



Optimizing Domestic Revenue Mobilization and Value Addition of Africa's Minerals

Towards Harmonizing Fiscal Regimes in the Mineral Sector

2016





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First printing November 2016

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Designed and printed by the ECA Documents Publishing Unit. ISO 14001:2004 certified.

Cover photos: Shutterstock

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Acknowledgements

The present report was prepared under the overall leadership and guidance of Dr. Nkosazana Dlamini Zuma, Chairperson of the African Union Commission, and Dr. Carlos Lopes, Under-Secretary-General of the United Nations and Executive Secretary of the Economic Commission for Africa.

The work was supervised by H.E. Ms. Fatima Haram Acyl, Commissioner for Trade and Industry at the African Union Commission, and Dr. Abdalla Hamdok, Chief Economist and Deputy Executive Secretary of the Economic Commission for Africa.

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The production team comprised Demba Diarra, Henock Legesse, Megan Rees and Teshome Yohannes.

Executive summary

The present report was prepared at the request of the African Union Heads of State and Government. It examines the management of Africa's mineral resources, with a particular focus on optimizing revenue mobilization through the harmonization of fiscal regimes, in particular royalties, across the continent. The report presents different options for harmonization and their implications for supporting domestic revenue mobilization and regional value chains. The report reviews experiences from other countries and regions, with view to identifying good practices for designing and implementing effective fiscal regimes in Africa.

While some progress has been made in harmonizing policy and regulatory frameworks in the mineral sector, the report argues that fiscal regimes along the mineral value chain on the continent remain incoherent, inconsistent and patchy. The choice of regimes, the design and types of instruments employed and their implementation constrain opportunities for greater domestic revenue mobilization as well as the emergence of viable regional value chains in Africa for the structural transformation of economies.

The report concludes that there is no one-size-fits-all approach: harmonization is not equal to uniformization. Each country is unique in terms of mineral endowment, political economy, history and social context. Fiscal harmonization experiences across countries are dynamic, multidimensional and multiscale. They range from convergence and alignment to cooperation, coordination and standardization. Much like an orchestra, considerable efforts will be required to streamline the different "notes" to sync harmoniously for structural transformation.

African countries are displaying an overall trend towards harmonizing their royalty tax system, albeit at the low end of the continuum or base of the pyramid. The harmonization takes the form of convergence, through spontaneous and voluntary actions. The passive and uncoordinated yet similar choices made by countries are based on applying some common design features of the royalty system. The convergence is down to policy diffusion across countries and the influential role of international financial institutions in mining sector reforms on the continent.

The gap between tax policy and tax implementation remains a key area for harmonization through cooperation and coordination. While the average mineral royalty rates in Africa remain comparable to those in other countries and in some instances are even higher, the actual revenues collected are generally lower. In fact, headline royalty rates are poor indicators of total government revenues collected from the minerals sector. This raises questions about the efficiency of the mineral royalty systems currently in use and the capacity of the tax authorities to implement the agreed headline rates.

Curbing sophisticated tax dodging practices by mining companies remains the biggest obstacle to closing the gap between headline royalty rates and actual revenues collected by African Governments. Illicit financial outflows and practices that inhibit domestic revenue mobilization in the mineral sector are large, growing and complex. They are global and regional in nature, necessitating collective action by countries. But design and compliance gaps in the institutional frameworks in countries translate tax evasion and avoidance opportunities into harmful cross-border illicit financial flows.

There are opportunities to harmonize policies, strategies and taxes in ways that encourage the emergence of viable regional value chains around mining. Governments will need to seek an optimal mix of "sticks" and "carrots", proactively identifying win-win opportunities for developing linkages into and out of the sector and facilitating the emergence of viable national, regional and global minerals value chains.

A top-down, uniform reform of royalty rates remains geologically suboptimal, economically inefficient and politically infeasible.

I. Background and context

In July 2016, the African Union Assembly of Heads of State and Government called upon the “[Economic Commission for Africa] to undertake a study on the management of African mineral resources with a particular focus on optimizing revenue through the harmonization of royalties and fiscal regimes” and to “build on the study in order to develop a model law that will provide guidance to member States in reviewing their royalties and fiscal regimes”. The Assembly further requested the Commission to undertake a study on the management of natural resources in Africa, including value addition to raw materials.

The requests align with the priorities of the African Union’s Agenda 2063, which aims to strengthen domestic resource mobilization by eliminating illicit financial outflows and reducing aid dependency. Agenda 2063 also aims to transform, grow and industrialize African economies through beneficiation and value addition. The Africa Mining Vision was adopted in 2009 by the Heads of State and Government as the continental framework for the broad-based development of the minerals sector in Africa. Through the Africa Mining Vision, African countries have committed to ensuring the “transparent, equitable and optimal exploitation of their mineral resources to underpin broad-based sustainable growth and socioeconomic development”. Specifically, African Governments agreed to ensure “a sustainable and well-governed mining sector that effectively garners and deploys resource rents” and that is “a key component of a diversified, vibrant and globally competitive industrializing African economy”.

The present report aims to respond to the above requests. It builds on the experiences of the regional economic communities in facilitating the harmonization of mineral regimes and integrating their economies through the emergence of viable regional mineral value chains. In 2000, the Southern African Development Community adopted a protocol on mining, which includes the harmonization of national mining policies to meet the objectives of regional integration. The Southern African Development Community subsequently adopted a mining strategic plan in 2001 and a report on the harmonization of mining policies, standards and regulatory frameworks in 2009 to support the implementation of the protocol. The Economic Community of West African States, meanwhile, has adopted a directive on the harmonization of guiding principles and policies for the mining sector, which includes a provision for member States to “enact appropriate legislation to optimize and protect revenues due and accruing to them from mining activities”. The Economic Community of West African States has also adopted a minerals development policy to provide member States with specific guidance for developing policy, legal and regulatory frameworks in the sector. The treaty establishing the East African Community provides a framework for cooperation on the joint and efficient management and sustainable utilization of mineral resources in the region. The secretariat of the East African Community is also mapping the mining policies and laws of its member States with a view to facilitating their harmonization.

The Africa Mining Vision has been institutionalized through the establishment of the African Minerals Development Centre, which provides strategic technical and operational support to African Union member States and the regional economic communities for the implementation of the action plan and hence the Africa Mining Vision. The present report underscores the continuous efforts made by the African Minerals Development Centre to provide expertise in mining and natural resources development to member States on how they can design and implement effective strategies and policies that will boost value addition, economic transformation and sustainable long-term growth, and also ensure that the benefits of such growth are widely shared in order to reduce poverty and improve the standard of living for all Africans.

The report sets out the status of mineral sector developments in Africa in the context of domestic resource mobilization and the creation of regional value chains. It presents a conceptual framework for

informing strategies for harmonizing fiscal regimes in Africa. The report examines the different mining fiscal instruments, including royalties, implemented on the continent and opportunities and challenges for their harmonization. It identifies emerging good practices from countries across the region as well as from other continents that Governments could learn from. The report presents some forward-looking recommendations that could guide approaches towards harmonizing fiscal regimes in the mineral sector in Africa.

While some progress has been made in harmonizing policy, legal and regulatory frameworks on the continent, the report takes as its starting point the observation that fiscal regimes along the mineral value chain on the continent continue to be incoherent, inconsistent and patchy. The choice of regimes, the design and types of instruments employed and their implementation constrain opportunities for greater domestic revenue mobilization as well as the emergence of viable regional value chains in Africa for the structural transformation of economies.

There can be no one-size-fits-all approach; indeed, the report does not advocate for a uniform African mineral code. Each country remains unique with its own realities. But the lack of harmony in some core aspects of taxation policies and their implementation across countries creates perverse incentives for Governments to pursue harmful tax competition with “race to the bottom” strategies which end up undermining their individual domestic revenue mobilization efforts as well as the integration of the sector into the regional economies through greater value addition and diversification.

A. Emerging fiscal developments in the minerals sector and implications for structural transformation

The recent super-cycle of sustained high commodity prices has revealed marked and recurrent weaknesses in mineral-dependent economies and the urgency of implementing collective actions towards achieving structural transformation in Africa. Prolonged falls in the prices of minerals exports since 2011 have led to sharp drops in fiscal revenues, with varied impacts across countries. Many currencies in the region have depreciated significantly against the United States dollar, including the South African rand, the Zambian kwacha and the Angolan kwanza. The Economic Commission for Africa estimates that growth in mineral-exporting countries dropped from 3.2 per cent in 2013 to 3.0 in 2015, well below the continental average of 3.7 per cent.

The impact of depressed commodity markets has also been felt at the microeconomic level. Many major mineral projects have been closed or stalled, with job losses from falling outputs. Recently, the Democratic Republic of the Congo, Africa’s biggest copper producer and the world’s largest source of cobalt, announced a fall in copper and cobalt outputs by 14 and 15 per cent respectively, leading the Government to cut its growth forecast from 6.6 per cent to 5.3 per cent in June 2016. Meanwhile, in July 2016, Rio Tinto announced plans to put on hold the US\$ 20 billion Simandou project in Guinea, which will develop the world’s biggest untapped deposit of iron ore.

It is hard to predict how low mineral prices might go before they start to recover. However, the downturn presents an opportunity to build Africa Mining Vision-aligned institutions to take advantage of the next commodity upturn. In fact, without forward-looking actions, the adverse impact of the falling prices may have a lasting impact on revenue mobilization, underscoring the need for diversification. For example, a 1 per cent fall in commodity terms of trade is associated with 0.2 percentage points of gross domestic product (GDP) decline in fiscal revenues in the year following the lower commodity prices, and may even go up to 0.4 percentage points of GDP five years afterwards.

Yet African minerals exporters seem to have weathered the headwinds surprisingly well. According to The Economist, none of their economies has gone into a tailspin, as has so often happened in the past during downturns.

Compared to oil-exporting countries, the impact of the price slump has been relatively manageable overall. The slump in prices has varied across minerals. Mineral-exporting countries dependent on a basket of minerals have benefited from heterogeneous price movements, collectively acting like a hedge against falling prices. In fact, terms of trade movements for African metal exporters have been much more muted, compared to metal exporters outside the continent.

However, growing fiscal deficits, rising borrowing costs and tighter external markets have further underlined the imperative for structural transformation. The continued focus on exporting commodities in their raw forms crowds out opportunities to upgrade within regional and global value chains – creating more jobs through leveraging the comparative advantages of mineral endowments. With a range of 5-30 per cent of GDP, Africa's dependence on mineral exports has risen steadily and significantly over the past decades, unlike any other region.

The Economic Commission for Africa estimates that the share of manufacturing in economic output on the continent in the past two decades has declined from 12 per cent to around 11 per cent – the lowest share of all developing regions in the world. In fact, Africa even deindustrialized during the boom period. Dependence on exporting minerals in their raw form increased, while mining's share of employment contracted from 1.5 per cent in 1975 to 0.9 per cent in 2010. The traditional revenue maximization approach not only continues to export potential jobs but affects the stability of public finances too. The Economic Commission for Africa estimates that annual fluctuation in prices for ores averages 23 per cent, against 13 per cent for minimally processed ores.

Cross-border illicit financial outflows along the minerals value chain place an even greater strain on transforming the structures of African economies, necessitating forward-looking collective actions. In 2015, the High-level Panel on Illicit Financial Flows from Africa, chaired by former South African President Thabo Mbeki, released a report estimating that US\$ 50 billion leaves Africa illicitly every year, with a large proportion coming from the extractive sector.

A forthcoming report to be published by the African Minerals Development Centre reveals that illicit financial flows and practices that inhibit domestic revenue mobilization in the mineral sector are substantial, widespread, growing and complex. They are also global and regional in nature. But design and compliance gaps in the institutional frameworks in countries translate tax evasion and avoidance opportunities into harmful cross-border illicit financial flows. The risks vary along the mineral value chain, and different minerals face varying levels of risk of revenue leakages.

Mineral-rich African countries continue to underperform regarding revenue mobilization. Resource revenues as a share of total taxes collected have increased, in particular during the recent period of exceptionally high commodity prices. However, tax efforts in resource-rich countries remain lower than the African average, suggesting potential for greater resource mobilization. Given the structure of their economies, mineral-rich countries are collecting as little as half of what they would be expected to collect.

While the reason behind this fiscal underperformance is complex, structural transformation in mineral-rich African countries requires Governments to collectively expand and deepen their fiscal space, by optimizing tax collection and minimizing cross-border tax avoidance.

As external sources of financing become less forthcoming, mineral-rich countries will need more than ever to develop more efficient, effective, coordinated and coherent strategies to tap into the vast additional revenue potential of their minerals sector, in order to achieve their development priorities as well as their commitments to implement Agenda 2063 and the 2030 Agenda for Sustainable Development.

B. Profile of Africa's mineral sector

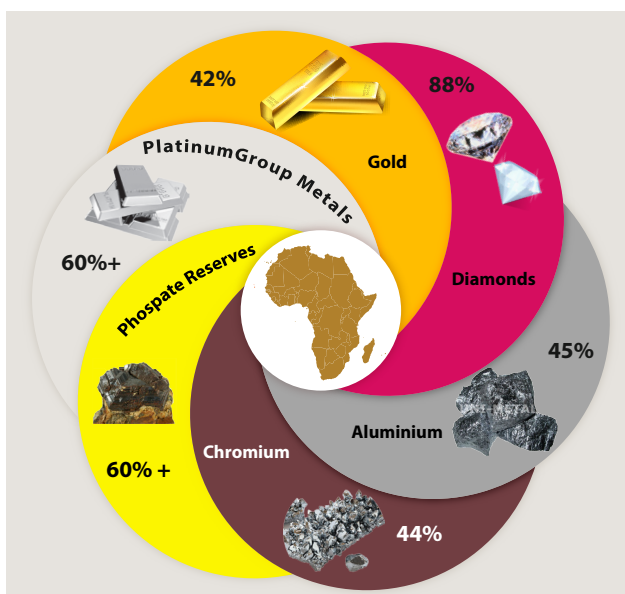
Africa's resource potential is enormous, confirming that the continent has vast opportunities to finance its development priorities. In fact, minerals endowment represents one of the best chances for mobilizing revenues for growth and structural transformation. Even with collapsed prices and depressed markets, the extractive sector remains a highly significant source of fiscal revenues for many countries. The minerals and metals sector contributes over 20 per cent of Africa's overall economic output.

In fact, minerals are the continent's second largest category of exports, the highest in the world. The continent continues to occupy an important geostrategic place in the global mining industry. While extensive swathes of subsoil remain unexplored, Africa hosts an estimated 30 per cent of the world's mineral reserves. Africa produces an even greater share of key precious and base metals as well as gemstones, including platinum group metals (54 per cent), diamonds (78 per cent) and chromium (40 per cent). Subsoil endowments include significant industrial minerals, too – Africa has more than 60 per cent of global phosphate reserves, for instance. Investors also perceive the continent's mineral sector highly, with the Fraser Institute ranking Africa as one of the most attractive destinations for mining investment, just behind North America, Australia and Europe, and ahead of Oceania, Asia, Latin America and the Caribbean, and Argentina. The continent continued to attract over 15 per cent of global exploration budgets.

Countries are making efforts to reorient their minerals policy framework to development-focused strategies. Governance of the mineral sector – both economic and political – has improved significantly. A clear vision exists at the continental level through the Africa Mining Vision, a forward-looking framework that aims to reform the sector and make it a key driver of diversified, structurally transformed and internationally competitive African economies. Natural resource management is a priority in the African Peer Review Mechanism, the continent's own mutual accountability mechanism for its leaders.

Efforts to harmonize mining codes have intensified across the continent, amid growing awareness of the benefits of bringing them together at the continental level in ways that collectively and individually address key bottlenecks to greater revenue mobilization and structural transformation. African countries have increasingly signed up to externally driven global initiatives with harmonization dimensions, including the Extractive Industries Transparency Initiative and the Kimberly Process Certification Scheme, to improve transparency and accountability in the mineral sector.

Africa's Selected Mineral Reserves



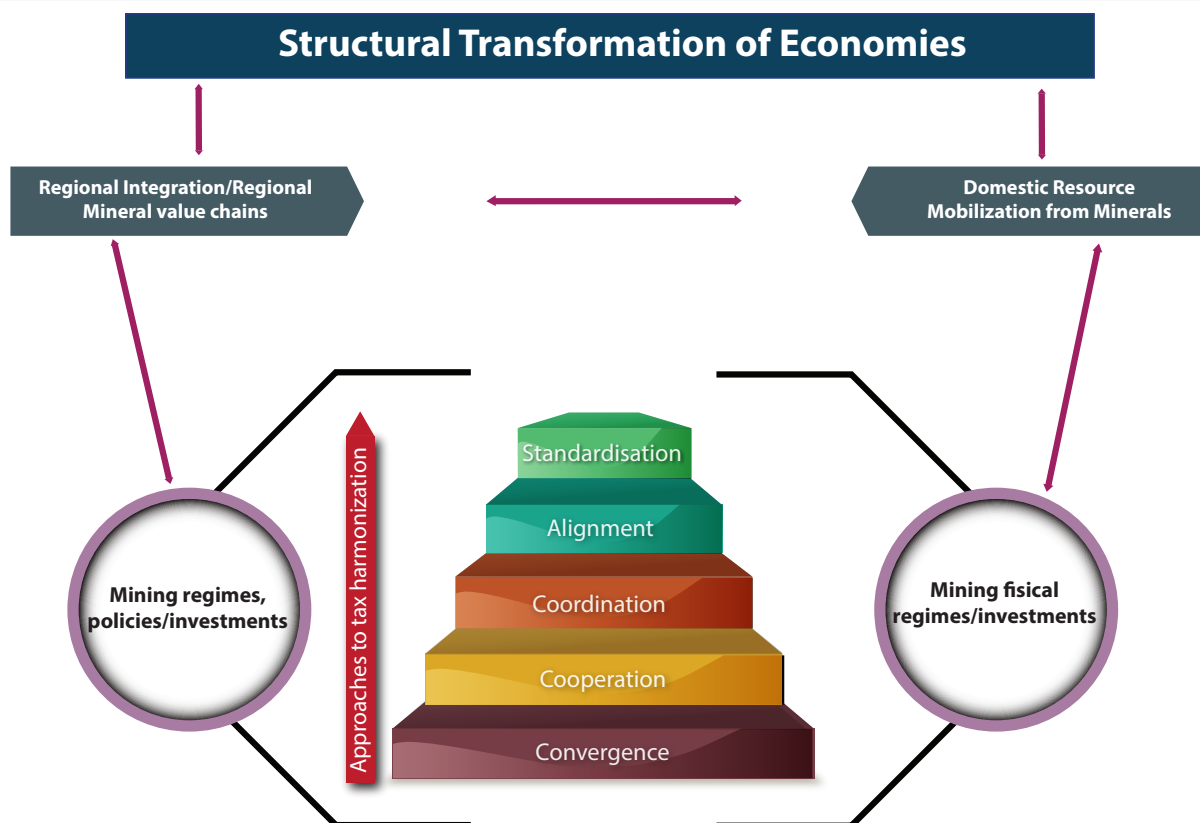
II. Towards a working definition of fiscal harmonization in the mineral sector

Harmonization remains a complex, dynamic and multidimensional concept. While there is no consensus in the literature on its definition, efforts at tax harmonization will need to address varied country and sectoral realities. In fact, harmonization is not uniformization or equalization. Studies continue to warn against idealism and uniformity through fiscal harmonization, which is unrealistic even in a single market.

The International Tax Glossary of the International Bureau of Fiscal Documentation defines tax harmonization as the elimination of differences or inconsistencies between the tax systems of different jurisdictions, or making such differences or inconsistencies compatible with each other. Like an orchestra, harmonization is not about playing the same notes: it is about fitting, joining and synergizing processes and content to achieve desired outcomes.

For the purposes of the present report, harmonization means purposeful or spontaneous actions to streamline fiscal regimes, tax instruments, tax principles and their administration along the mineral value chain to facilitate optimal tax collection and development of viable national and regional value chains. The end result of greater participation in value chain is structural transformation of economies.

Figure 1: Dynamic Conceptual Framework for Streamlining Mineral Fiscal Regimes



This report presents a dynamic conceptual framework for harmonization of mineral taxation in Africa. It is based on the assumption that the minerals sector is complex and there is no one-size-fits-all approach: each country is unique, in terms of its endowment, institutions, history, capacity and political economy. Therefore, there would likely be a continuum or pyramid of experiences of harmonization, stretching from convergence to standardization, as shown in figure 1. Besides sufficiency, efficiency, simplicity and equity, the ability of a country's tax system to coordinate with its regional partners is becoming an essential element of modern taxation. Standardization includes uniformizing tax types, rates and principles across diverse jurisdictions and mineral types; alignment is streamlining taxation policies, laws and instruments, levels, base and rates across minerals and jurisdictions to eliminate inconsistencies; coordination is working together across jurisdictions to provide collective guidance on specific issues; cooperation is the provision of mutual assistance based on reciprocity between jurisdictions and the sharing of best practices; convergence is spontaneous, individual and uncoordinated actions towards common approaches, tax rates, instruments or a race to the bottom.

From a strategic perspective, harmonization is stepwise and inclusive. Approaches will therefore include low-hanging fruits, like convergence, coordination and cooperation, as well as hanging fruits, like alignment and standardization. As African countries are already engaging with all forms of harmonization at the subregional level, this framework examines what countries could do with little effort and sacrifice. It also captures what they should do in line with their revenue mobilization and regional integration objectives. Harmonization is therefore bringing together the different levels of streamlining in ways that sync with one another for the transformation of economies.

III. Mining sector fiscal regimes

A fiscal regime is the set of tools that determines how revenues from mining are shared between Governments and mineral companies. Mining sector fiscal regimes commonly include a range of mining-specific taxes and incentives designed to create an internationally competitive investment environment anchored on national development aspirations. The fiscal regime translates the policy aspirations with respect to revenue collection, apportionment of costs, national development, regional integration, benefits sharing, local content, community issues and value addition and linkages issues into specific regulations, provisions and mechanisms for the efficient pursuit of various government objectives.

The set of instruments for domestic resource mobilization in the sector includes royalties, corporate income taxes, bonuses, withholding taxes, resource rents taxes, capital gains taxes and surface and rental payments. The levels of taxation and rates are also key elements of the mining sector fiscal regime. They are among the decisive criteria considered by investors, in addition to geological, political, ideological and social risks, infrastructure and geological potential. Also important in the ranking of terrains by investors are the levels of imposts and other environmental and social obligations that are deemed to affect profitability.

The fiscal tools pose different challenges and opportunities for optimizing revenue mobilization through harmonization. Some fiscal tools provide Governments with more money early in the lifecycle of a mineral project, while others only deliver significant revenues once the project has turned profitable. Some tools are progressive, in that the Government's share of revenue varies with profits. So as commodity prices rise and fall, so does government revenue. Meanwhile, other tools leave government revenues unchanged, whether prices rise or fall. These are regressive and they risk discouraging investment and development of marginal projects. Some require greater sophistication in administrative capacity to implement. In some tools, the Government takes on most of the risk, not the investor.

There are basically two types of fiscal regimes: statutory or licensing regimes and contractual regimes. In the statutory regimes, the details of what instruments and how they are applied, including rates, are part of the country's overall legal framework through mining and fiscal codes. Their details are applied consistently across all projects. In contractual regimes, however, the tax instruments and rates are negotiated in individual contracts between Governments and mining companies. While contracts are specific to individual projects, their fiscal provisions may be incoherent with national development strategies and regional regulations, posing significant challenges for harmonization. Fiscally constraining provisions in mining contracts include stabilization clauses and tax exemptions.

Mineral royalties are a form of mineral depletion tax designed to compensate a country for the extraction of a non-renewable resource. To the resource owner, a royalty represents the selling price of the resource. Although the structure and rates of mineral royalties vary widely internationally, the royalties are collected for the same reason: compensation to the owner of the mineral resource in return for the removal of the minerals from the land. It is thus payment in return for the permission that gives the mining company access to the minerals and gives the company the right to develop the resource for its own benefit. By definition, royalties are the principal means of ensuring that the country obtains some revenue from the value of the mineral produced.

The term mineral royalty has often been used to refer to specific, ad valorem and in some cases mining taxes based on accounting profits. Yet mineral royalty methods can be classified into three principal types: unit based, value based (ad valorem) or profit based.

Unit-based or specific royalty are fixed monetary rates applied to a physical rather than a financial base, for example US\$/tonne of coal. It is often applied to high-volume, low-value homogeneous bulk commodities such as construction minerals, bauxite, iron ore, phosphate, and potash, and is payable irrespective of profitability. This type of royalty is well suited to discriminate between scales of operations and is commonly applied in a sliding manner. The advantage is that unit-based royalties provide a certain and continuous revenue flow – as long as the mine is operating, revenue will be guaranteed – and are relatively easy to administer and hence they are attractive to Governments.

Unit-based royalties are the simplest to determine as all that is required is the amount (volume) of the product produced.

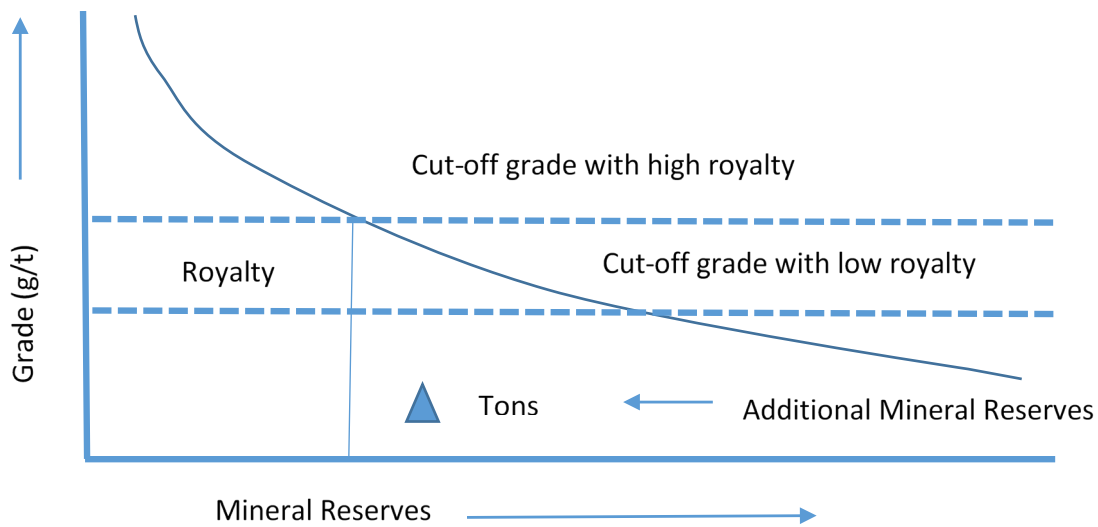
Value based (ad valorem) royalty is calculated as a uniform percentage on the value of mineral sales based on the realized value of sales or the gross value of mineral/metal contained in the mineral sold. It is payable based on revenue irrespective of whether the mine generates profits or losses and hence the revenue collected fluctuates with commodity prices. This type of royalty could be easy or complicated to administer, depending on how value is defined and thus caution should be taken when comparing rates across jurisdictions as the basis of the royalty (value) should be considered.

The computation of the royalty could be uniform or could be on a sliding scale based on value or volume of material sold. A common value used in the calculation is the net smelter return, in which the taxable amount takes into account the return to the producer after smelting and refining charges. For the purpose of calculating the net smelter return, costs associated with further downstream processing are deducted before calculating the base value for the net smelter return royalty. However, compared to unit-based royalties, value-based royalties are less easy as knowledge of the value (realized value or imputed) of the mineral is required. Nevertheless, ad valorem royalties are less susceptible to tax evasion compared to profit-based royalties and other profit-based royalties.

Profit-based royalties are payable on profits. It is efficient but complex and requires a strong tax administration system. Although such royalties provide an uncertain revenue flow to Governments and can be administratively complex, profit-based royalty systems can yield high-level, long-term tax revenues and satisfy most investor criteria. This royalty system is commonly used in economies where the tax and administration system is well developed. The major challenge is to determine the profit levels. Profit-based royalty assessment methods tend to be detailed, reflecting the need to carefully consider how all revenues and costs, usually including capital and recurring operating costs, will be handled.

The imposition of a royalty can affect investment and production decisions through its direct impact on costs of production (see figure 2). The important decisions on cut-off grades, the size of the reserves, and the life of the mine are all influenced by costs and thus the imposition of a royalty in any form, and in particular unit- and value-based royalties which raise costs, will undermine profitability and thus impact on mining operations and ultimately the realized tax revenues. Ad valorem royalties should be applied judiciously as high royalties impose a larger cost and can inadvertently result in lower net tax revenues and thus undermine the initial objectives of revenue maximization. Marginal or average deposits become uneconomical and remain undeveloped as a result of ad valorem royalties.

Figure 2: Impact of Royalties on Mineral Reserves



Other royalty type mechanisms of capturing economic rent from the resources sector include; hybrid royalty/taxes, resource rent taxes and production sharing agreements. Hybrid royalty/tax means that the tax incorporates a minimum specific ad valorem component generally in a profit-based or economic-based rent tax. This tax is designed to limit the risk of the failure of Governments to collect revenue during lean times, by assuring revenues through the ad valorem component.

Production sharing agreements are common only in the petroleum sector. The company bears the capital and recurrent costs and deducts them from gross revenue to arrive at the net mineral profit which is then shared between the Government and the investor based on pre-agreed proportions. The royalties are often levied on the company's share of the net mineral profit.

Resource rent taxes are imposed only after accounting for operating costs and allowing for a normal rate of return on capital. Super profits tax, additional profit tax or windfall profit tax are forms of resource rent taxes which are designed to apportion the excess profits between the investor and the Government (the owner of the mineral resources). The investor has already earned his normal profit or the opportunity cost so the tax on excess profits does not affect investment decisions.

A high resource rent tax has a neutral effect on investment decisions and thus is non-distortionary. The excess profits are shared with the investor at a pre-determined tax rate which could be set at any level. Important considerations in adopting a resource rent tax are: first, the threshold rate after which resource rent tax applied; second, the rate of tax to be levied; third, whether the resource rent tax is ring-fenced or is on a project-by-project basis where the investor has multiple projects in the same jurisdiction; and fifth, what deductions should be allowed for income tax purposes to arrive at net profit. The national treasury bond rate in any jurisdiction is a reasonable approximation of the investment risk and could be used as the threshold or hurdle rate (plus a risk premium) for the introduction of a resource rent tax.

Resource rent taxes have predominantly been applied in the petroleum sector, with its application to the minerals sector still in its infancy, even in mature mining economies, due to various reasons, with complexity being the top most challenge, especially for developing countries. Madagascar, Malawi, Ghana and Liberia are the only African countries which have included resource rent taxes in their legislation.

In Australia, resource rent taxes in the minerals sector were abandoned in 2014 after their introduction in 2012 following fierce resistance from mining companies, mostly due to disagreement on the threshold rate. Nevertheless, the efficiency of resource rent taxes and superiority over other royalty methods is understood in the sector.

Resource rent taxes perform the best in terms of economic efficiency and revenue mobilization, but perform poorly in terms of revenue stability, transparency and administrative efficiency. This is followed by profit-based taxes, hybrid taxes and ad valorem royalties. However, in terms of administrative efficiency (the ease of deployment of the tax, ease of management, stability of revenue flows, and so forth), resource rent taxes perform the worst due to the complex nature of the tax, while ad valorem royalties perform the best due to the relative ease of calculation as well as the guarantee they provide with respect to revenue.

However, irrespective of the royalty method used, tax leakage safeguards to deal with the challenges of transfer pricing, thin capitalization, allocation of overheads by mining companies and the verification of qualifying costs along the mineral value chain are required in order to optimize tax collection.

Among the royalty methods described above, Governments usually prefer unit- and value-based methods because of stability, equity, the ability to ensure continuous revenue and ease of administration. On the other hand, investors prefer profit-based methods which are anchored on the ability to pay, allow for early capital recovery, are sensitive to fluctuating market prices and thus do not distort production decisions such as cutoff grade or mine life and do not increase operating costs significantly.

It is instructive to review experiences in the application of royalties worldwide in terms of how royalties are levied, the types and rates of the royalties and how the collected revenue is managed. This review will isolate important considerations to inform African countries in designing optimal royalty regimes.

IV. Mineral royalties in Africa and selected countries: A comparative analysis

Many factors influence the type and rate of royalty a country chooses to impose. Factors such as geological endowments (the prospectivity of the jurisdiction with respect to specific minerals), economic importance of the minerals sector, a country's political, economic and social orientation, and considerations for international competitiveness are all important in selecting types of royalties and the rates to be levied. Given these factors, royalty types and rates differ among countries and, as will be shown in the cases of Canada and Australia, they also differ amongst provinces and states within the same country.

Fiscal regimes are dynamic and also change within the same country in response to international socioeconomic and political developments, including changes in approaches to national development. An examination of the history of the development of the minerals sector on the African continent from pre-independence, independence and post-independence and sovereignty over natural resources, the World Bank reforms era and the commodities super-cycle period and post-commodities boom era and the current environment reveals that all have had particular fiscal regimes.

A. Royalty practices in Africa: Challenges and opportunities

Mineral-rich African countries display an overall trend towards streamlining their royalty tax system, albeit at the low end of the continuum or base of the pyramid of harmonization as shown in figure 1. The harmonization takes the form of convergence, though spontaneous and voluntary actions. The passive and uncoordinated but similar choices are based on some common design features of countries' royalty systems. The convergence is partly attributed to policy diffusion across countries and, most importantly, the influential role of international financial institutions in mining sector reforms on the continent.

The most obvious expression of convergence is the choice of specificity over uniformity of royalty rates. With the exception of a few, most countries in Africa employ a sliding scale for mineral royalty rates, depending on the mineral type, as shown in table 1. For example, Botswana's royalty rates are 10 per cent for diamonds and 3 per cent for coal. The royalty rates are always higher for high-value precious metals and minerals and lower for low-value bulk commodities.

There is also convergence in applying royalty rates according to the unit value of minerals. Between countries, there are significant differences in the individual mineral royalty rates by value. For example, precious metals and minerals royalty rates are as high as 10 per cent for gold in Zimbabwe and as low as 4 per cent for gold in the United Republic of Tanzania. Generally, the royalty rate for diamonds is the highest, indicating the importance of diamonds (higher opportunity) in those countries. Zimbabwe's high royalty rate on platinum group metals is for similar reasons.

Meanwhile, royalty rates may also be differentiated according to production methods. For example, Zambia recently implemented a new royalty regime that charges a sliding scale rate for open-pit mining at 4 to 6 per cent benchmarked to the international market price of copper. The previous regime differentiated royalty rates by mining method, with higher rates (20 per cent in 2015) for open-pit operations and lower rates (8 per cent) for underground operations.

There appears to be little convergence in terms of range of royalty rates. While countries remain diverse in their potential and circumstances, harmonizing the range is a promising area for coordinating efforts of countries. As indicated in table 1, the rates varies between 0 per cent and 15 per cent. The mineral royalty could be aligned within reasonable limits given the issues highlighted above on the differences among countries especially with respect to the importance of the minerals to each country. The basis of the alignment could be international best practice in terms of the band of the rates or the rates could be generated from a consultative process among member States.

Table 1: Mineral Royalty Rates in Selected African Countries

Country and Royalty Range	Minerals	Royalty Rate % (2015)	Details
Democratic Republic of Congo 0.5% to 2.5%	Ferrous	0.5	Adjusted revenue
	Non-Ferrous	2	Adjusted revenue
	Precious	2.5	Adjusted revenue
Kenya 5% to 12%	Titanium	10	On gross sales revenue
	Gold	5	On gross sales revenue
	Coal	8	On gross sales revenue
	Diamonds	12	On gross sales revenue
Tanzania 3% to 4%	Copper	4	
	Gold	4	
	Iron ore	3	
	Coal	3	
Namibia 2% to 10%	Diamonds, precious stones	10	On gross sales revenue
	Uranium	6	On gross sales revenue
	Dimension stone	5	
	Gold/copper/base metals	3	
	Others	2	
South Africa 0.5% to 7%	Copper	0.5 to 7	Adjusted revenue
	Gold	0.5 to 7	Adjusted revenue
	Coal	0.5 to 7	Adjusted revenue
	Iron Ore	0.5 to 7	Adjusted revenue
Zimbabwe 1% to 15%	Diamonds	15	
	Platinum	10	
	Gold	5	
	Base metals, industrial minerals	2	
	Coal	1	
	Other precious metals	4	
Ghana 5%	Copper	5	Revenue (Turnover)
	Gold	5	Revenue (Turnover)
	Iron ore	5	Revenue (Turnover)
	Coal	5	Revenue (Turnover)
Botswana 3% to 10%	Diamonds	10	On gross sales revenue
	Gold/precious metals	5	On gross sales revenue
	Copper/Nickel	3	On gross sales revenue
	Coal	3	On gross sales revenue

Source: Adapted from Woods and Lane (2015)

African countries also converge on types of royalty employed. With the exception of a few countries, most countries apply ad valorem royalties, which are based on a specific percentage of value of the mineral mined. As indicated in table 1, the rate varies. The choice of ad valorem royalties is informed by its relative ease of implementation. Most countries also use gross revenues as the base of determining the rate. The gross revenue has the advantage of protecting government revenues against overstatement of cost.

Besides South Africa, few countries apply profit-based royalty taxes and resource rent taxes. Apparently administrative simplicity remains a key determinant of instrument choice. But this appears to come at the expense of ambition to mobilize greater revenues. This sticky low-hanging fruit approach may end up undermining capacity-building efforts. As Governments over rely on ad valorem royalties – which are simple to implement – they are losing sight of the need to improve the capacity of tax administrations to monitor costs effectively along the value chain. In fact, this may even weaken government hands in future royalty negotiations. For example, when companies argue for revising the rates such as during times of depressed prices, Governments may not have the proper cost basis to argue against the mining company's demands.

Balancing efficiency and fairness in setting royalty rates remains a challenge and potential area for harmonization. There is room to review royalty rates to take into consideration the objectives of mobilizing greater domestic revenues as well as changing market dynamics. During the recent commodity boom, there was convergence on the continent, with several countries updating their mining codes, including royalty rates, albeit with varying outcomes.

Over the period of sky-high commodity prices, perception by businesses of “resource nationalism” risks emerged as one of top fears about the sector. Several countries have adopted ad valorem royalty rates, indexed on commodity sales, as shown in table 1. Yet only a few have adopted sliding scale royalty rates that move in tandem with commodity prices, which could capture increased revenues and respond to changing market dynamics. For example, in 2010 Burkina Faso pegged its royalty rates for gold, such that the effective rate varies positively with gold prices. Specifically the minimum rate remains fixed at 3 per cent but increases to 4 per cent for gold prices between US\$ 1,000 per ounce and US\$ 1,300 per ounce. It moves to 5 per cent when prices go above US\$ 1,300 per ounce.

There is room for harmonizing rates through coordination and cooperation. However, this should be addressed in the context of broader structural and policy reforms of the sector, consistent with the Africa Mining Vision. African countries' royalty rates in general average 3.5 per cent, consistent with practices in other jurisdictions. While it is hoped that low royalty rates will attract investors and ensure profitability, the empirical evidence seems unsupportive to the conclusion. A study sampling gold-producing countries in Africa showed that increased royalty rates had little impact on the profitability of the surveyed gold mines. In fact, the relationship is insignificant even when location-specific effects, like grade and year, are taken into account. Furthermore, even when increased royalty is modeled against unit production cost, the relationship remains flat, albeit slightly negative but with no statistical significance. The most significant influence on cost was mine grade quality, underscoring the influence of geology and geological information. Other recent studies have equally emphasized the influence of geology as decisive in attracting investors rather than the policy environment, including tax rates. Based on perceptions of business executives, the Fraser Institute reports that only 3.5 per cent of mining companies will not invest in Africa due to tax regimes.

The gap between tax policy and tax implementation remains a key area for harmonization through cooperation and coordination. While average mineral royalty rates in Africa remain comparable to those in other countries and in some instances are even higher, collections from African countries are generally lower. This raises questions about the efficiency of the mineral royalty systems currently in use and the capacity of the tax authorities to implement the agreed headline rates.

In fact, headline royalty rates are poor indicators for total government share of revenues. A recent quantitative financial analysis of gold projects across the continent shows that there is no clear relationship between individual rates of taxation or headline royalty rates, and the overall average effective tax rate paid by the project. Furthermore, as examined above, the headline royalty rate does not correlate with profitability or even attractiveness to investors, underpinning the need for Governments to take a look at the bigger picture, beyond royalties to building linkages.

While efficient instruments for mobilizing more revenues remain crucial, equally important are the mechanisms for the distribution of the collected revenues. Collection has been shown to vary widely, with some countries collecting centrally and distributing to their regions as part of the national budget and some collecting at state, province and region level. The approaches are country-specific and depend on many factors, including the capacity of the taxation system to efficiently support a particular approach. A centralized approach is common on the continent, with some countries (for example, Ghana, Senegal and the Niger) having mechanisms to distribute proportions of mineral royalties to regions. Nevertheless, there are well-developed mechanisms for managing mineral revenues which could be institutionalized and/or strengthened by member States. These include:

- Creation of a fiscal stabilization or sovereign wealth funds;
- Creation of future generation funds, sustainable development revenue funds, mineral development funds or community development funds;
- Creation of a long-term human and physical infrastructure fund.

There are examples of such sovereign wealth funds which could inform harmonized approaches in managing mineral revenues on the continent. Botswana's Pula Fund, created in 1994 from diamond revenues, currently stands at 6.9 billion pula. Chile's Economic and Social Stabilization Fund and Angola's Sovereign Wealth Fund are other examples of sovereign wealth funds whose creation and management provides lessons for the African continent. These funds serve as investment vehicles and economic stabilization mechanisms during economic contractions.

B. Royalty experiences from peer countries and regions

1. Australia

The case of Australia, in which royalties are set and collected at state level, has other important particular attributes that could inform African approaches. Although in general most states in Australia apply the unit-based royalty system on industrial minerals and value-based ad valorem royalties on other minerals, there are state-by-state differences. The royalty regulations in each state are detailed and vary from one mineral type to another. For example, in Western Australia royalty rates vary by stage of saleable product, being highest for ores and lowest for metals. Furthermore, while all states employ a combination of specific and ad valorem royalties, the Northern Territory uses a profit-based royalty system.

Some states allow for royalty deferment or reductions during hard times, but others do not. At federal level, Australia employs horizontal fiscal equalization to maintain comparable standards of living given the differences in resource endowments and hence royalties collected by individual states.

Table 3: Mineral Royalty in Selected Australian States

State	Royalty type	Ad valorem or profit rate (%)	Royalty Details
Western Australia	Specific and ad valorem	1.65 to 7.5	Ores 7.5%, concentrates 5%, and metals 2.5%. Gold is levied at 2.5% based on spot market prices, iron ore fines less than 60mm at 5.625%, Export coal is 7.5%, specific royalty on coal not exported, specific royalty applied to non-metallic mining products \$0.62 per tonne for construction use or \$1 per tonne for metallurgical use
Queensland	Specific, ad valorem and hybrid	2.5 to 12.5	Specific royalties of between \$0.50 and \$1.80 per tonne for large number of listed minerals; Ad valorem royalties are; bauxite 10%, minerals sands 5%, gemstones 2.5%, Coal 7 - 15%, other minerals-- fixed rate option at 2.7%, variable rate option 2.5 to 5% based on price
New South Wales	Specific and ad valorem	4.0 to 8.2	Coal- deep underground 6.2%, other underground 7.2%. Open cast 8.2%
Northern Territory	Profit	20	Based on net value of production where the first \$50,000 is not liable to royalty to protect small mines, for most mines the rate is 18% of the net value of mineral commodities sold or extracted
Tasmania	Specific and hybrid	19% on net sales plus profit royalty	Maximum total royalty is 5.36% of net sales. A rebate of 20% is available for the production of metal within the state.
Victoria	Ad valorem	2.75	
South Australia	Specific and ad valorem	3.5 to 5.0	Refined products and industrial 3.5%, ores and concentrates 5%

Source: Mineral Royalty Rate Analysis Final Report 2015 (page 132): Government of Western Australia, Department of State Development and Department of Mines and Petroleum

Table 3(a): Royalty Rates in Canadian Provinces

	Alberta	British Columbia	Manitoba	New Brunswick	Newfoundland and Labrador	Nova Scotia	Ontario
First Tier	1% of mine mouth revenue	2% on operating income	n.a.	2% on net revenue	15%	2% on net revenue	n.a.
Second Tier	12% of net profits after payout	13% on cumulative net profit	10% (<\$50 Million); 65% (\$50 M to \$55 M); 15% (\$55 M to \$100 M); 57% (\$100 M to \$105 M); 17% (>\$105 M)	16% on net profit	20%	15% on net income	10% (5% in remote areas)

Source: Government of Canada, Natural Resources Canada. <https://www.nrcan.gc.ca/mining-materials/taxation/mining-taxation-regime/8890>

Table 3(b): Royalty Rates in Canadian Provinces

	Quebec	Saskatchewan	Northwest Territories	Nunavut	Yukon
First Tier	n.a.	n.a.	n.a.	n.a.	n.a.
Second Tier	16%	5%(cumulative sales up to 1M troy oz of precious metals or 1M tonnes of base metals)	Lesser of 13% and following formula: \$10 000 - \$5 M: 5%; \$5 M - \$10 M: 6%; for every additional \$5 M annual profit, rate increases by 1% to a maximum of 14%	Lesser of 13% and following formula: \$10 000 to \$5 M: 5%; \$5 M - \$10 M: 6%; for every additional \$5 M annual profit, rate increases by 1% to a maximum of 14%	\$10 000- \$1 M: 3%; \$1-\$5 M: 5%; \$5-10 M: 6%; for every additional \$5 M, rate increases by 1% to a maximum of 12%

Source: Government of Canada, Natural Resources Canada. <https://www.nrcan.gc.ca/mining-materials/taxation/mining-taxation-regime/8890>

Table 4: Royalty Rates in South America

Mineral	Argentina	Brazil	Chile	Peru
Copper	3%	2%	0-14%	1-12%
Gold	3%	1%	0-14%	1-12%
Iron ore	3%	2%	0-14%	1-12%
Coal	3%	2%	0-14%	1-12%
Collection Point	Provincial	Federal	Federal	Regional

Source: <https://www.pwc.com/gx/en/energy-utilities-mining/publications/pdf/pwc-gx-miining-taxes-and-royalties.pdf>, 2012

Western Australia is the largest mining state in Australia and accounts for over 60 per cent of the value of total national mineral production. It has developed one of the most efficient royalty systems. The mineral royalty collection system is designed to strike a balance between economic efficiency, revenue stability and administrative simplicity by applying different rates to the value realized on the first arms-length sale of different mineral products of various commodities. For example, as shown in table 2, a 7.5 per cent royalty rate would apply to crushed ore, 5 per cent for concentrates and 2.5 per cent for refined metals. In the case of Queensland, progressive value-based royalty rates apply as a function of commodity prices. For example, for coal, a rate of 7 per cent applies for prices up to \$100/tonne, 12.5 per cent for prices between \$100/tonne and \$150/tonne and 15 per cent above \$150/tonne. This approach provides the efficiency benefits of profit-based royalties with much lower administrative complexity.

2. *Canada and the United States of America*

As is the case with Australia, both Canada and the United States do not impose royalties at the central government level; instead, the provinces, territories and states impose and collect royalties. In Canada, the jurisdiction for royalties is devolved and lies primarily with the provinces and territories, with all mineral royalties being profit based. The Canadian constitution explicitly recognized provinces' and territories' constitutional rights to manage their own non-renewable natural resources, forestry resources and electrical energy. The tax structures vary from a single rate to two-tier rates and sliding scale tax rates.

The mining tax in some provinces and territories is commodity-specific (see table 3). The provinces and territories have the power to levy mining taxes and royalties and hence all provinces and territories with significant mining activities impose mining taxes, royalties or land taxes on mining operations within their jurisdictions. This is a third level of taxation, separate and distinct from federal and provincial/territorial income taxes. These mining levies are intended to compensate the province or territory for the extraction of non-renewable resources owned by it.

In the United States, the royalty systems are usually related to the nature of mineral ownership. There is private ownership of minerals in the United States, which is different from other countries. Minerals belonging or occurring in state-owned land are usually subject to value-based royalty, although in the state of Nevada, a profit-based royalty system is employed.

3. South America

In some South American countries, royalties are based on value and the rates range between 2 per cent and 14 per cent. In Argentina, the original owners of the mineral resources, the provinces, are entitled to collect a royalty which is calculated as a percentage of the pithead value of the mineral extracted, but some provinces do not levy royalties. The Argentinian Mining Investments Law 24,196 establishes a cap of 3 per cent royalty on the pithead value of the mineral obtained, which provinces are expected to levy.

In Chile, mining companies also pay a specific income tax on mining activities to the Government. This tax is levied on operational income obtained by the mineral exploiter from mining activities. The tax is charged at a progressive rate and varies from 5 per cent to 34.5 per cent, resulting in a 14 per cent effective rate, if the mining company's annual sales exceed 50,000 tons of fine copper. The rate was increased in October 2010, replacing the previous rate. Mines whose annual sales have an equivalent value of between 12,000 and 50,000 metric tons of fine copper are charged a progressive tax rate of between 0.5 per cent and 4.5 per cent, while those with annual sales of less than 12,000 metric tons of fine copper do not pay the tax. Large mining companies currently pay a flat 4 or 5 per cent rate under tax stability agreements.

In Peru, while regional governments collect mining royalties, the central Government collects a special mining tax and a special mining contribution. The royalty is profit-based and is levied on profit before tax.

4. Asia-Pacific

In the Asia-Pacific region the approach to the collection of royalties is mixed, with some nations imposing a royalty paid to the central Government, while others have royalties paid at provincial or local level. In terms of royalty approach, unit-based royalties are imposed on bulk minerals in most countries, while valued-based royalties are levied on other minerals. For example, in Indonesia, the mining royalty varies from 1.5 per cent to 6 per cent depending on the mineral commodity. There are two types of royalty system in Indonesia, one specified in the licence (Mineral and Coal Law 4/2009) and the other negotiated based on a contract of work. The coal royalty prevailing in law is as follows for low calorific value, medium calorific value and high calorific value coal: 3 per cent, 5 per cent and 7 per cent on the value of sales for open pit coal mines and 2 per cent, 4 per cent and 6 per cent for coal mined through underground mining methods. For other minerals, the specified royalty rate is 6 per cent for diamonds, 3.75 per cent for gold, 3.25 per cent for silver, 4 per cent for tin, 3.75 per cent for bauxite and 4 per cent for copper. Nailed down royalties based on the contract of work also vary based on commodities and stand at 1.5 per cent for gold, 1 per cent for silver, US\$ 0.25/ton for copper and 13.5 per cent for coal.

In the Philippines, the royalty is based on the market value and is collected at federal level. The royalty consists of three components: royalties to mineral reservations, royalties to indigenous and cultural communities and an excise tax. The excise tax is set at 2 per cent on all minerals and the other two royalties are set at a minimum of 5 per cent.

V. Curbing cross-border financial leakages: Opportunities for harmonization

Curbing sophisticated tax dodging practices by mining companies remains the biggest challenge to closing the gap between headline royalty rates adopted by countries and actual revenues collected by African governments. The Economic Commission for Africa has finalized a multi-country report on illicit financial flows in key mineral-rich countries in Africa.

The report demonstrates that illicit financial flows and practices that inhibit domestic revenue mobilization in the mineral sector are large, growing and complex. They are global and regional in nature. Design and compliance gaps in the institutional frameworks in countries translate tax evasion and avoidance opportunities into harmful cross-border illicit financial flows. The risks vary along the mineral value chain, and different minerals face varying levels of risks of revenue leakages. The report outlined some priority areas where coordination and cooperation of tax efforts across countries may add value to domestic revenue mobilization efforts.

A whole-of-government framework for policy coherence is lacking in most countries. While there is increasing awareness of multinational companies' tax avoidance practices in the sector, no comprehensive working definition of illicit financial flows exists in any of the mineral regimes studied. The case countries studied in the report on illicit financial flows in key mineral-rich countries in Africa employed various anti-avoidance actions to combat discrete aspects of illicit financial flows in their policies, laws and regulations. The target areas for action are transparency and accountability as well as corruption and money laundering. Meanwhile, the design of trade and investment incentives to encourage foreign direct investment in the sector are overly generous and misaligned with the revenue mobilization objectives. For instance, due to tax exemptions in the sector, tax authorities are estimated to be losing more than US\$ 1.6 billion a year in foregone tax revenues in Zambia.

Transfer mispricing remains one of the biggest sources of illicit leakages from the mineral sector. Zambia, for example, is reported to lose almost 10 per cent of its GDP annually as result of corporate tax avoidance practices, including transfer mispricing.

Yet policy and legislative frameworks vary in scope and effectiveness in countries. All of the selected case countries in the study have some sort of legislation in place to curb transfer mispricing. However, many have yet to formulate specific but complementary regulatory guidance documents. The Democratic Republic of the Congo recently introduced a provision on transfer pricing to reform its tax procedures, but there are no specific guidelines for determining the transfer pricing positions of multinational companies. Zambia, the United Republic of Tanzania and South Africa have adopted specific guidelines on transfer pricing but, with the exception of the United Republic of Tanzania, the penalties imposed by South Africa and Zambia are far lower than those of other mining countries such as Chile and Australia, where fines average about 40-50 per cent plus interest for transfer mispricing arrangements with the purpose of evading or minimizing tax liabilities.

Excessive leveraging by mining companies is a major specific source of erosion of the domestic tax base, yet anti-avoidance measures adopted by countries are weak and contain the seeds of their own destruction. Since interest accruing from debts are deductible against tax liability, there is a strong preference for mining companies to borrow internally from their affiliates rather than raise financing by selling shares.

There was convergence in the specificity of anti-avoidance measures. All of the case countries adopted a ratio-based approach with a predetermined proportion of equity to debt in the allowable finance mix as thin capitalization requirements. While the mining industry is not a high consumer of debt financing, on average countries have adopted ratios in the range of 2:1 to 3:1, which is higher than the efficient level of debt that the market can allow for the industry. In fact, advanced mineral-rich countries such as Canada and Australia have far lower debt to equity ratios of 1.5:1. With the exception of South Africa, none of the countries has adopted an earning stripping approach, limiting the amount of deductible interests as a share of earnings before taxable income.

Mineral-rich African countries have yet to leverage key information and knowledge of the sector in a forward-looking manner. All of the case countries recognized the importance of geological information, but integrating its investment and governance dimensions in way that effectively mobilizes revenues and curbs illicit financial flows remains suboptimal. Mandatory submission of precompetitive geoscience information by mining companies to Governments is often limited by confidentiality clauses, preventing Governments from exercising their right of custodianship over geoscience data.

This is further compounded by a self-limiting framing of geological information in legislation as records rather than datasets that could be aggregated and analysed for effective tracking and monitoring of illicit financial flows. There is little clarity on the use of the terms “geological information”, “geological knowledge”, “geological data” and “geological records”. With the exception of South Africa, there is no requirement for precompetitive data submitted to Governments to be digitalized. Instead, data are often submitted in PDF format, which means they cannot be aggregated. As a result, African Governments are not only losing almost US\$ 1 billion but are also underexploiting a critical tool for attracting investment to the sector.

The lack of a data management approach extends along the value chain. None of the case countries include provisions for the tax administration to continuously review and update criterion for transfer pricing requirements including documentation submitted, reflecting continuously evolving practices adopted by mining companies. This means that regulations may likely continue to lag behind mispricing practices, with risks of significant leakages through asymmetry of information.

Institutional capability for joint-up actions along the mineral value chain remains crippling. While most African countries have demonstrated their commitment to tackle terrorism-linked international money laundering practices, there is a worrying institutional deficit when it comes to addressing the commercial components of illicit financial flows. Interagency coordination is weak or absent in the case countries. None of the case countries has a dedicated platform to bring together custom officials, tax authorities, law enforcement agencies, and trade and mines departments in way that systematically shares information to curb illicit financial flows.

Apparently, there is a reactive and transactional approach towards curbing cross-border tax dodging practices by mining companies. While this reflects operational and strategic capacity gaps, the lack of a proactive risks management approach may end up spreading the already limited capacity in countries thinly and ineffectively. This may even get worse as the case countries tighten up their legislation with more demands for documentary evidence from companies on their tax positions.

With the exception of South Africa, it is not clear how tax authorities in the selected case countries decide on which companies to monitor and what should trigger an audit. Instead, it seems that the selection of cases is discretionary and often based on anecdotal evidence. South Africa has a dedicated assurance unit responsible for mining tax administration, as well as a separate risks profiling team focusing on the extractive industry. Both teams work together in close association with the international tax and transfer pricing teams.

There is a worrying lack of forward-looking engagement by African countries in the emerging norms and rules that govern international taxation. While African voices remain marginal in the setting of these global tax rules, mineral-rich countries will need to harmonize their approaches in order to collectively leverage the opportunities as well as act on the compliance challenges imposed on domestic tax systems. The recently adopted Action Plan on Base Erosion and Profit Shifting is the most significant shake-up of multinational taxation since the 1920s, when the current international tax framework was agreed.

Not all the recommendations contained in the Action Plan on Base Erosion and Profit Shifting are a priority for Africa. African countries will need to coordinate their efforts in ways that focus their limited resources on those actions that are of highest priority to them. Continental efforts should focus on base eroding practices that are of higher priority to African countries, including minerals taxation, trade mispricing and application of the arm's length principle, including African comparables for the extractive sector.

VI. Harmonizing mining policies: Opportunities for the emergence of regional value chains

The paradigm to maximize revenues first and development afterwards which has marked extractive-led policies has demonstrated its limit, with the collapse of commodity prices. The need for development-oriented approaches, as underpinned by the Africa Mining Vision, remains critical for structurally transforming and diversifying economies. Countries will have to align their mineral exploitation regimes in ways that maximize development benefits including beneficiation. Left to their own devices, market forces are unlikely to establish those critical industrialization linkages, because most mining companies already have their own external linkages which they will want to maximize for greater shareholder value and returns across their global value chains as a whole.

There are opportunities to harmonize policies and strategies including taxes in ways that encourage the emergence of viable regional value chains around mining. Governments will need to seek an optimal mix of “sticks and carrots”, proactively identifying win-win opportunities for developing linkages into and out of the sector and facilitating the emergence of viable national, regional and global mineral value chains.

Mining companies spend a great deal on procurement, even more than what Governments get in terms of revenue. The dynamics of demand and supply of inputs created by mine development require the deployment of human and financial resources along the value chain at different levels. Without purposeful and harmonized strategies, the opportunities for optimizing linkages with the broader economy may be missed and the potential to foster industrialization underutilized. Expenditure by mining companies on procuring human resources, infrastructure and other inputs often holds the greatest promise for local businesses to participate in producing and supplying goods, services and labour along the value chain, with a cumulative impact on the economy far greater than what the Government takes home in taxes, or direct jobs created by the mining companies.

Minerals-led industrialization will have to draw fully on the continent’s potential and opportunities in an integrated manner across all levels. Important regional initiatives include the Southern African Development Community’s Regional Indicative Strategic Development Plan, to diversify regional economies through industrial development and value addition, leveraging its member States’ rich natural resource endowments. The Economic Community of West African States has recently adopted a directive on the harmonization of guiding principles and policies in the mining sector, which seeks to create a common mining code for West Africa, underpinned by priorities including value addition through linkages and beneficiation, as well as environmental protection, good governance and respect for human rights.

There is increasing recognition and commitment to the need for deeper regional approaches towards value addition, including in Agenda 2063. The Agenda targets the exponential increase of trade between African countries from 12 per cent in 2013 to 50 per cent by 2045. Developing functional industrial policies including implementation of the proposed Continental Free Trade Area remain indispensable. Indeed, it is projected that the full removal of tariff barriers accompanied by adoption of measures to ease trade within the continent will bring the share of industrial commodities in intra-African trade to about 70 per cent.

Harmonization of mineral policies will need to align with international trade policies to effectively support mineral-based industrialization. Mineral-rich countries will therefore need greater farsightedness in signing regional trade agreements that require reciprocity without preserving policy space for the emergence of resource-based industrialization. Through regional trade agreements with

international partners, African countries risk being locked into their marginal role as primarily raw material suppliers to strategic industries in European, Organisation for Economic Co-operation and Development (OECD) and other emerging countries. Based on its established “critical list” of metals and non-metals, the European Union insists on the use of trade policy as an instrument for securing supply and the fostering competitiveness of its industries.

The Economic Partnership Agreements with the European Union will erode fiscal policy space for active industrial policy by African countries. Disagreement about export taxes remains a stumbling block to the signing of Economic Partnership Agreements. While the Economic Partnership Agreements between the European Union and African countries aim to align the current system of preferences with multilateral requirements, their restrictions go far beyond what is currently allowed under the World Trade Organization. Through restrictions of export taxes, the Economic Partnership Agreements limit targeted fiscal policy actions to encourage downstream processing. For example, while African bauxite can enter the European Union without any duty, unwrought aluminum, its semi-processed form, faces an import duty of 6 per cent. For a country such as Guinea, with half of the world’s reserves of bauxite, the incentive to use its competitive hydroelectricity potential to create an aluminum industry therefore remains constrained.

The impact of the Economic Partnership Agreements on industrialization will vary across regions and sectors. For the Economic Community of West African States subregion, the Economic Commission for Africa projects that while trade in ores would barely change, the import of high value-added mining products such as iron and steel into the subregion would more than quadruple by 2040.

The report further reckons that, if fully implemented, the Economic Partnership Agreement with the Economic Community of West African States could cost almost US\$ 3 billion in intraregional trade opportunities by 2040.

African countries will need to coordinate their positions. Negotiating blocs would have to explore opportunities to coordinate their composition of the list of sensitive products under the Economic Partnership Agreements which will benefit from import tariffs and infant industry protection. Current lists of products adopted by countries are static and not forward-looking enough to capitalize on the potential in ways that could steer the emergence of optimal mineral-based industrialization.

VII. Strategic options for harmonization

Four feasible paths are available for streamlining fiscal regimes in the mineral sector in Africa.

The first and most natural course of action available to member States is to do nothing and maintain the status quo. This entails continuing with uncoordinated design of fiscal policy and implementation informed solely by individual interests of mineral-rich countries. This will involve at best some sort of convergence of fiscal policies albeit with a high risk of spurring “beggar thy neighbour” policies.

The second option is incremental reform. This will involve member States purposefully exploring opportunities for harmonization but in an incremental fashion. This may involve member States pooling their efforts together through convergence, coordination and cooperation to address key domestic resource mobilization bottlenecks along the mineral value chain. The aim is to improve the status quo.

The third option is for member States to adopt a hybrid or mix approach. Harmonization will entail a combination of some aspects of incremental reforms together with some targeted ambitious attempts at alignment. It may include overall convergence, coordination and cooperation on a broad range of issues like principles, policies and strategies, as well as alignment of specific features of tax instruments. Examples include mainstreaming progressivity principles in the design and choice of tax instruments; adopting a common definition of illicit financial outflows to frame and shape coherent instruments to curb tax avoidance by mining companies; adopting “arm’s length” principles and common transfer pricing legislation and methods across countries; and introducing a sliding royalty system depending on the level of value addition and processing of minerals in the national and regional economies. It may also involve standardizing principles for guiding the development of lists of tax exemptions, model contracts and aligning mineral policies across jurisdiction in ways that facilitate the emergence of viable regional value chains.

The fourth and most ambitious option is across the board uniform or standardized reform of fiscal regimes in Africa. It entails adopting a one-size wholesale reform that will fit all jurisdictions, minerals, political economy, history and countries. This may involve adoption of a continental law or protocol for regulating fiscal regimes in the mineral sector in Africa, such as a common royalty rate for all jurisdictions and minerals. It gives little allowance to diversity, which is an inherent characteristic of Africa’s mineral endowments and economies.

How all proposed options play out in practice will depend on specific evaluation criteria adopted. Each option will lead to different projected outcomes, whose feasibility varies with the evaluation criteria chosen (see table 5). Below are key evaluation criteria for projecting the range of outcomes and the tradeoffs involved.

- (a) Sovereignty: Extent to which the reform option maximizes autonomy and sovereignty of member States to design their own tax policies, instruments, tax base and tax rates;
- (b) Legality: Extent to which the proposed reforms minimize incompatibility or inconsistencies with existing legal provisions and obligations of member States;
- (c) Political acceptability: Extent to which the proposed reforms will encourage buy-in by Governments and key constituents in member States, including the business community. Conversely, it captures the ability of the reforms to minimize opposition by vested interests;

- (d) Effectiveness: Extent to which options selected for harmonization can support countries to meet the objective of mobilizing greater domestic revenues as well as enhancing the emergence of viable regional and global value chains. It also entails the ability to adapt to a changing international context including specificity of countries and mineral economies;
- (e) Efficiency: Extent to which the option is cost effective in terms of actual benefits and cost of implementation;
- (f) Administrative simplicity: Extent to which reform options are easy to implement. It entails the additional demand that the selected reform option places on already weak tax systems as well as opportunities presented to build tax administration capacity along the mineral value chain, both at the national and regional levels;
- (g) Neutrality: Extent to which different options interfere with investment decisions for the development of the mineral sector. This includes the ability of proposed options to influence efficiency of mining investments;
- (h) Race to the bottom: Ability of the proposed options to minimize “beggar thy neighbour” policies that collectively lead to harmful tax competition strategies among countries;
- (i) Coordinability: Ability of the proposed options to coordinate interdependencies of tax policies for their coherence across different jurisdictions in Africa. It also includes the extent to which proposed options are able to adapt to the changing environment of the mineral sector and international taxation.

The choice of strategic options would depend on their overall projected outcomes. Each option involves trade-offs against the evaluation criteria presented in table 5. The range of projected outcomes are categorized as positive (+ve), negative (-ve) and neutral (+/-).

Table 5: Decision Matrix and Tradeoffs

Evaluation criteria	Maximizing Sovereignty/ Legality/ Autonomy	Maximizing Effectiveness	Maximizing Efficiency/ simplicity	Enhancing Neutrality	Maximizing Coordinability	Maximizing Political Acceptability	Minimizing Race to the Bottom	Total Positives
Uniform Reform	-VE	+/-NEU-TRAL	-VE	-VE	+VE	-VE	+VE	2/7
Hybrid Reform	+/-NEU-TRAL	+VE	+VE	+VE	+VE	+VE	+VE	6/7
Incremental Reform	+VE	+/-NEU-TRAL	+VE	+/-NEU-TRAL	+/-NEU-TRAL	+VE	+/-NEU-TRAL	3/7
Do Nothing (Maintain the Status Quo)	+VE	-VE	-VE	-VE	-VE	-VE	-VE	1/7

The “do nothing” course of action remains the least desirable. While it protects the sovereignty and autonomy of member States, it is also inefficient and ineffective and undermines the coordination of tax efforts across jurisdictions for greater domestic revenue mobilization and participation in regional and global value chains. Given the recurrent and perennial fiscal constraints to optimizing the transformative potential of Africa’s minerals sector, the status quo remains politically unacceptable, and effective reform is therefore a priority for member States.

Incoherent and inconsistent fiscal legislation along mineral value chains and jurisdictions will continue to increase the transaction costs of developing viable value chains, widen loopholes and facilitate opportunities for cross-border tax avoidance practices by mining companies. The net result of doing nothing is acceleration of negative convergence, with risks of countries racing to the bottom in tax policy design and implementation in the mineral sector.

The other less desirable option is uniform reform through a one-size-fits-all approach, including a model tax law for countries. While uniformity may stem the risks of “beggar thy neighbour” strategies, it will place greater binding substantive and operational constraints.

Given that taxation remains a key instrument of sovereignty and nation building, it is unlikely that Governments will want to cede significant autonomy in designing their principles, policies, tax instruments, tax bases, tax rates and administration. No region or country has adopted uniformization as the basis for harmonizing, designing and implementing tax policies and instruments. In advanced mining economies, diversity through specificity in the design of tax instruments adopted across provinces and states remains the rule rather than the exception. In the area of taxation, even in the European Union, which has the most functional and successful internally integrated market, fiscal standardization is only reserved for indirect taxation such as value added taxes that impede the flow of goods and services within the common market.¹ Direct taxes including corporate income taxes and royalties remain the exclusive domain of domestic policies.² In fact, unlike other areas, harmonization of fiscal policies remains a realm of “differentiated integration” through cooperation and coordination on key tax issues.³ The European Union only exercises supranational authority in areas involving direct taxation when it affects the smooth functioning of its internal market through anti-competitive practices including tax avoidance.

Given the diversity of Africa’s mineral potential, together with the continent’s varied jurisdictions, the effectiveness of uniform tax rates or standardized instruments of law remains unclear. More strategically, a model law may lead to unintended consequences including potentially undermining the implementation of the Africa Mining Vision – the agreed continental framework for the broad-based development of the minerals sector. The thrust of the Africa Mining Vision remains the full optimization of the diverse mineral potential of Africa for the transformation of economies. A one-size-fits-all approach may therefore privilege the flow of investment to a certain quality of mineral deposits or class of minerals, leading to the marginalization of others. For example, a high uniform royalty rate, applied across countries, will favour high quality grade of gold deposits, but end up discouraging marginal deposits with high production costs. It may further discourage the optimal exploitation and consumption of low- value bulk minerals, such as aggregates, whose consumption closely correlates with the transformation of economies.

Equally important is the signalling effect on policymaking. A uniform reform could reduce the complex binding constraints in the sector to a managerial choice of specific instruments rather than governance. While the law remains an important instrument of governance, its effectiveness is derived

1 Kouba, L. and others (2015). *Policy autonomy, coordination or harmonization in the persistently heterogeneous European Union?* WWFforEurope. Working Paper no 95.

2 Holzinger, K. (2005). *Rationality and Society*. Vol. 17 (4): 475–510.

3 Holzinger, K. and Schimmelfennig, F. (2012). Differentiated Integration in the European Union: Many Concepts, Sparse Theory, Few Data. *Journal of European Public Policy*. Vol. 19, issue 2.

from sound policies, underpinned by robust vision. Indeed, tax laws for the mineral sector will need to be informed by the Africa Mining Vision's consistent strategies and policies, in order to achieve the desired structural transformation of economies.

African countries are already domesticating the Africa Mining Vision in ways that will support the development of effective mineral and tax legislation as well as policies along the mineral value chain. It remains unclear how a model law applicable to all circumstances, jurisdictions and minerals will support such a broad-based reform process. In the extreme, a uniform reform may distort the incentives for implementing the Africa Mining Vision by narrowing much needed broad-based reforms to that of fixing tax laws in countries.

Meanwhile, operationally the transposition of endorsed reform into domestic tax laws will likely come up against costly legal challenges. The process may require renegotiation of existing fiscal provisions in contracts, which may engender costly litigation or even perception of resource nationalism by mining companies. This may discourage investment as well as further add to uncertainties in the sector, at a time when prices remain depressed. With a score of 2/7, the uniform reform remains geologically suboptimal, politically unfeasible, economically inefficient and operationally ineffective.

In between both options are a range of potentially feasible alternatives. They include incremental and hybrid reforms. Based on projected outcomes, the hybrid reform remains the most desirable.

With a score of 6/7, the hybrid reform appears substantively and operationally sound compared to the other proposed options. In fact, it is highly politically feasible – based on its strong integration of diversity and improvement of the status quo – while being selectively ambitious too. The hybrid reform could easily foster coherence, through convergence, cooperation and coordination, while building capacity and strengthening tax administration for Governments to address specific constraints in the mineral value chain. This may include developing guidance documents and tools for designing and effectively implementing mining taxes including royalties, codes of conduct and good practices for formulating tax exemption policies, mainstreaming a definition of illicit financial flows into national tax laws, operational guidance documents to address transfer mispricing, developing principles for negotiating contracts, and so forth. It will also entail creating platforms at all levels for sharing experiences, resources and expertise for joint auditing and mineral evaluation through targeted institutions at the regional level.

The hybrid approach could better address the perennial gap between tax policy design and implementation at the regional and country levels, which is critical to eliminating illicit financial flow loopholes along the mineral value chain.

VIII. Policy recommendations

The hybrid reforms which combine incremental approaches to improve the status quo with selective and ambitious alignment as well as standardization of key binding constraints to domestic revenue mobilization and regional value chain remain the most feasible and effective option for harmonizing fiscal regimes in Africa, including royalties.

Collective efforts at the continental level will yield quick and sustained wins by exploring the low hanging fruits of harmonization including capacity-building, while building on the momentum of cooperation to provide specific guidance on alignment and standardization of specific instruments, principles, ranges and minimum rates in ways that are flexible and inclusive.

Harmonizing fiscal regimes including choice of instruments and tax rates should be placed within the broader context of mineral sector governance. Harmonization should therefore be anchored on the Africa Mining Vision's principles of "transparent, equitable and optimal exploitation of a country's mineral resources to underpin broad-based socioeconomic development" as well as ensure a "sustainable and well-governed mining sector that effectively garners and deploys resource rents".

Harmonization of mineral royalties by Governments should be based on a system that is transparent, with its provisions included in the relevant law and legal and regulatory framework on how the mineral royalty basis is to be determined. It should be specific for each mineral including mineral royalty methods that are suitable for efficient and effective administration within the capacity of the tax-collecting authority. It should prioritize the strengthening of both financial reporting and the institutional capacity of administrative agencies that are responsible for levying and collecting mineral sector taxes.

Below are specific recommendations organized into short, medium and long-term actions.

To bridge the gap between policy and implementation at the continental level, the African Union Commission should create a continental platform for dialogue that will foster coherence between tax policy, tax legislation and tax administration in the minerals sector. The African Union Commission, the African Minerals Development Centre and the African Tax Administration Forum could therefore jointly organize a high-level regional policy dialogue forum on illicit financial flows and domestic resource mobilization from the extractive sector in Africa. The forum would examine policy gaps and compliance issues along the mineral value chain with risks of illicit financial leakages. The forum will provide an opportunity for countries to share their experiences in view of developing regional and country-specific approaches to curbing illicit financial flows and enhancing domestic resource mobilization from the mineral sector. In addition, the forum would provide concrete recommendations for strengthening fiscal reforms in the mineral sector in ways that guard against a "race to the bottom" inspired by a collapse in commodity prices.⁴ The outcome of the forum could include a resolution for adoption by the African Union Commission's Specialized Technical Committee on Trade, Industry and Minerals.

African countries should step up their engagement in international governance processes. The African Union Commission, together with the African Tax Administration Forum, should support coherent and proactive engagement by countries to influence the emerging global governance frameworks for international tax transparency. The African Union should examine the challenges and opportunities presented by the Action Plan on Base Erosion and Profit Shifting, in view of ensuring coordinated and harmonized African participation in the remaining standards-setting priorities.

⁴ In 1990, around 40 per cent of African countries, including resource-rich countries, offered tax holidays; by 2005 that proportion had gone up to 80 per cent (Keen and Mansour, 2009).

The African Union Commission, the African Minerals Development Centre and the African Development Bank should step up efforts to facilitate the sharing of experiences and best practices in negotiating royalty rates as well as avoiding granting generous tax exemptions to mining companies, which are misaligned with the Africa Mining Vision's principles of domestic revenue mobilization and structural transformation through broad-based linkages with the rest of the economy. Approaches may include developing a tool or knowledge platform to facilitate access to other African countries' contracts with mining companies. This will enable Governments to compare proposed fiscal provisions in ways that are practical and reduces asymmetry information between countries and mining companies. There is also a need to support countries' efforts to negotiate effective contracts, including in key areas like mineral valuation, pricing of minerals and volume of production, which are relevant to determining royalty and income tax revenues.

Member States should consider conducting regular audits of all licenses, titles or other authorizations, including signed contracts that create fiscal regimes different from the statutory one. Countries will be able to evaluate those instruments not only in line with national legislation and regulations but also with the regional regulations, international standards and the Africa Mining Vision.

African countries should mainstream the principle of progressivity in their chosen fiscal instruments, gradually moving towards profit-based royalty systems by first perfecting the ad valorem systems and then strengthening tax administration institutions to effectively administer and manage a profit-based mineral royalty. Countries will need to carefully balance efficiency and fairness in setting their royalty rates, taking into consideration their domestic revenue mobilization objectives as well as changing market dynamics. This is an area for potential cooperation and coordination of efforts at the continental level.

The African Minerals Development Centre and the African Tax Administration Forum could partner jointly with other key partners to develop specific guidance on setting royalties rates including range and choice of royalty type, as well as mainstreaming progressivity principles. They could further join forces with other key partners to provide targeted guidance in addressing key capacity constraints along the mineral value chain including curbing transfer mispricing, enhancing auditing capacity and minimizing tax avoidance practices in double taxation agreements. The African Minerals Development Centre could facilitate the pooling of resources to acquire shared access to key transfer pricing databases in ways that minimize the individual cost to member States.

The African Union Commission should support member States to implement the Assembly Special Declaration on Illicit Financial Flows through the commitment to implement the findings of the High-level Panel on Illicit Financial Flows. The African Union Commission, the Economic Commission for Africa and the African Development Bank should work together to support member States to operationalize the findings including incorporating a definition of illicit financial flows in their fiscal frameworks.

The Economic Commission for Africa, the African Minerals Development Centre and the regional economic communities should step up efforts to harmonize mining regimes in ways that encourage the emergence of viable regional value chains for structural transformation of economies. The African Union Commission and regional economic communities should consider working together to formulate regional mining visions, which will harmonize regional mining strategies in ways that facilitates the emergence of viable regional value chains around mining. The regional mining visions should be aligned with the Africa Mining Vision's priorities for enhancing regional value chains for critical feedstock for Africa's industrialization including upstream linkages as well as infrastructure projects of regional dimensions. The African Minerals Development Centre should therefore accelerate efforts aimed at supporting countries to incorporate a regional dimension in their local content strategies.

Member States should design their fiscal instruments including royalties in ways that encourage beneficiation and value addition of minerals in countries. Governments will need a clear policy and strategies to promote downstream linkages. Policies should ensure critical feedstocks for domestic and regional economies are produced at internationally competitive prices as well as economy of scale. The strategies including incentives should align their fiscal, industrial, trade, innovation and education policies in a way that effectively supports processing and refining of minerals.

Governments can pool their efforts to close the tax policy compliance gaps through the setting up of a pan-African mineral audit agency to provide independent auditing support to countries. Member States could draw on the experiences like the Tanzanian Mineral Auditing Agency established by the Government in 2009 to effectively monitor and audit mining operations and ensure maximization of government revenue from the sector. As a result of the Agency's concerted efforts, the value of mineral royalties, corporate taxes and other mining-related taxes paid to the Tanzanian Government has increased. Furthermore, the monitoring of mineral exports at major airports by the Agency has resulted in the interception of smuggled minerals.

Governments will need to step up their efforts aimed at deepening integration through trade. This will not only boost regional trade, but also overcome barriers imposed by international trade rules. The Economic Commission for Africa projects a boost in two-way European Union-Africa trade as well as an offset in the likely negative impact of the Economic Partnership Agreements if the Continental Free Trade Area is launched before their full implementation. The Economic Commission for Africa further reckons that metal products and non-metallic minerals will benefit significantly when trade facilitation is added to the Continental Free Trade Area package. The Continental Free Trade Area could boost Africa's exports by up to US\$ 40 billion, with more than two thirds coming from industrial products.⁵

⁵ Economic Commission for Africa (2015). *Industrializing Through Trade: Economic Report on Africa*.

IX. Conclusion

While progress has been made at the subregional level regarding the harmonization of mineral frameworks, fiscal regimes along the mineral value chain remain incoherent, inconsistent and patchy. The choice of regimes, the design and types of instruments employed and their implementation constrain opportunities for greater domestic revenue mobilization as well as emergence of viable regional value chains in Africa for the structural transformation of economies.

There is no one-size-fits-all approach: harmonization is not equal to uniformization. Each country is unique and has to contend with its own realities, including mineral endowment, political economy, history and social context. Fiscal harmonization experiences across countries are dynamic, multidimensional and multiscale. They range from convergence and cooperation to coordination, alignment and standardization.

African countries are displaying an overall trend towards harmonizing their royalty tax system, albeit at the low end of the continuum or base of the pyramid. The harmonization takes the form of convergence, through spontaneous and voluntary actions. The passive and uncoordinated but similar choices by countries are based on applying some common design features of royalty systems. The convergence is down to policy diffusion across countries and the influential role of international financial institutions in mining sector reforms in the continent.

The gap between tax policy and tax implementation remains a key area for harmonization through cooperation and coordination. While the average mineral royalty rates in Africa remain comparable to those in other countries and in some instances are even higher, effective revenues collected are generally lower. In fact, headline royalty rates are poor indicators of total government revenues collected from the minerals sector. This raises questions about the efficiency of the mineral royalty systems currently in use and the capacity of the tax authorities to implement the agreed headline rates.

Curbing sophisticated tax dodging practices by mining companies remains the biggest challenge to closing the gap between headline royalty rates adopted by countries and actual revenues collected by African Governments. Illicit financial outflows and domestic revenue mobilization inhibitive practices in the mineral sector are large, growing, and complex. They are global and regional in nature, necessitating collective actions by countries. But design and compliance gaps in the institutional frameworks in countries translate tax evasion and avoidance opportunities into harmful cross border illicit financial flows.

There are opportunities to harmonize policies and strategies including taxes in ways that encourage the emergence of viable regional value chains around mining. Governments will need to seek for an optimal mix of “sticks and carrots”, proactively identifying win-win opportunities for developing linkages into and out of the sector, facilitating the emergence of viable national, regional and global minerals value chains.

A top-down, uniform reform of royalty rates remains geologically suboptimal, economically inefficient and politically infeasible.