutive free carry interest to be set at 16%, with the government being entitled to free carry up to 50%.

These changes in Tanzania are significant and resulted in uncertainty for those invested or planning to invest in Tanzania.

Governments rightly focus on the headline rates of corporate income tax and royalties, given the overall impact they have on their fiscal position. They also consider each taxation or other fiscal lever available in order to maximise their return from any given mining project. It is the sovereign right of every government to levy whatever taxes and other charges they desire on the companies and individuals operating in their country.

However, **care is needed to balance the return to the government and people through the levying of various taxes (whether named as tax or not) and the miners to ensure the return is sufficiently attractive to be able to obtain and subsequently commit the risk capital to develop the project.** For whilst the mineral resource is not mobile, capital certainly is, and is capable of transferring to locations that are more investment-attractive around the world.

At a time of global industry positivity and an increase in political stability in the African continent, the timing of the Tanzanian tax changes has impeded the growth of their mining industry. Other countries in Africa could be impacted by the flow-on effect with regard to market sentiment of investing in Africa. The timing of Tanzania's tax changes is not dissimilar to the timing of the proposed WA gold royalty rate hike in 2017. Is this a sign of things to come, or indicative of an alternative approach? Should Australia be rethinking its tax reform?

The question remains, how do African countries capitalise on the current positive market conditions to strike the optimum balance between tax and revenue measures? Ideally, the balance should be such that they generate what is seen to be a fair and sustainable return for their people from the consumption of the country's mineral wealth, while still allowing sufficient return on the capital invested by miners to allow the investment to occur in the first place.

Dividing up the pie

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 licencing, 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.

Is there a project?

Table 2 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$585 million in Australia, US$262 million in Tanzania, US$469 million in Ghana, US$521 million in Namibia and US$377 million in Egypt. All of these are on an undiscounted basis. They 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.

Table 2: Share of revenues generated by country

Country	Revenues to the miner		Revenues to the government	
	% share	US$m	% share	US$m
Australia	61%	585	39%	371
Tanzania	27%	262	73%	694
Ghana	49%	469	51%	487
Namibia	54%	521	46%	435
Egypt	39%	377	61%	579

Source: PwC analysis

For the PwC gold mine, Namibia and Australia are the only countries of the sample analysed where it is clear that the mine would be developed, and the government would receive revenues and the associated economic development.

Table 2 above shows the total revenues generated from the mine over its operating life, allocated between returns paid to government and returns retained by the mining company. It can be seen that in Australia, 39% of total project returns are paid to the government compared to 73% in Tanzania – a burden which is sufficiently high enough to prevent the mine generating sufficient returns. In Namibia and Ghana, the government share of the pie is between 46 - 51%. Importantly, the success of proceeding with the production of the mine, and therefore access to tax income for governments, sits with the government accepting a lesser share.

From the analysis of the African sample countries, it is clear that in any event, upwards of 45% in government tax is a large portion of the mine's profits, given the government typically does not take on any capital risk. The company is left to gain sufficient return on its capital invested from less than half of the profits generated by the mine.

Sharing the returns

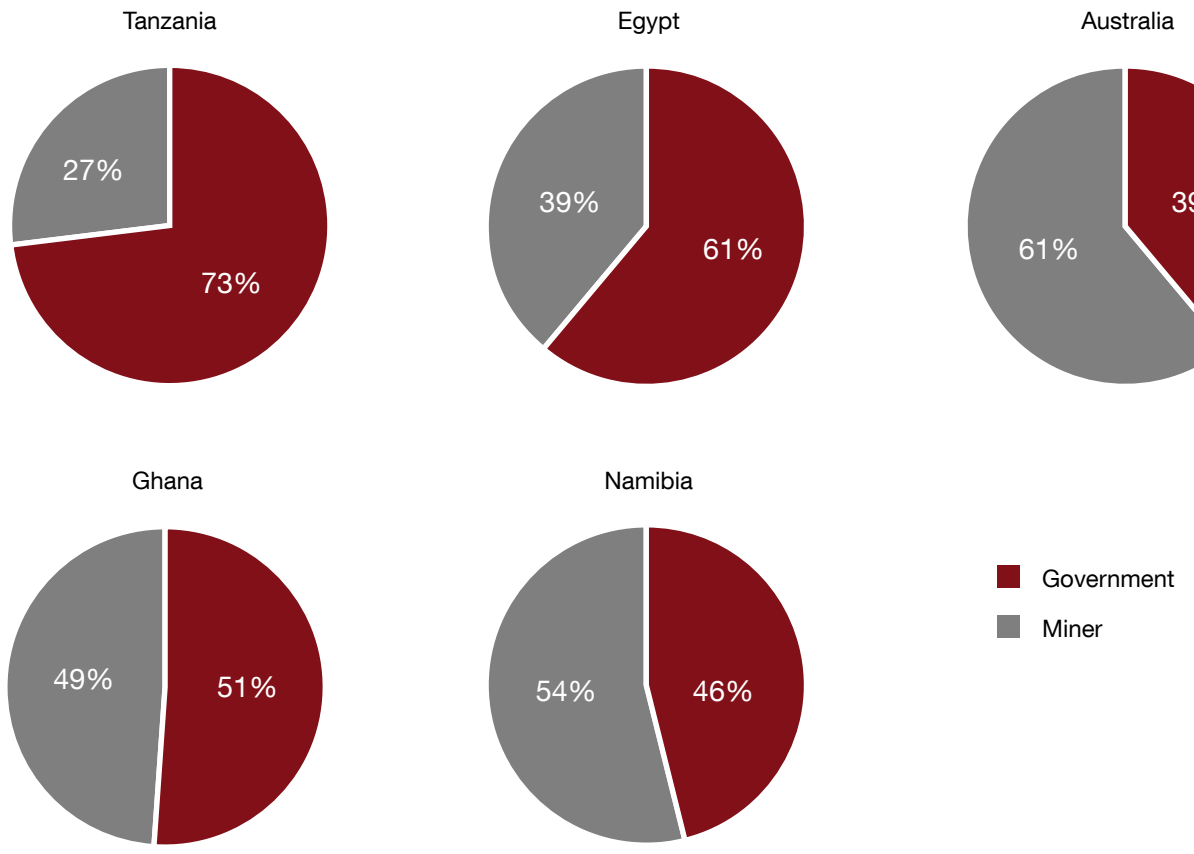
Table 3 below shows the composition of government revenue and miner profits generated across the five countries studied in 2018. Despite the highest corporate income tax rate (and therefore income tax cash flow), the Namibian government's total project cash flow is less than the other African countries modelled, and hence the miner's IRR is the highest, in Africa. This illustrates that royalty rates and government free-carry/ profit shares are a significant driver of project outcomes. In addition, Australia's relatively low royalty rate, and lack of government free-carry in mining projects demonstrates its successes in the analysis. As such, it is not surprising that these are the two main items, which the Tanzanian government has focussed on changing to increase its share of the potential revenues. In particular, we note that these items have the most significant impact on the PSC project cash flows in Egypt.

Table 3: 2018 revenue mix as a proportion of total project cash flows

Project cash flows (US$m)	Corporate income tax	Royalty on gold	Free-carry interest/ profit share	Payroll tax and other levies	Total government cash flow	Total miner cash flows	Total cash flows
Tanzania	246	153	262	33	694 (73%)	262 (27%)	956 (100%)
Egypt	-	153	426	-	579 (61%)	377 (39%)	956 (100%)
Australia	289	64	-	18	371 (39%)	585 (61%)	956 (100%)
Ghana	307	128	52	-	487 (51%)	469 (49%)	956 (100%)
Namibia	333	77	-	25	435 (46%)	521 (54%)	956 (100%)

Source: PwC analysis

Figure 2: Revenue split between the government and the miner



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.

Considering the IRR thresholds not being met for Ghana, Egypt and Tanzania, these calculated government revenues may well be a theoretical exercise only.

Given there will be 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 Egypt, Tanzania and Ghana must look for a project that is one step above, in order to generate comparable returns to Australia and Namibia. Each country has high-quality projects, which will 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. One example is power costs, which are a significant proportion of costs for any mining venture. Any reduction in power costs, through connection to grid power rather than running off diesel plants for example, is highly likely to generate a greater return to the miner. This return is shared by the government. For any viable solution, the outcome must be a win-win.

Conclusion

What conclusion can be drawn from our analysis?

Whilst projects differ, and commodity prices can be volatile, a key determining factor on the likelihood of project development sits with the manner in which returns are allocated between miners and governments. In addition, one should not underestimate the power that socioeconomic development, judicial strength and advancements to innovation can have in the strive for greater returns.

A challenge presents itself to both miners and governments - are you willing to work together collaboratively to understand project specific economics in order to build a flexible arrangement to allocate returns from a project appropriately? Are you willing to invest in social programs that improve and grow levels of education, community outreach, and aim to stamp out perceived corruption?

"Saving our planet, lifting people out of poverty, advancing economic growth... these are one and the same fight... Solutions to one problem must be solutions for all."

Ban Ki-moon
Former United Nations Secretary-General

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Appendix A: Information on tax regimes

In compiling the above analysis, we have utilised taxation summaries on each of Australia, Ghana, Tanzania, Namibia and Egypt, prepared by various sources. Only local taxes have been included due to variations in host countries and other taxes as a result of different corporate structures. The key taxes and associated assumptions are contained in the table below.

Tax Type	Australia (WA rate)	Ghana	Tanzania	Namibia	Egypt
Corporate income tax	30%	35%	30%	37.5%	22.5%
Royalty rate on gold	2.5%	5%	6%	3%	6%
Income tax rates - local employees (averaged)	19%	17%	28%	21%	23%
Income tax rates - expatriate employees (averaged)	37%	20%	30%	21%	23%
Dividends to government (government free carry)	0%	10%	24%*	0%	0%*

*Subject to negotiation

Country	Amortisation rate
Australia	Varies depending on amortisation method adopted
Ghana	20%
Tanzania	20%
Namibia	33%
Egypt	20%

Other Assumptions

Assumption	Details of assumption
Value-added tax (VAT) / goods and services tax (GST)	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
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)	
Real price (held constant year on year)	1,275
Costs (US$ per ounce)	
Cash cost	595
All-in sustaining costs	795
Discount rate	
Rate used to discount future cash flows	8%
Benchmark IRR	
IRR required for positive investment decision	25%
Employment	
Local employees	1,100
Expatriate employees	11
Local employee salary (US$ per annum)	25,549
Expatriate employee salary (US$ per annum)	122,900

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