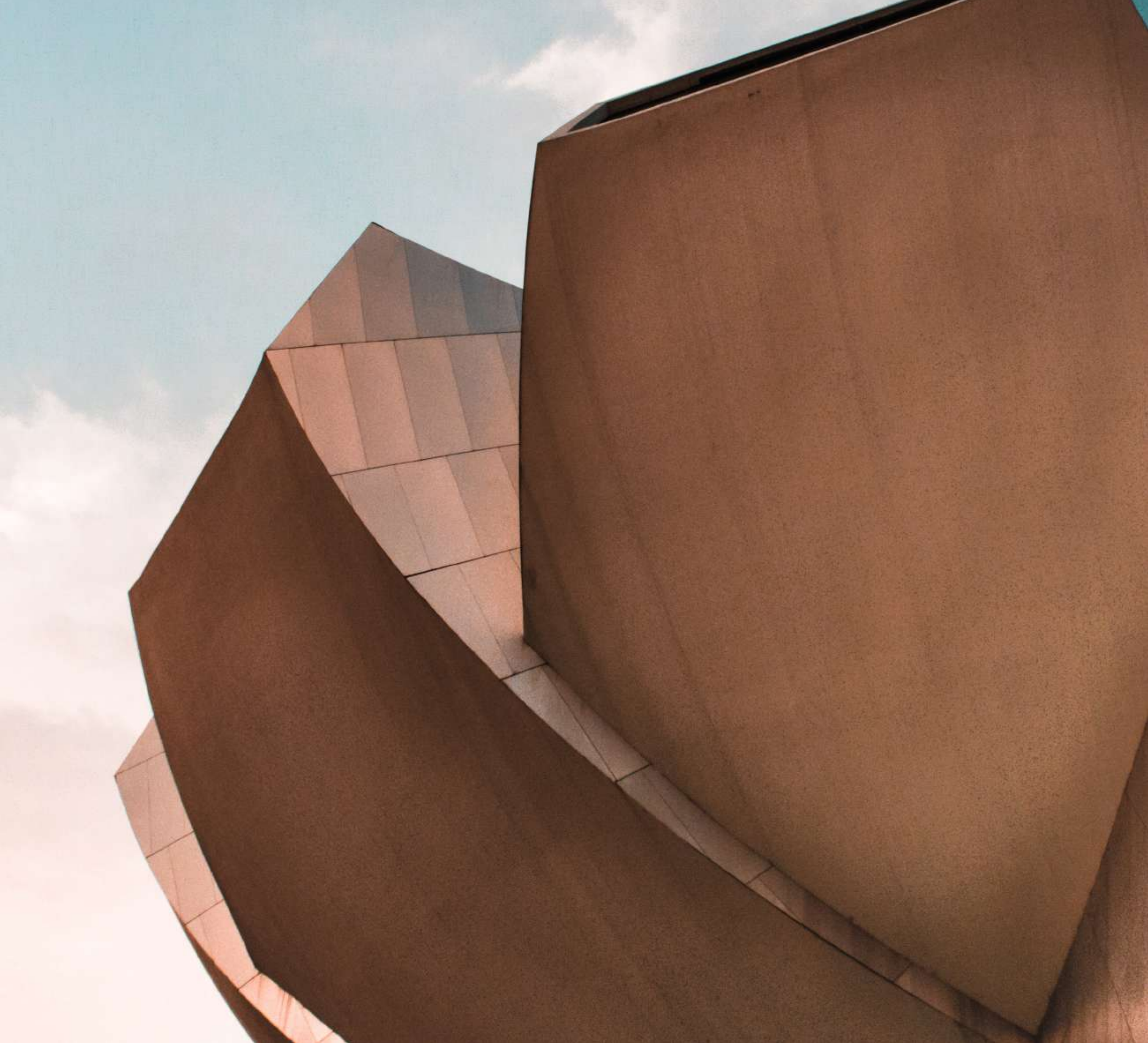
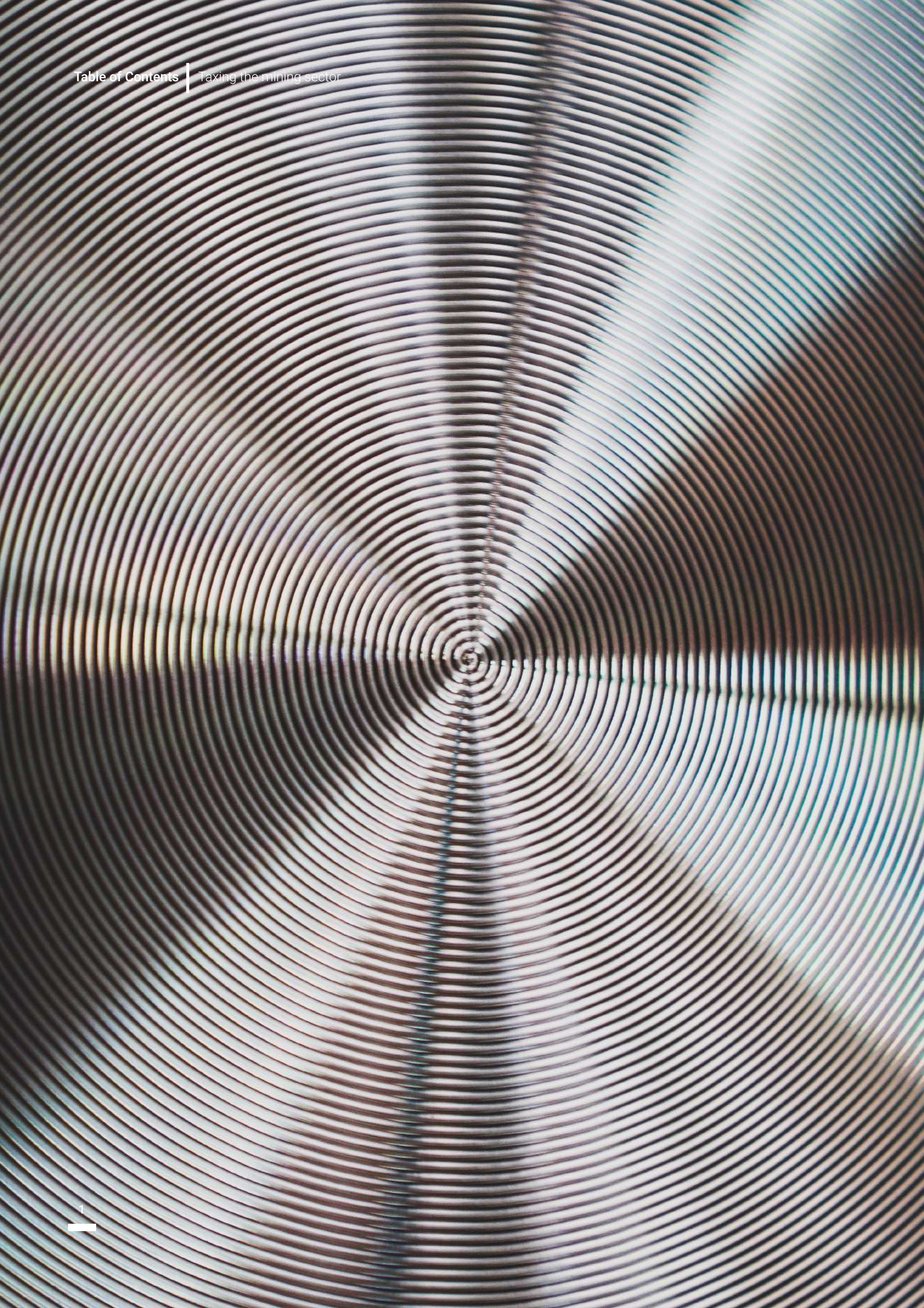
Taxing the mining sector

A report by the Zambian Chamber of Mines

2018/2019





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FOREWORD

Mining taxes are, once again, a hot topic in Zambia. In her 2019 Budget speech, the Honourable Mrs. Margaret Mwanakatwe, Zambia's Minister of Finance, announced the Government's intention to increase royalty rates, along with a slew of other taxes and duties. This would be the 5th change to Zambia's royalty regime in 6 years.

The royalties paid by the mining sector make a vital contribution to Zambia's fiscus. But, because a royalty is levied on revenue – for example, on every tonne of copper produced – rather than on the profits a company may make, royalties do represent a significant cost to a business. A balance must be struck if growth and development are not to be stifled.

Governments and societies must grapple with these policy issues. But they cannot be decided without a common understanding of the subject matter.

How do you tax the mining sector? What are royalties? What is the 'right' level of taxation? Does raising the tax rate actually deliver more taxes? And, how does Zambia's mining taxation regime compare with other mining countries?

These are some of the themes developed in this report. The purpose is to give Zambians an understanding of a critical issue presently affecting the mining industry, and the wider context in which the issue is situated. We sincerely hope you will find it useful.

Goodwell Mateyo
President, Zambia Chamber of Mines

THE FUNDAMENTAL PRINCIPLES OF TAXATION

Most taxpayers grumble at having to part with a portion of their hard-earned income to pay taxes and rates. But without those taxes, the State cannot properly function. Taxes form the bulk of a government's revenue, and it is those taxes which pay for public goods, such as the maintenance of law and order, healthcare, and public infrastructure.

For more than two hundred years, societies have considered, and continued to refine, the principles which should underpin a fair system of taxation.

Neutrality
Levels of taxation should avoid distorting economic behaviour. For example, by changing the rules of normal supply and demand, because a heavily taxed good becomes too expensive to supply or buy.

Efficiency
Administration costs (for a government) and compliance costs (for the taxpayer) should be kept to a minimum.

Certainty and simplicity
Tax rules should be clear and simple to understand. The taxation regime should provide certainty so that businesses can plan and make optimal investment decisions.

Effectiveness and Fairness
Taxation should produce the right amount of tax at the right time, whilst avoiding double taxation or under taxation. Bureaucratic capacity to administer the system and collect taxes is essential to both effectiveness, and perceptions of fairness within society.

Flexibility
Taxation systems should be dynamic and flexible enough to ensure they keep pace with, and are able to adjust to, technological and commercial developments.

These principles are of general application, and hold true for all countries, business sectors, and all taxpayers large and small. It is the instruments – the types of tax and how they are applied – that will differ depending on what it is you are taxing. The mining sector, for example, has certain unique characteristics, as we shall now see.

DESIGNING A MINING TAX REGIME – A DELICATE BALANCE

A forward-looking tax regime encourages continued investment – or at least does not discourage it

Mining companies want to make the best possible return on their investment over the life of the mine, whilst governments want to get as much tax revenue as possible over the life of the mine. A well-constructed mining tax regime will balance these competing interests, and turn potential adversaries into partners.

A typical life-of-mine is 15-25 years or more, and will outlive several changes of government. A mining tax regime should therefore encourage continuing mining investment over the longer term, for it is the continuity in production that is largely responsible for a stable stream of tax revenue, rather than the actual tax rate. Admittedly, this long-term perspective can clash with the very real and immediate revenue needs of governments, particularly in developing countries; but this does not make it any less true.

A 'good' mining tax regime encourages investment – or at least is neutral and does not discourage it. Designing one requires a sound understanding of mining, because it is unlike other business sectors: it is capital-intensive, acknowledged to be high risk, and has very long lead times to profitability. There are four key stages of a mine's life cycle, from exploration to closure, and each can benefit from – and be incentivised by – a certain kind of tax treatment.

- **Exploration**
  This is a high-risk phase that doesn't generate any income, and can lead to nothing more than an expensive hole in the ground. Tax authorities could exempt explorers from property transfer taxes and withholding taxes on specialist international service providers. These measures incentivise exploration, without which there is no future mining pipeline. Furthermore, allowing losses to be carried forward and offset against profits in production encourages firms to move to the next phase of mine development.

- **Mine development**
  This is a high-cost phase where mines purchase expensive capital equipment (usually imported) and incur steep development costs. To encourage mine development, tax authorities could keep import duties and VAT low, and allow mines to write off capital costs fully and as quickly as possible once production begins.

- **Production**
  This is the only phase during which revenue is generated and profits can be earned, though these can fluctuate considerably over time. It is during this production phase that tax authorities are able to capture reliable revenue streams from diverse forms of royalties, duties and taxes. During this phase, mines require continual investment, not just to replace machinery and equipment, but also to expand or modernise operations. Mines should be encouraged to continually invest, to ensure production remains at an optimum level. Allowing for interest payments on debt capital to be offset against tax is one way of doing so. Similarly, given the cyclical nature of mining, if a mine makes a loss during the year, tax authorities may allow the loss to be carried over to a future year and offset against that future year's financial results.

- **Closure and rehabilitation**
  The mine no longer earns any income after closure, but incurs substantial costs to rehabilitate the area and return it as far as possible to its original state. Ideally, tax authorities would provide tax-deductibility for these costs, to encourage mines to set aside funds progressively during the production phase.

Profits and production
Whilst governments have many potential revenue streams from the mining sector, including VAT, export / import duties, payroll taxes and so on, the two main forms of revenue stream come from royalties on mine production, and taxing any profits a mine may make.

PROFITS-BASED TAXATION: HOW IT WORKS

The huge capital investment required for a new mining operation means that mines can take many years after production starts to become 'profitable' for tax-paying purposes. This concept is often seriously misunderstood, and needs some explanation.

A profit-based tax, such as Corporate Income Tax (CIT), provides a certain amount of relief for capital expenditure already sunk into a project – in other words, once the business is up and running, a company can set aside some of the money already invested against any tax that might be owing.

This is a critical incentive to investment, and is common to all industries and businesses across the world. It is more apparent in the mining industry because of the size of capital investment involved and the many years – decades even – between making the investment and before a mine commences production.

How does it work in practice?
The capital invested in a new mine has already been spent in the exploration and construction phase; the relief from tax comes in future years when the mine is in production. So, a new mine could well be productive, and generating cash for investors, who have already committed their capital, but not yet be paying tax. Depending on the legislation, and the amount of capital committed, this situation could last for many years.

How then does a Government generate revenue at the early stages of a mine's life cycle?
That is where royalty payments – known in Zambia as Minerals Royalty Tax (MRT) – come in.

What is a royalty tax (MRT)?
The defining characteristic of a royalty tax is that it is levied on revenue, not profit.

Strictly speaking, a royalty payment is not a tax. Nor does it solely apply to minerals.

A royalty is defined as a payment made to the owner of an asset by those who wish to make use of it to generate revenue.

The payment of royalties for the use or extraction of mineral resources is similarly an acknowledgement of ownership, in this case paid to the Government, as steward of a nation's non-renewable resources.

Given that it is one of many potential sources of Government revenue levied on the extraction of mineral resources, royalties are regarded as part of a nation's wider minerals taxation policy.

Advantages of MRT
When applied to mineral resources, a royalty tax's defining characteristic is that it is levied on production (e.g. sales, revenue, tons mined) rather than profit.

This means that it is payable from the first day of operations, and thus generates an immediate revenue stream for the Government long before a mine is ever judged profitable.

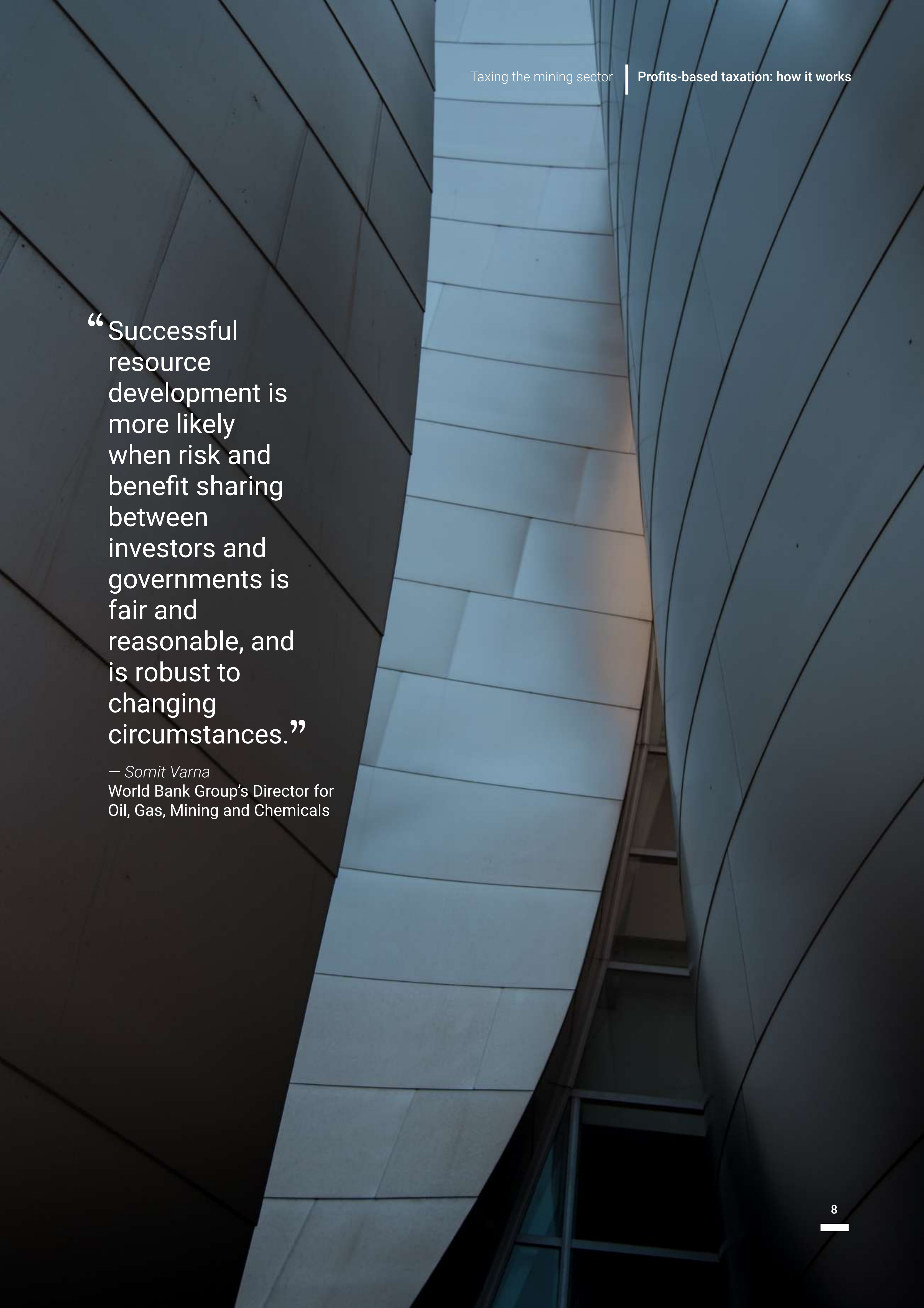
Furthermore it is relatively simple to calculate and administer, and is payable on a monthly basis.

Disadvantages of MRT
Royalties are a blunt instrument; they are not sensitive to the distinctive circumstances of each mine.

As MRT is based on production, it has no regard for costs – which will always vary between different mines. So, two mines with completely different cost structures and profit levels might end up paying the same royalty tax.

In fact, a mine can be making a loss and still have to pay the royalty. A loss-making mine might even have to borrow money in order to make the payments.

<u>How is that?</u>
Remember, a royalty payment is a cost to the business. If a mine's margins are thin, the royalty rate can mean the difference between the mine breaking even or making a loss. Even if the mine is loss making it is still obliged to pay royalties, which must be funded somehow.



> “Successful resource development is more likely when risk and benefit sharing between investors and governments is fair and reasonable, and is robust to changing circumstances.”

— *Somit Varna*
World Bank Group’s Director for Oil, Gas, Mining and Chemicals

> “Without continued investment in mine extensions and scale economies, Zambia’s copper production will soon peak. As output falls, so will taxes, jobs, and other economic activity. The design of the mining fiscal regime plays a leading role in facilitating investment that can sustain future growth.”
>
> — *Making Mining Work for Zambia* 2015, World Bank

Further, there are other potential negative consequences that must be taken into account by policymakers. For instance, a royalty rate that is too high can lead to the underutilization of a nation's resources – particularly lower grade ore – because beyond a certain point dictated by the royalty tax, it makes more financial sense to just leave it in the ground.

How does this work?

As a royalty rate increases, so do the costs of a mining operation. In order to stay profitable, mines are forced to restrict mining to the higher grades of ore available to them. Remember, for every ton of rock that is taken out of the ground, only a tiny amount of mineral ore is extracted. This involves huge effort, and expense. When costs tighten, a mine is forced to only target those areas where the ore is highest – i.e. where the value of each ton extracted is that much higher.

In the short-term, high-grading usually leads to lower annual production. And lower production means lower royalties, which could outweigh the intended gains from a rate increase. In the longer term, if the activity persists, it inevitably means that the productive lifespan of a mine is that much shorter, as much of the copper that is more expensive to extract will remain in the ground.

MRT part of a wider mix

Royalties are never the only contribution which countries levy on their mining industries; where a royalty exists, it always sits alongside a tax on profits.

MRT contributes to a regular flow of revenue to governments

The combination of a royalty and a profit-based tax results in a regular flow of tax revenue for governments over the entire life of a mine.

Profit tax eventually takes over from MRT

MRT is important in the early stages of a mine's life cycle, as it produces a tax-revenue stream despite the fact that the mine is not yet profitable. Several years later, once the mine has reached profitability, profit-based tax kicks in and starts to contribute to overall tax revenues.

When mines become profitable, as they did in Zambia after 2008, the returns from CIT completely eclipse royalty payments.

But, watch out for double taxation!

Because royalties are a cost to the business they are, the world over, deductible against profit tax.

If the price of copper is $6 000 per tonne, and the royalty rate is 6%, a mining company could only ever receive a maximum of $5 640 (and because of smelting charges, the sum received is always far less). It would therefore be improper to tax the company as if it had received the full $6 000.

Think about it this way; no taxpayer (whether a company or individual) should ever have to pay income tax on income they have not received – in this case, because the government has already received it as a royalty. This is an example of double taxation, which offends the principle of fairness, referred to earlier.

In its 2019 Budget proposals, the Zambian government intends to depart from this clear principle. It will be the only mining jurisdiction to do so.

WHAT IS THE 'RIGHT' RATE OF MRT?

Do the answers fit the questions?

Judging the 'right' rate is a different exercise to determining whether the level of collections is appropriate, or whether tax revenues are spent effectively. These issues should not be conflated. For instance, if a government is concerned about tax evasion, or citizens are concerned about how taxes have been spent, the answer is to improve oversight and capacity, and to focus on transparency initiatives – not to revise the taxation regime. The latter merely increases the burden on responsible investors, whilst doing nothing to prevent wrongdoing.

Past concerns over reporting irregularities should be assuaged by the considerable improvement over recent years in government's capacity to monitor minerals production and reporting. This has been achieved with the assistance of the Mineral Value Chain Monitoring Project (Zambia Revenue Authority), and the Minerals Production Monitoring Support Programme (Ministry of Mines and Mineral Development). According to the latter, anomalies in reporting and copper production are now down to a few percentage points.

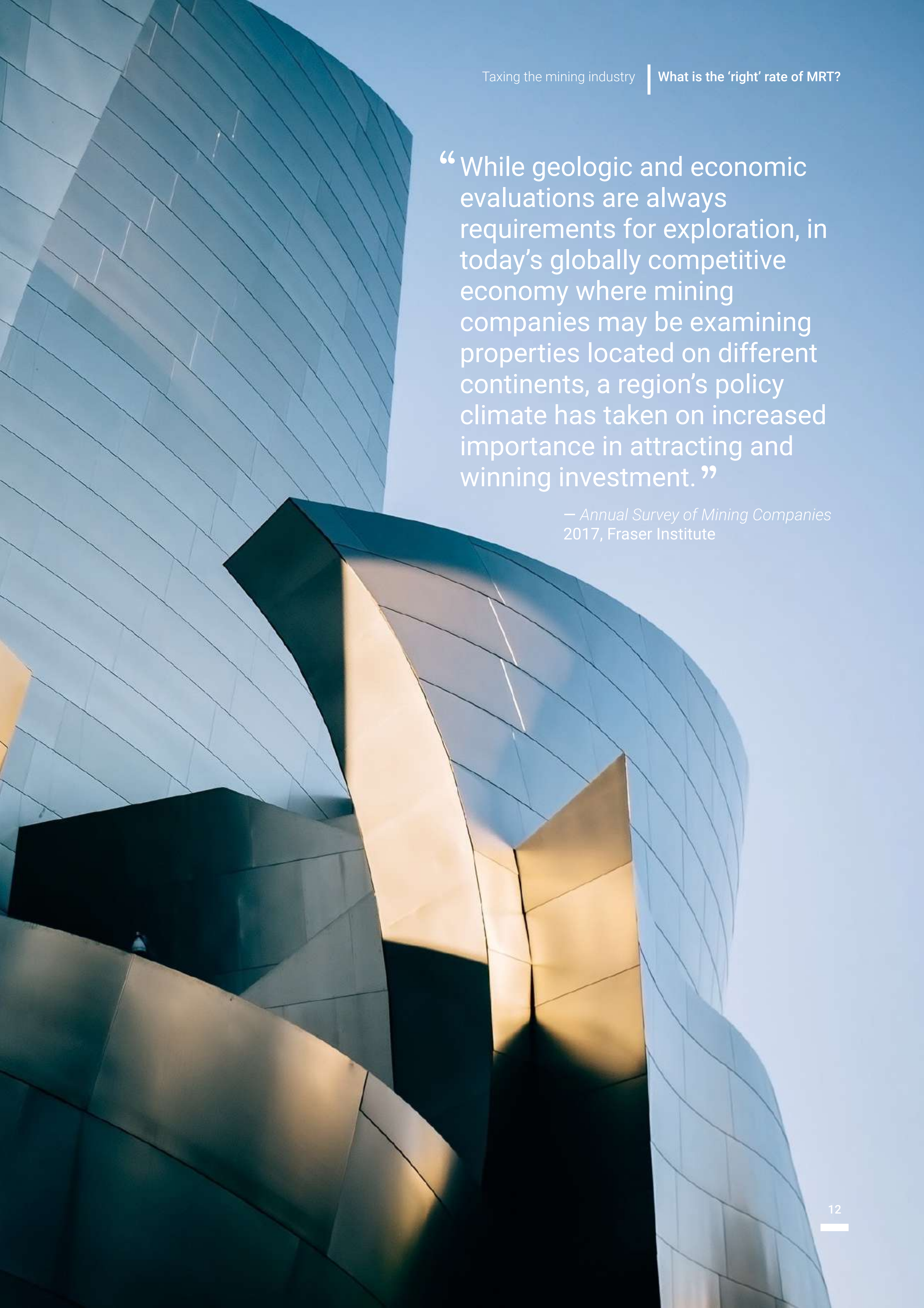
Get a sense of balance

Governments across the world all grapple with the same dilemma: what is the "right" level of royalty tax? If set too low, you don't get enough upfront tax revenue from new mining ventures. If set too high, it makes the upfront cost of the mining venture prohibitive; in the case of existing operations, it pushes profitability further out in time, and for both new and old mines it decreases the overall return on investment. When that happens, investors may decide it's not worth starting new mining ventures at all, or continuing to invest in old ones - and this kills the very tax revenue that the government wanted to generate in the first place. The aim must be to achieve balance between these interests, to ensure both a constant flow of investment, and widespread benefits from those investments.

Compare yourself with others

It is important to get a sense of perspective and objectivity, by comparing taxation regimes with other mineral producing countries. This is not just a useful reference mechanism for governments, it's a recognition that others are doing it too – global capital is mobile, and comparisons are routinely conducted to inform investment decisions.

Taxes are, of course, not the only lens through which a country is measured: political stability, infrastructure, ease of doing business, amongst other factors, all play a role. However, as a rule of thumb, a country should be firmly in the middle of the bed when it comes to taxation. Too far over to one side or the other, and Zambia is either not getting its fair share, or is preventing investors from getting theirs.



"While geologic and economic evaluations are always requirements for exploration, in today's globally competitive economy where mining companies may be examining properties located on different continents, a region's policy climate has taken on increased importance in attracting and winning investment."

— *Annual Survey of Mining Companies* 2017, Fraser Institute

AN INTERNATIONAL PERSPECTIVE

How does Zambia compare?
In late November 2018, the Zambia Chamber of Mines commissioned an international accountancy and advisory firm to conduct a benchmarking analysis that compared Zambia's current and 2019 proposed mining taxation regimes against those applicable in other mining countries. The results are revealing.

Zambia's royalty regime (as of November 2018)
In February 2016, Parliament approved a price-based royalty regime, varying between 4-6%. This change was welcomed by the industry, because it acknowledged that royalties were a particularly heavy burden to bear when prices are low. And as prices rose, as they have now, so did the rate payable. At current prices, mines are paying the maximum of 6%. As can be seen from figure 1, the 2016 royalty regime was on average comparable with other jurisdictions, even though corporate income tax remained relatively high.

2019 Proposed changes
The proposed changes set out in the 2019 Budget speech of 28 September will increase royalty rates to 5.5-7.5%, with a new 10% rate if the copper price exceeds $7 500 per tonne. However, in the Bill that went before Parliament in late November, these provisions were amended slightly, to 8.5% above $7 500 and 10% above $9 000.

The government wants to increase revenues from the mining industry. However, a review of the Budget by multinational professional services firm PricewaterhouseCoopers (PwC), warns: "on account of the inherent uncertainties in the sector, there is a risk that these changes may not deliver the desired outcomes".

According to the above-mentioned benchmarking analysis, this represents a 25-37.5% increase to royalties, placing Zambia at the highest end when compared to other countries (figure 1). As can be seen in the graph, the non-deductibility proposal and the new 10% rate make Zambia an outlier, as does the proposal to move to a non-refundable sales tax, in replacement of VAT.

But that is not all. One must consider the inter-relation of measures, and the compound effect of all these measures. The rises across many tax measures, places Zambia in the most extreme light when looked at overall. As can be seen from figure 2 on page 15, if these changes are enacted Zambia will by a comfortable margin have the highest tax burden of all the mining countries sampled. The effective tax rate – the average rate at which pre-tax profits will be taxed –varies between 86.3 and 105%, depending on the copper price. This could result in the extraordinary situation where a profitable mine would be obliged to pay more in tax than the profit it had made. No business can, or will, continue to operate under those circumstances.

The proposal to make royalties non-deductible against profit tax, referred to earlier in this report, makes a substantial difference to the overall tax burden. Just how much can be seen in figure 2 on page 15, where the two scenarios – allowing the deduction, and non-deductibility – are compared. Of course, for those mines that are presently loss-making, this makes little difference; the simple increase in royalties is what hurts.

According to PwC, "a key criteria for attracting investment in the mining sector is stability of the mining tax regime. However, over the last several years, Zambia has seen several significant changes to the mining tax regime. These further changes are likely to dampen investment appetite in the Zambian mining sector". This is in stark contrast to other mining jurisdictions, most notably Peru and Chile which adjusted taxes incrementally, and with a long lead time (in excess of five years), allowing the sector to manage these changes.

PwC concludes in the aforementioned review: "considering that there hasn't been significant private sector exploration for new greenfield mines over the last 7 years, coupled with the relatively frequent changes to the mining tax regime in Zambia, there is a risk that performance of the sector may be challenged in the medium to long term". This is a serious concern since the performance of the sector is not only tied to tax income, but also to Zambia's employment levels and general economic activity.

FIG. 1:
Mineral taxes collected by the ZRA (1995 - 2012), new Kw millions

	Corporate income tax	Royalties & extraction taxes	Royalties deductible against CIT?	Consumption taxes (standard rate)	Dividends tax	Import duty	Export duty	Is Interest tax deductible?	Overall score*
Zambia - proposed	30%	5,5% - 7,5% 10% max	✗	Ukrown GST	20%	11,5% 5%	15% (Mn) 15% (Au, gems)	30% Ebitda	23
Zambia - current	30%	4% - 6%	✓	16%	15%	11,5% 0%	10% (Mn)	Thin cap 3:1	17
Russia	15,5% - 20%	3,8% - 8%	✓	18%	13% - 15%	7,3% 3%-5%	5% - 10%	Yes, but limited	16
Chile	25% - 27%	5% - 14% 0% small miners	✓	19%	35%	6% 6%	None	Thin cap 3:1	16
Germany	15%	10%	✓	19%	25%	0% 0%	None	30% Ebitda	15
Peru	29,5%	1% - 12%	✓	18%	5%	0,8% 0%	None	Thin cap 3:1	14
Tanzania	29,5%	3% - 7% mineral specific	✓	18%	5% - 10%	4,9% 0%	None	Thin cap 70:30	14
Australia	30%	2,5% - 5%	✓	10%	30% (0% franked)	2,7% 0%	None	Thin cap 1,5:1	14
DRC	30%	0% - 10%	✓	13%	10%	0,8% 5%	5% (Mn) 1,5% - 10% (Au)	Yes, but limited	13
China	25%	2% - 8%	✓	17%	10%	7,8% 0%	None	Thin cap 2:1	12
South Africa	28%	0,5% - 7%	✓	15%	20%	4,6% 0%	None	Loan dependent	12
Angola	25%	2% - 5%	✓	10%	10%	10,9% 2%	5%	None	10
Botswana	22%	3% - 10%	✓	12%	7,5%	4,8% 0%	None	Loan dependent	10
Average	26%	Min: 2.8% Max: 7,7%		15%	14%	All minerals: 6% Cu & Co: 2%			
Maximum	30%	14%		19%	45%	All minerals: 12% Cu & Co: 6%	15%		
Median	28%	4,5%		17%	10%	All minerals: 5% Cu & Co: 0%			

*The overall score is based only on these specific taxes measured herein, and does not assess the total tax implications in each country
The methodology for determining the results can be found on page 18

Legend (except interest tax):
- The tax rate is either the maximum or above the median
- The tax rate is at the median or average rate
- The tax rate is below the median and the average

Legend (interest tax):
- A thin cap. ratio of less than 3:1 or less than 30 % Ebitda is allowed for interest to be tax deductible
- A thin cap. ratio of 3:1 or 30& Ebitda
- Lower/no restrictions on interest deductibility

FIG. 2:
Corporate and royalty tax burden benchmarking results

	Base	MRT deductible	Royalty rate	CIT rate	Effective CIT	Effective royalty - Revenue based	Effective royalry - net earnings based	Tax burden*
Zambia - proposed (above $9000/t)	**Revenue**	**No**	**10,0%**	**30,0%**	**30,0%**	**75,0%**		**105,0%**
Zambia - proposed (above $7500/t)	Revenue	No	8,5%	30,0%	30,0%	63,8%		93,8%
Zambia - proposed (below $7500/t)	Revenue	No	7,5%	30,0%	30,0%	56,3%		86,3%
Germany	Revenue	Yes	10,0%	15,0%	3,7%	75,0%		78,8%
China	Revenue	Yes	8,0%	25,0%	10,0%	60,0%		70,0%
Russia	Revenue	Yes	8,0%	20,0%	8,0%	60,0%		68,0%
Zambia - current	Revenue	Yes	6,0%	30,0%	16,5%	45,0%		61,5%
DRC	Revenue	Yes	6,0%	30,0%	16,5%	45,0%		61,5%
Australia	Revenue	Yes	5,0%	30,0%	18,7%	37,5%		56,3%
Angola	Revenue	Yes	5,0%	25,0%	15,6%	37,5%		53,1%
Tanzania	Revenue	Yes	3,0%	30,0%	23,2%	22,5%		45,8%
Botswana	Revenue	Yes	3,0%	22,0%	17,0%	22,5%		39,6%
Peru	Operating earnings	Yes	12,0%	29,5%	26,0%		12,0%	38,0%
South Africa	Revenue	Yes	1,6%	28,0%	24,7%	11,8%		36,5%
Chile	Operating earnings	Yes	14,0%	26,0%	22,4%		14,0%	36,4%

*The methodology for determining the results can be found on page 19

ZAMBIA'S MINING FUTURE

The Zambian government needs income to meet its development agenda and its debt obligations, and so it is understandable that it has turned to the mining industry to deliver even more.

However, as the comparative research shows, the 2019 Budget proposals are extreme, and the sense of balance that was reinstated through the 2016 change to a price-variable MRT rate, will now be upset.

Raising royalties and taxes in the manner currently proposed will deliver a short-term boost to government finances, but the longer-term consequences will be harmful to the sector and the wider economy – and ultimately, to future government revenues.

According to the mining industry, the budget proposals raise two unwelcome factors that are plain bad for Zambia:

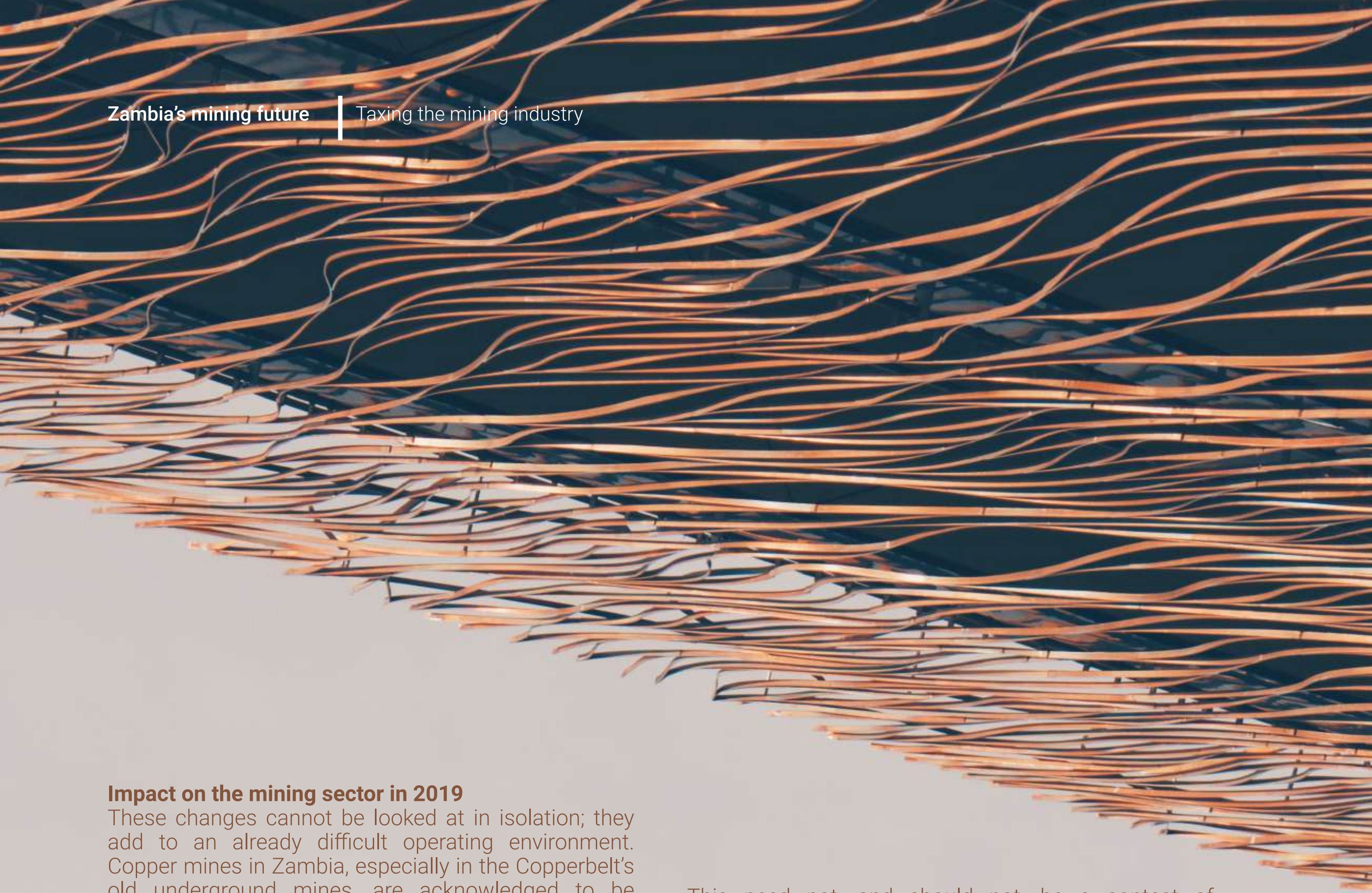
Further policy volatility
Once a mine is operational, it is essentially at the mercy of policy makers. It cannot pull out and leave, as many other businesses can.
Because of this vulnerability, potential investors closely scrutinise a country's policy environment, and it is why policy uncertainty – or volatility – is so unwelcome.

Mining investors, with their multi-decade perspective, believe that a country's tax regime should be robust to changing circumstances, rather than changing robustly every time circumstances change. It is next to impossible to make financial forecasts in an uncertain policy environment, and therefore a large risk premium is applied. Only the most promising projects will make it through – and there are none of those presently on Zambia's horizon.

Abnormally high rates
Looking at the comparative research, Zambia's overall mining tax rates are already relatively high, and will next year become extremely high. In an industry that requires constant investment just to stand still, losing the balance will mean losing investment, and as this will eventually translate into lower production, the long-term impact will be less of everything – production, supplies, jobs and taxes.

"The costs of production in Zambian copper mines are high from an international perspective. Underlying the high costs are high transport costs, and relatively high costs for labour and energy. The older mines in the Copperbelt are among the world's most expensive to operate because they are underground, have a complicated geology and very low productivity. They have also had to make major investments following privatization to bring the mines up to acceptable technical and environmental standards, compensating for several years of low investment by ZCCM."

— *Enhancing mining's contribution to the Zambian economy and society*
2014, ICMM



Impact on the mining sector in 2019

These changes cannot be looked at in isolation; they add to an already difficult operating environment. Copper mines in Zambia, especially in the Copperbelt's old underground mines, are acknowledged to be particularly high cost operations. According to research conducted by the International Council on Mining and Metals (ICMM), in 2011 Zambia's Copperbelt mines were grouped in the 87th – 99th percentile range for the world's copper mines; in other words, they were right at the top end. And since then, the cost of electricity has increased substantially, and so of course have mineral royalty rates.

In the two months since the Budget proposals were announced, Zambia's mining companies have conducted a thorough impact assessment of the new taxation changes, and engaged policy makers on alternative measures that take account of the government's short-term fiscal needs.

The potential consequences are grave; to manage the impact, the industry will collectively have to scale back operations, and reduce capital expenditure by more than $500 million over the next three years. This reduction in capital expenditure (the funds mining companies use to upgrade fixed assets) and flat export earnings, means that the Kwacha could become more volatile and susceptible to external shocks.

Furthermore, the impact on operations is likely to lead to some 21 000 mining jobs being put at risk. The projected impact is both a looming human tragedy, and an economic catastrophe for Zambia.

This need not, and should not, be a contest of interests. The interests of both government and industry are actually more closely aligned than many would think, because the only means of sustainably increasing mining tax revenues is by encouraging the growth and success of the industry.

Doing less delivers more

By some industry estimates, Zambia's copper production is approximately 300 000 tonnes lower than where it should have been had policy not changed so often, and so radically. This is a simple matter of calculating what investments have been halted, and understanding the reasons why.

Had production escalated as planned, the government would have earned an additional $130 million in royalties alone this year, without even considering all the additional duties and taxes that would also apply, or the additional employment and economic spill-over that is too little understood.

Simply raising taxes does not necessarily translate into more taxes, if one factors in these investment opportunities that are discouraged in the process. Instead, encouraging those opportunities, with the vision to see the possibilities of what could result, can deliver far more – more jobs, more business opportunities, more industriousness and optimism, and more tax revenue from an expanding tax base.

METHODOLOGIES

Figure 1:

1. The countries benchmarked were selected on the basis of their comparability with Zambia, either as they are major mineral producing nations, or more specifically are major copper producing nations
2. We have added in additional African countries due to their comparability with Zambia
3. We collected information on various tax elements, but focussing on the main changes proposed in Zambia, and have therefore not undertaken a comprehensive tax analysis of all applicable instruments in each country.
4. Two methodologies were used to assess the RAG (Red, Amber, Green) status of each tax proposal:

We calculated the average, maximum, and median rates for each tax element, based on the 11 benchmarked countries in the sample. These included:

1

- Corporate income taxes;
- Royalties and extractive taxes;
- Consumption taxes;
- Dividend taxes;
- Import duties; and
- Export duties.

The average, median and maximum rates were used to determine the relative status of each individual tax across each country.

- The tax rate is either the maximum or above the median
- The tax rate is at the median or average rate
- The tax rate is below the median and the average

We assessed the level of flexibility in each country in allowing for interest service costs to be tax deductible, based on the following categories:

2

Is interest tax deductible?

- A thin cap. ratio of less than 3:1 or less than 30% Ebitda is allowed for interest to be tax deductible
- A thin cap. ratio of 3:1 or 30% Ebitda
- Lower/no restrictions on interest deductibility

Finally, based on the RAG scores for each tax, a weighted average overall score is calculated, designating 3 points to each red robot, 2 to each orange, and 1 point for a green.

METHODOLOGIES

Figure 2:

Financial data:

Currency	USD millions
Revenue	3 118
Other Revenue	-
Total Revenue	**3 118**
Cost Of Goods Sold	2 499
Gross Profit	**618,6**
Exploration	35
General and administrative	93
Impairments and related charges	55
Other income (expense)	11
Other Operating Exp., Total	**194**
Operating Income	**424**
Interest Expense	17
Interest and Invest. Income	-26
Net Interest Exp.	**-9**
Earnings Before taxes (EBT)	**416**

- The table illustrates the financial data used in computing the tax burden applicable to the sampled countries, which used copper mine information on cost and revenue in Zambia from 2013 to 2017

- Earnings before taxes is used as a proxy for taxable income before the mining royalty deductions where applicable

- It is assumed that the financial profile of the mine applies to all the jurisdictions considered in the benchmarking

- Other taxes are not reflected in the financial data.

- The following assumptions have been made in calculating the tax burden:

  - The financial profile was kept constant across the sample countries but the current (2018) tax rules and treatment applicable in the sample countries were used;
  - Revenues and expenses incurred in the revenue generation occur in one year;
  - Other costs deductible for the purposes of computing the CIT and royalty base have not been considered;
  - Where the royalty rate is based on a range, the maximum rate has been used to demonstrate the maximum possible cost from the royalty;
  - The calculations take into account the applicable treatment of royalties in terms of whether they are deductible or not for taxable income purposes;
  - The calculations also take into account whether royalties are revenue-based or profit-based (calculated on the earnings before taxes);
  - The results are shown in terms of the effective rates calculated as the tax payable (CIT/MRT) divided by the earnings before taxes;
  - The tax burden is the sum of the effective CIT rate and the effective MRT rate.

REFERENCES

Fraser Institute. 2017. *Annual Survey of Mining Companies*. Available at: https://www.fraserinstitute.org/sites/default/files/survey-of-mining-companies-2017.pdf

ICMM. 2009. *Minerals Taxation Regimes: A review of issues and challenges in their design and application*. Available at: https://www.icmm.com/website/publications/pdfs/social-and-economic-development/minerals-taxation-regimes

ICMM. 2014. *Enhancing mining's contribution to the Zambian economy and society*. Available at: https://www.icmm.com/website/publications/pdfs/mining-parterships-for-development/enhancing-minings-contribution-to-the-zambian-economy-and-society

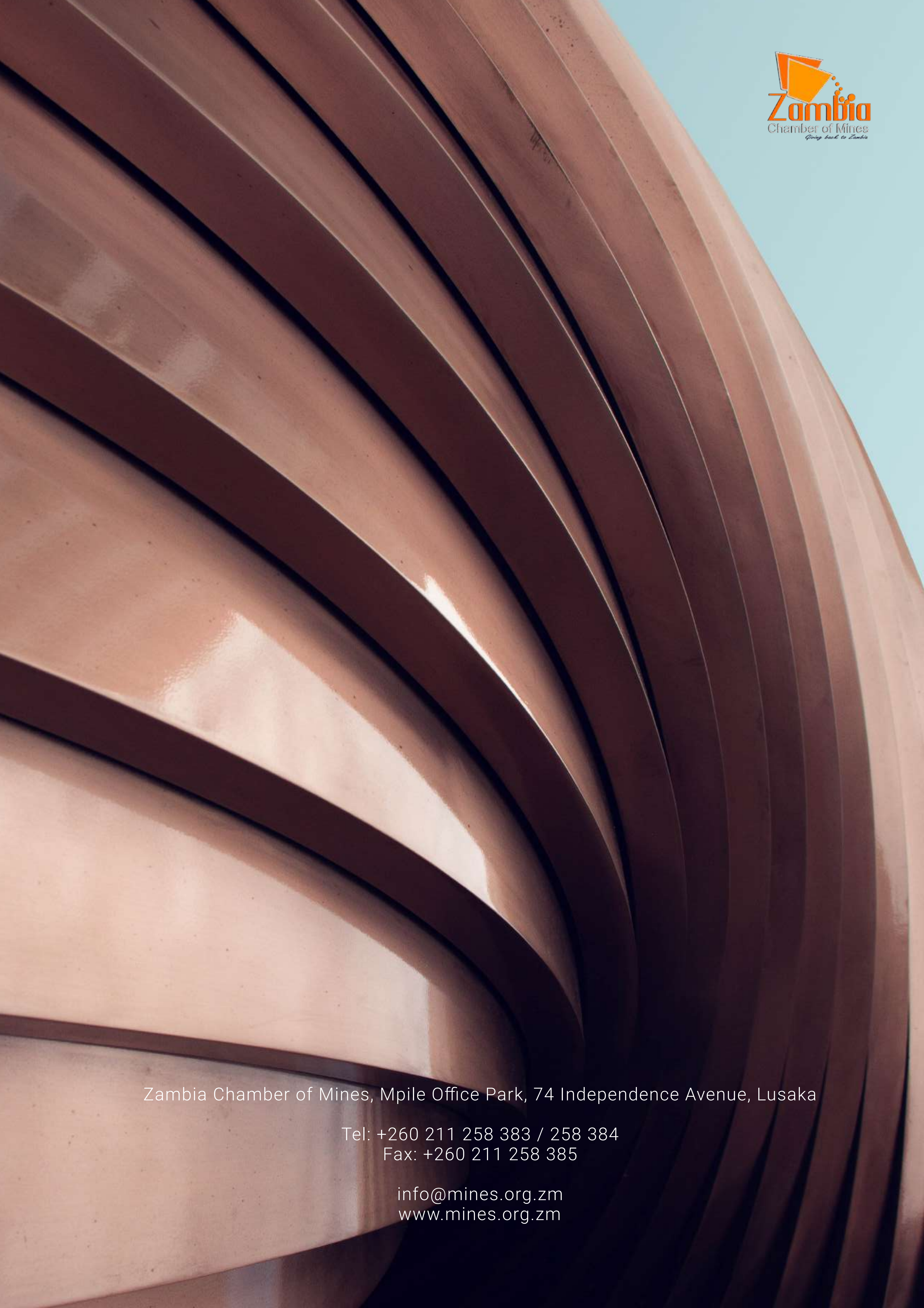
Mining for Zambia. 2017. *Counting the Copper*. Available at: https://miningforzambia.com/counting-the-copper-in-a-mineral-production-process/

Mining for Zambia. 2018. *What is, and what could be: Zambia's escalating debt problem and what to do about it*. Available at: https://miningforzambia.com/zambias-escalating-debt-problem/

OECD. 2014. *Addressing the Tax Challenges of the Digital Economy*. Available at: http://www.oecd.org/tax/addressing-the-tax-challenges-of-the-digital-economy-9789264218789-en.htm

PricewaterhouseCoopers. 2018. What Next? Zambia Budget 2019. Available at: https://www.pwc.com/zm/en/assets/pdf/zambia-budget-2019.pdf

Zambia Chamber of Mines. 2018. *Benchmarking analysis of proposed Zambia mining tax and fiscal landscape to selected mining countries* (3rd party research).



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