

more effective tax administrations; and encouraging constructive state-society engagement around taxes.

Mineral resources are classified as non-renewable resources which mean that they are fixed in supply and can only be used up in a limited time frame. Notably they can be stored for future use. Mangondo (2006) asserts that these natural resources are gifts of nature just like land and forests and the suggested rationale for government intervention is to abate the risk of overexploitation. In some instances government may do so because commodities may be public goods or to mitigate negative externalities as seen in the case of environmental pollution. Some of the reasons for taxing natural resources include: revenue collection, increasing market dominance and conservation of these resources. In agriculture, land rent is paid as a contribution to government revenue for occupying and using land (otherwise a gift from nature). In the same vein, the same concept is applied to mineral resources. Nonetheless, failure may be unavoidable in instances where individual interests influence the political process despite the possibility of eventually undermining political sustainability. Mangondo (2006) suggests that mineral taxation may take the form of: export taxes, import taxes, tax on rents, ownership and production sharing, company income taxes, auction rights, royalties, income tax, withholding taxes, stamp duty and property taxes, fixed fees and sales taxes.

Taxes on rent are asserted to be non-distortionary as they affect economic rent and not economic behaviour. From a public economics perspective, such resources are usually obtained free of charge and hence should benefit everyone. However, Sunley and Baunsgaard (2001) suggest that resource rent should be levied on positive accumulation of cashflow in a company. This implies that less profitable projects are excluded and this comes as a discouragement in investing in successful projects as high taxes will be attached to them. According to Mangondo (2006), government can get a share of the resource rents by requiring firms to bid for the rights to exploit resources before the exploration stage. In ownership and production sharing, government has to pay a fair price for equity and require vigilance in separating government as a shareholder from being a regulator. Royalties refer to the fees charged for extracting resources from public lands but the expected revenue from it is far from that of resource rents.

2.3 Mineral Taxation in the World

According to Mangondo (2006), taxation can occur at different stages in the mining sector as the various forms may include; the prospecting stage, exploration stage and trade stage. Ndikumana and Abderrahim () resource-rich countries in Africa have not been able to fully embrace their resource wealth to mobilize government revenue. The empirical evidence suggests that African resource-rich countries have performed poorly compared to resource-scarce countries as well as oil rich Middle Eastern countries. According to World Bank (2012) economic rents from oil and mining average were about 28 percent of GDP despite market volatility emerging from the Euro Area crisis. China was still a major host of exports of minerals although slowdown was evident in some regions. Nonetheless,

discoveries of minerals may entail large revenues for newly resource-rich countries but there would be need for these countries to strengthen control over mineral resources. Zambia, Mauritania and the Democratic republic of Congo showed heavy reliance on mineral exports to China and as such were largely affected by the country's demand.

Otto (2000) focuses on mineral taxation in developing countries and suggests that it is generally conceived that tax discrimination is used in the mining sector. This is because of reasons that include: the high risk associated with the sector and the relative nature of the mineral resources (non-renewable). This makes it difficult to apply conventional tax structures and administration as done with general tax systems and thus most countries use tax discrimination in mining. Nonetheless, tax discrimination may result in inefficiency and may provide an incentive for oversupply and overexploitation of less taxed areas. Otto (2000) suggests that tax discrimination may be applied separately depending on the type of mineral, nationality of miner and scale of operations. Likewise, tax provisions depend on the nature of mining industries and some of these include: tax relief for imported equipment, low taxes on export sales, assist in mining development, provision of exploration incentives, ensuring tax stabilization, allow cancellation of taxes when minerals are prone to commodity price cycles, make provisions for post-production expenses, negotiating agreements for special tax provisions very large investment projects and ring fencing to avoid tax liabilities of one mine being paid for by another mine. (Otto, 2000).

Notably, Mangondo (2006) suggests that focusing on the largest contributors to global mineral production aids in providing some insight into taxation in the world. The study focused on Argentina, Australia, Brazil, Canada, Chile, China, Indonesia, Papua New Guinea, South Africa and the United States of America as the top mineral producers in that era. In general taxes are levied through direct and indirect taxation and most countries use a revenue-based royalty than profit-based. However, the latter is internationally more acceptable than the former as it has a cost increasing effect and this paper posits that it provides an incentive to shift tax incidence. In 2012, the leading mining producers were China, Australia, Chile, Brazil, Russia, USA, Peru, South Africa, India and Canada.

In Mlambo et al (2014) characterize and critique mining taxes and fees in Zimbabwe. These include; Royalties, corporate tax, PAYE, additional profit tax (special mining leases), VAT, capital gains tax, withholding tax, non-residents shareholder's tax, presumptive tax for small-scale miners, customs duties, marketing commission (MMCZ), licensing fees, environmental charges and local authority charges. Furthermore, there is need to consider the distinctive nature of mineral resources and the environment in which mining occurs. Mlambo et al(2014) suggest some critical elements as shown in Table 2 below:

Table 2: Summary of the unique nature of minerals and factors influencing mining

Characterization of mining and its influences	
non-renewable resource, uneven geographical distribution of mineral resources, remote rural location, highly capital-intensive, irreversible investment, (heavy) mining equipment long lead times (time between discovery and production), long payback periods,	high risks, long life expectancies, existence of non-production costs, large closure costs, significant environmental impacts, price and revenue fluctuation, scale dichotomy existence of linkages with other economic sectors

Source: Mlambo et al (2014)

3. Methodology

This paper makes an extensive literature review and content analysis by using a mix of primary and secondary source to critically analyze some policies and Zimbabwe's experiences. Vigilance was taken in extracting Eurocentric concepts of relevance to the case under review to aid in bringing insight into theory of natural resources/ non-

renewable resources from a Zimbabwean perspective. In turn, this is used in the development of a framework for a mineral tax system.

4. Framework for Mineral Taxation in Zimbabwe

This paper concurs with Mlambo et al (2014) that something is not right about the current framework of mineral taxation in Zimbabwe. This is because there is evidence to suggesting that it is ranked lower than country's like Botswana. Nonetheless, despite the mismatch with regional standards, this paper suggests that the paradox that Zimbabwe has a large mineral resource base should not prompt pursuance of an optimal tax system to maximize revenue. This proposition is motivated by the realization that the nature of minerals and the environment of the country's economy and that of the mining sector impinge the achievement of such optimality. This is where departure from Eurocentrics begins and hence Fig 1 below shows a simplified framework for mineral taxation in Zimbabwe which attempt to synchronize the objectives of ZimAsset in pursuit of sustainable development. Notably, this paper realizes that this is a process and hence the results of the proposed framework may not immediately resolve tax underperformance but will abate the prolonged suffering if the situation is left unattended to.

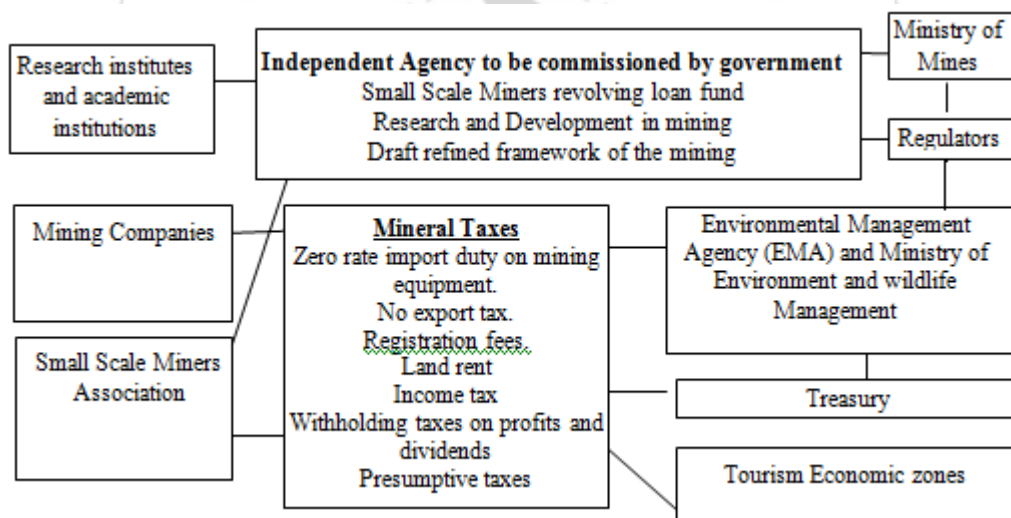


Figure 1: Framework for Mineral Taxation in Zimbabwe

5. Conclusion and Policy Implications

After considering the objectives of ZimAsset, this paper asserts that the mineral tax system would better serve a stimulator of other economic sectors for sustainable development than a source of finance for recurrent public expenditure. The situational analysis of Zimbabwe's economy posits that the country is stifled by fiscal stress and thus undermining the achievement of ZimAsset. As such, instead of attempting to fine tune the mineral tax system into an optimal system to provide the required tax revenue, the best tax system would be that which taps better tax revenue and channels it to other sectors of the economy like tourism, research and development in mining and a loan fund for

small scale miners to initiate sustainable development. The risk of seeking maximization of tax revenue from mining is huge because recurrent expenditure is immediate and would only drive government into deeper problems than presently being experienced. However, in a shorter time frame, the gains from investments in other sectors may provide alternative sources of tax for government and growth. In the medium to long term, government may yield benefits from increased activity of small-scale miners and innovation and enterprise from research and development in mining. Evidently, the compounded present day tax system has underperformed and hence there is no sufficient evidence that it will work in the foreseeable future. Instead of hoping and wishing for the unknown to change the economic

environment in Zimbabwe at an unknown time in the future, this paper advocates for immediate intervention through an initiative that requires coordination between government departments to abate a crisis and to begin moving forward until ZimAsset is realized.(or at least part of it). Historical experiences have shown that Zimbabwe has had a series of developmental plans which were largely unfulfilled and hence the possibility that nothing was done or something wrong was done. This paper suggests that.

References

- [1] Austin, G. (2008). The 'Reversal of Fortune' Thesis and the Compression of History: Perspectives from African and Comparative Economic History, *Journal of International Development* 20, pp. 996-1027
- [2] Tenhunen, S. (2007). Essays on the Theory of Optimal Taxation. Tampere University Press.
- [3] Dasgupta, P., & Stiglitz, J. (1972). On optimal taxation and public production. *The Review of Economic Studies*, 87-103.
- [4] Government of Zimbabwe (2013). Zimbabwe Agenda for Sustainable Socio-Economic Transformation, Print flow, Harare, Zimbabwe
- [5] Ministry of Finance and Economic Development (2013). The 2014 National Budget Statement: Towards an Empowered Society and a Growing Economy, Government Printers, Harare, Zimbabwe
- [6] Zimbabwe Revenue Authority (2011-2013). Annual revenue performance report. Retrieved from <http://www.zimra.co.zw/index.php>
- [7] Zimbabwe Statistics Agency (2013). Facts and figures.
- [8] Retrieved from http://www.zimstat.co.zw/dmdocuments/Other/Facts_2013.pdf
- [9] Ordover, J. A., & Schotter, A. (1981). On the political sustainability of Taxes. *The American Economic Review*, 278-282.
- [10] Heady, C., (1993). Optimal Taxation as a Guide to Tax Policy: A Survey. *Fiscal Studies*, Volume 14, Pp. 15-41.
- [11] Stern, N. (1987). The effects of taxation, price control and government contracts in oligopoly and monopolistic competition. *Journal of Public Economics*, 32(2), 133-158.
- [12] Alm, J., (1996). What Is An "Optimal Tax System"? *National Tax Journal*, 49(1), Pp. 117-133
- [13] Auerbach, A. J. (1982). The theory of excess burden and optimal taxation.
- [14] Belan, P., & Gauthier, S. (2009). Narrow tax base and dispersion of taxable commodities.
- [15] Belan, P., & Gauthier, S. (2010). Tax base and heterogeneity of commodities.
- [16] Bergstrom, T. C. (1982). On capturing oil rents with a national excise tax. *The American Economic Review*, 194-201.
- [17] Bird, R. M. & Zolt, E., (2008). Introduction to Tax Policy Design and Development. S.L., World Bank.
- [18] Bradford, D. F., & Rosen, H. S. (1976). The optimal taxation of commodities and income. *The American Economic Review*, 94-101.
- [19] Dasgupta, P., & Stiglitz, J. (1972). On optimal taxation and public production. *The Review of Economic Studies*, 87-103.
- [20] Daubanes, J., & Leinert, L. (2012). Optimum Tariffs and Exhaustible Resources: Theory and Evidence for Gasoline. CER-ETH Working Paper, (12/163).
- [21] Daubanes, J., & de Sá, S. A. (2014). Taxing the Rent of Non-Renewable Resource Sectors
- [22] Sarma, JVM and Naresh, G. (2001). Mining taxation around the world: trends and issues.
- [23] New Delhi: National Institute of Public Finance and Policy.
- [24] Otto, JM. (2000). Mining taxation in developing countries. Colorado: Colorado School of Mines.
- [25] Parson, B. (1998). Comparative mining tax regimes: a summary of objectives, types and best practices. Jakarta: Price Water House Coopers.
- [26] Diamond, P. A., & Mirrlees, J. A. (1971). Optimal taxation and public production I: Production efficiency. *The American Economic Review*, 8-27.
- [27] Fjeldstad, O. H., & Moore, M. (2007). Taxation and state-building: Poor countries in a globalized world. Chr. Michelsen Institute.
- [28] Heady, C. (2002, October). Tax policy in developing countries: what can be learned from OECD experience? In seminar "Taxing Perspectives: A Democratic Approach to Public Finance in Developing Countries" Institute of Development Studies, University of Sussex, UK, October (pp. 28-29).
- [29] Mirlees, J., (1971). An Exploration in the Theory of Optimal Income Taxation. *Review of Economic Studies*, 38(114), Pp. 175-208.
- [30] Feldstein, M. (1976). On the theory of tax reform. *Journal of Public Economics*, 6(1), 77-
- [31] Atkinson, A. B., & Stiglitz, J. E. (1972). The structure of indirect taxation and economic efficiency. *Journal of Public Economics*, 1(1), 97-119.
- [32] Mangondo, M. (2006). The economics of gold mining taxation.