

Sector-Level Marginal Effective Tax Rates in Zambia

Understanding investment incentives in the manufacturing, agricultural, tourism, banking & mining sectors



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Acronyms

AETR	Average Effective Tax Rate
CIT	Corporate Income Tax
ETR	Effective Tax Rate
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
IDZ	Industrial Development Zones
IFC	International Finance Corporation
IMF	International Monetary Fund
MCTI	Ministry of Commerce Trade and Industry
METR	Marginal Effective Tax Rate
MFEZ	Multi-Facility Economic Zone
PAYE	Pay as you earn
VAT	Value-Added Tax
WBG	World Bank Group
ZRA	Zambia Revenue Authority

Executive Summary

Foreign investment can be key to supporting growth, particularly in developing countries. Investment can create jobs, provide infrastructure and so stimulate the local economy. As a result, many countries, including Zambia, actively pursue reforms of tax and investment incentives policies with the aim of attracting investment. However, these incentives can be costly and may not add value, other factors such as the quality of infrastructure, the cost of labour and the general business environment can play a part in investment decisions. Similarly, a countries natural resources, climate and geographic location can be critical drivers of decisions to invest.

In Zambia, since the last major investment reforms in 2005, various fiscal and non-fiscal investment incentives have been implemented and targeted at various industrial sectors. The investment incentive reforms have been widespread, ranging from changes to the headline corporate tax rates to reforms in capital allowance provisions. More recently for example, the government introduced preferential taxation of the agriculture sector at 10 percent, as opposed to the standard rate of 35 percent. Capital allowances, such as accelerated depreciation and one-off initial capital deductions have also been reformed: in general, they have been made more generous, offering higher tax savings in capital investments in various sectors.

The extent to which relatively new investment incentives have collectively reduced the tax burden on new investments is unknown. The last study to estimate the effective sectoral tax burden in Zambia was conducted in 2004 by the World Bank. However, that study is quite outdated and may no longer form an effective basis for investment policy debate and reform going forward. This study aims to plug that gap, by estimating the marginal effective tax rates (METRs) for the agricultural, manufacturing, tourism, mining, and financial services sectors in Zambia.

The METR is just a tool, but provides information to the extent Zambia is subsidising, or incentivising investment. This information is critical for policymakers to not only evaluate whether investment policy is effective but could also identify the extent to which investment policy potentially distorts investment allocation across the different economic sectors in Zambia.

The METR measures the proportion of the returns of a marginal investment that is paid out to compensate for the effects of taxation. It is a standardised quantitative measure of the net-impact of tax policies as well as tax provisions and incentives on marginal investments. The higher the METR, the lower is the incentive to invest (the greater the 'loss' to the tax system) and the lower the METR, the higher is the incentive to invest (the lower the 'losses' to the tax system). Where METRs are negative, the tax system is effectively subsidising investment. Tax and growth theory suggest the low METRs attract investment and overtime pay back any immediate reductions in revenue through higher corporate taxes, employment taxes and income tax. However, this assumes that incentives are targeted on strategic industries with long-term growth and employment prospects.

Our study finds that METRs in key sectors in Zambia are relatively low and competitive with other countries in the region, the detailed breakdown of METRs is shown in Table 1 below. METRs across all the sectors are significantly lower than the standard statutory tax rate of 35 percent, thus indicating substantial tax advantages and discounts for new investments in Zambia – suggesting substantial tax advantages for investment in these industries.

However, the range of METRs across sectors is relatively wide and this suggests more of an *ad-hoc* approach to designing incentives, as opposed to a strategic one. This may distort the investment landscape in Zambia – attracting investment into sectors with the lowest METRs. We also note that METRs for the mining sector and the manufacturing sector are negative, indicating that the marginal investments in these sectors are effectively subsidised by the tax system. The negative METRs are largely driven by the combined impact of accelerated depreciation and the capital allowances available for plant and machinery and

industrial building assets which have a relatively higher asset weight for these industries. In addition, the relatively low net indirect taxes on capital inputs in plant and machinery work to reduce the METRs even further. The overall low METRs in Zambia indicate that the current tax incentive regime may be attractive in as far as attracting marginal investments is concerned.

Table 1: METRs on Capital by Sector

Asset	Manufacturing	Agriculture	Tourism	Financial services	Mining
Land	0.9%	0.8%	8.7%	10.1%	2.1%
Buildings	-2.4%	-2.2%	4.1%	6.4%	6.9%
Plant and machinery	-22.2%	8.4%	-14.8%	19.9%	-13.7%
Motor vehicles	-11.8%	-2.9%	3.0%	-2.4%	-8.4%
Inventories	17.5%	4.8%	23.6%	24.6%	15.6%
Overall METR	-6.4%	3.0%	2.0%	8.0%	-7.6%

Sources: Own calculations based on ZRA data

However, the study highlights several constraints and inconsistencies in which the government could seek to rectify:

- Some tax incentives such as preferential statutory tax rates and accelerated depreciation allowances for similar assets are not applied uniformly across sectors. For example, while the agriculture sector has preferential rates of 10 percent, the telecommunications sector faces statutory tax rates as high as 45 percent. Wide variations such as these may induce distortions in investment perceptions and actual patterns.
- Second, the **use of individually negotiated tax incentives appears widespread**, across all the sectors from manufacturing to agriculture and mining. While this approach could tailor incentives based on individual investor circumstances, there are concerns that such practices could fuel corruption in the awarding of tax incentives and ultimately dent investor perceptions.
- Finally, we note that significant administrative delays in processing VAT refunds and duty drawbacks create an unfavourable business and investment climate and may discourage business activity.

Given this, there is need for the government to revisit tax incentives to tweak the system, ensure it is transparent and fair and perhaps most importantly ensure incentives are targeted on the areas of investment that are struggling. Specifically:

1. Incentives are only one element of any investment strategy, and result in forgone revenue. **The overall government investment promotion strategy must be more broad-based**, focussing on improving the overall investment climate, by improving the social and political stability, expanding physical infrastructure such as roads and railways and maintain stability in the macroeconomic environment.
2. Building on this, **the government must focus on expensive tax incentives**, keeping tax incentives at a minimum, particularly in sectors where Zambia has a natural advantage such as agriculture (excellent climate, abundant water and land-locked status ensure access to regional markets) or mining sectors (especially in light of increasing costs in DRC). Offering incentives in sectors where investments would be made regardless of incentives is a waste of government tax revenues, whereas offering incentives in the employment heavy manufacturing industry, which is regionally competitive and Zambia, has few natural advantages which could be key.

3. Tax incentives such as accelerated depreciation or preferential tax rates must be kept largely uniform to avoid causing investment distortions in the economy.
4. The administration of tax incentives by the Zambia development agency must be standardised based on transparent and objective criteria. **The use of individually negotiated tax incentives and benefits must be halted.**
5. The Zambia Revenue Authority must improve value added tax (VAT) refund and duty draw back administration and payment times to ensure timely refunds and financial management by the investors.
6. The government must review the statutory headline tax rate of 35 percent which is among the highest in sub-Saharan African (SSA) region. While the effective burdens are low, the high statutory rates give the impression that the tax environment and policies in Zambia are hostile, relative to Zambian neighbours, such as Botswana or South African whose headline rates are 22 percent and 28 percent, respectively.

1. Introduction

Study Context

This study has been conducted at a time when the Zambian economy is recovering from the devastating effects of the 2015 international commodities market price slump and the El-Nino-induced drought and power shortages. These factors largely contributed to the drop in gross domestic product (GDP) growth, from about nine percent in 2010 to below three percent in 2015, resulting in employment cuts and rising government debts and fiscal imbalances.

However, as the economy continues to register steady recovery in real GDP growth for the third year running since the 2015 economic decline, the government has initiated various policies and programmes to further consolidate recovery and accelerate economic growth. The 2017 ‘Zambia Plus’ Economic Recovery Programme¹ for example aims to strengthen economic recovery by attaining inclusive and sustainable growth.

An important pillar of the ‘Zambia Plus’ programme is the attainment of greater economic stability, economic growth and job creation through the promotion of sustained private sector investment. Tax policy and investment incentives remain important policy tools at the disposal of the Zambian government for promoting investment. Unsurprisingly, various tax policy reforms, such as the removal of various duties in sectors such as in agroprocessing were passed in the 2017 budget to promote investment.

Brief Overview of Tax Reforms in Zambia

Zambia has over the last 10 years actively reformed its tax and investment incentive policies with the aim of attracting investment, reducing unemployment and tackling poverty. Since 2005, various fiscal and non-fiscal investment incentives have been implemented and targeted at various types of capital investments and industrial sectors. The investment incentive reforms have been widespread, ranging from changes to the headline corporate tax rates to changes in capital allowance provisions. More recently for example, the government introduced preferential taxation of the agriculture sector at 10 percent as opposed to the standard rate of 35 percent. Capital allowances such as accelerated depreciation and one-off initial capital deductions have also been reformed, in particular, they have been made more generous, offering higher tax savings in capital investments in various sectors.

Perhaps the most important reform over the period has been the passing of the Zambia Development Act (ZDA Act, 2006)² aimed at consolidating efforts to promote investment in Zambia. With the ZDA, various initiatives, such as the creation of multi-facility economic zones (MFEZ) have been implemented. In addition, certain qualifying investments under the MFEZs enjoy tax incentives such as 0 percent corporate tax rates for prescribed periods. Non-fiscal investment promotion activities such as business registration and the provision of investment guarantees are also undertaken by the ZDA.

Zambia also has various indirect tax exemptions in place. As is well known, indirect taxes, such as customs duties or import VAT increase the unit costs of investment where exemptions are not granted. The net indirect effect of such taxes could easily discourage investment, especially if neighbouring countries offer exemptions on indirect taxes on similar investments or industrial sectors. Although not every capital input is exempt from such indirect taxes, Zambia has in place exemptions for qualifying capital inputs in certain assets and across various industries.

¹This has now been dubbed Zambia’s Economic and Growth Stabilisation Programme (EGSP).

²This is currently being revised.

Despite the fact that various tax incentives and initiatives have been in place for some time, the extent to which the relatively new investment incentives have collectively impacted the tax burden on new investments is unknown. The last study to estimate the effective sectoral tax burden in Zambia was conducted in 2004 by the World Bank. However, that study is now outdated and may not effectively inform current policy debate. Given the above context, this report estimates the METRs for the agricultural, manufacturing, tourism, mining, and financial services sectors in Zambia. Estimating the METRs for the key sectors could help policymakers not only evaluate whether investment policy is effective in promoting investment, but also identify the extent to which investment policy could potentially distort investment allocation across the various assets and economic sectors in Zambia.

It is important to note that while METRs are important in driving investments, the initial decision to invest is largely influenced by broader investor concerns, such as political stability, macroeconomic sustainability, and market size and so on. So, while the decisions to increase the scale of operations or projects would be governed by the METRs, an investor's decision whether to invest in Zambia in the first place would be driven by the prevailing investment climate. It is, therefore, crucial for policymakers to continuously gauge the investment landscape holistically.

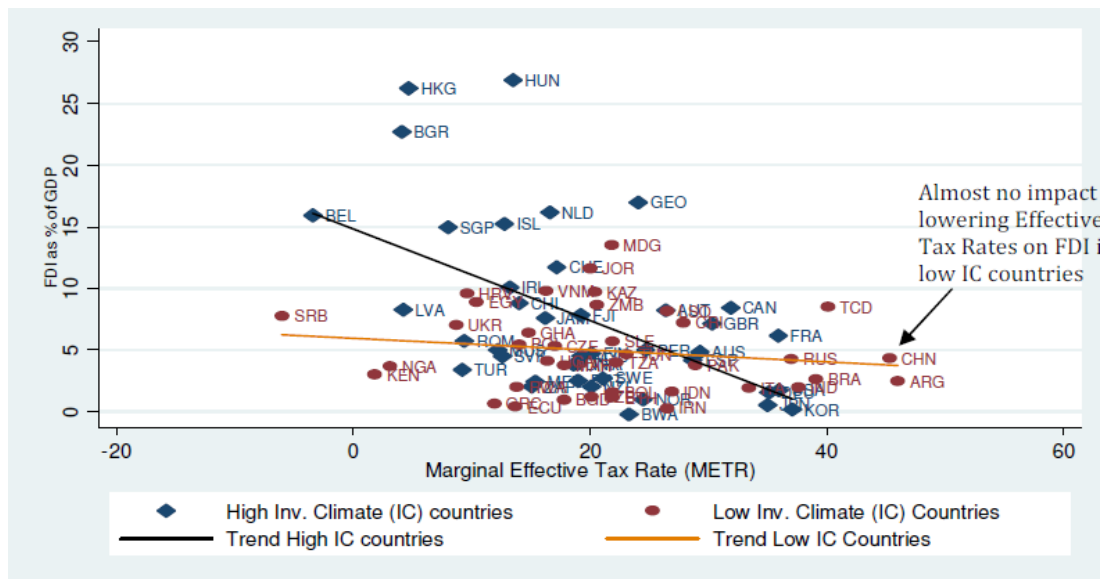
2. Tax Incentives and the Economy

Tax Incentives and Investments

There is very limited empirical evidence on the link between tax incentives and the Zambian economy, in general. However, studies from other developing countries show that the impact of tax incentives on investment inflows is largely insignificant and limited at best. An International Monetary Fund (IMF)-supported cross-country study by Klemm and Van Parys (2011), for instance, finds that while lower CIT rates and longer tax holidays were effective in attracting foreign direct investment (FDI) in Latin America and the Caribbean, those incentives were not effective in Africa. That study further found that none of the tax incentives were effective in boosting gross private fixed capital formation anywhere around the developing world.

Other individual studies find mixed results, however, in general, the balance of evidence summarised in James and Parys (2013) (in a World Bank-supported study) suggests that tax incentives are not effective in improving investment flows. That study, however, found that tax incentives tend to be more effective when the underlying investment climate in a country was good. In fact, the effect of tax incentives was estimated to be eight times more in countries with a good business environment and those with weak investment climates. Figure 1 adopted from James and Parys (2013) illustrates the differences in investment response between weak and strong investment climates (ICs).

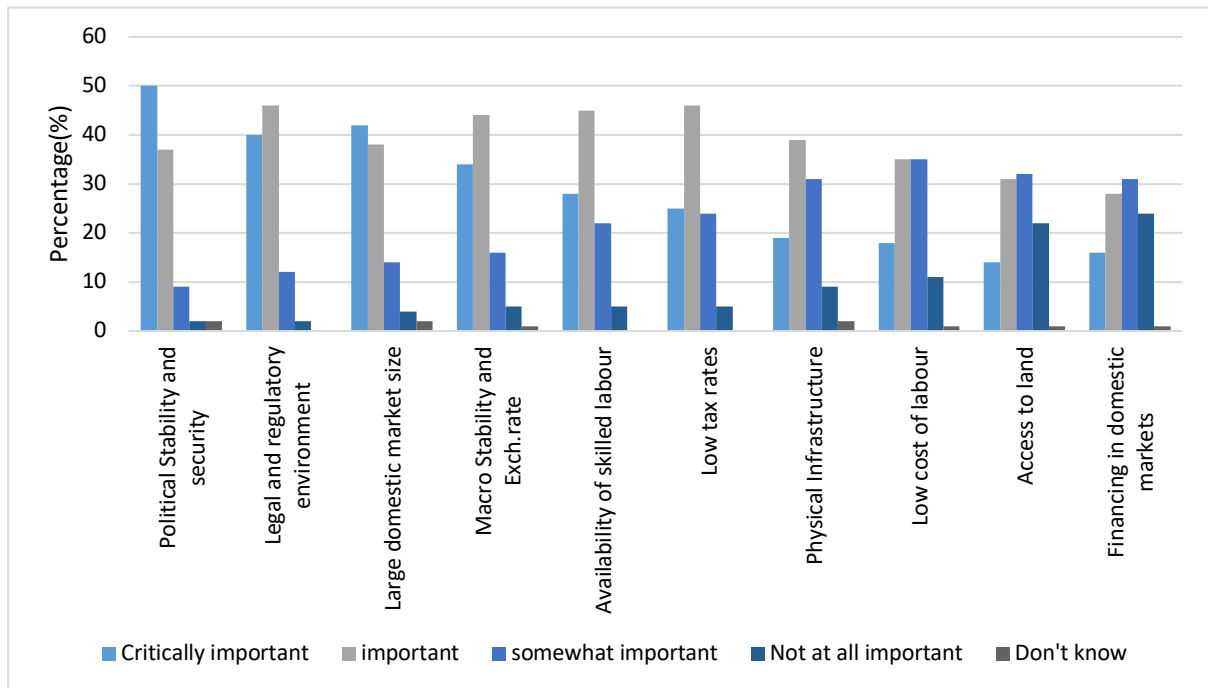
Figure 1: Efficacy of Fiscal Incentives and Investment Climate



As can be seen in Figure 1, countries with low investment climates are associated with lower FDI inflows on average relative to countries with higher investment climates. Further, these countries are largely located in developing regions, such as SSA.

The findings above are supported by the 2017-18 World Bank Global Investment Competitiveness (GIC) report which indicates that investors are primarily driven by attractive investment climates. As can be seen in Figure 2, political and social stability, the strength of the legal and regulatory systems and domestic market size are the top three determinants of investment decisions in developing countries according to the investors. Tax incentives, while among the top 10 factors, comes a distant 7th among the most important factors investors consider in undertaking investment decisions in developing countries.

Figure 2: Drivers of Investment Decisions



Source: Adapted from the World Bank 2017-2018 World Bank Global Investment Competitiveness report

Given the above evidence, it is important that policymakers prioritise the improvement of the investment climate, in particular factors, such as maintaining social and political stability, upholding the rule of law, stabilising the macro-economic fundamentals and ensuring appropriate skills acquisition in the labour force. The tax incentives should, therefore, be seen as a complimentary, rather than the sole or primary policy to attract investments in Zambia.

Tax Incentives and Employment

It is well known that governments around the world use tax policy to encourage job creation and improve working conditions. Given the availability of a youthful labour force and abundance of natural resources, Zambia has significant potential to create employment by directing tax incentive policies in strategic sectors. This section briefly showcases sectors where the government could use tax incentives to maximise the country's employment gains from tax policy.

Table 2: Sector METRs and Employment Potential

Sector	Estimated METRs	Formal	Informal	Total	Formal (%)	Informal (%)	Total (%)
Agriculture	3.0%	106 943	2 757 214	2 864 157	35.4%	93.2%	87.9%
Mining	-7.6%	67 002	15 723	82 725	22.2%	0.5%	2.5%
Manufacturing	-6.4%	76 470	147 211	223 681	25.3%	5.0%	6.9%
Tourism	2.0%	36 866	35 212	72 078	12.2%	1.2%	2.2%
Financial services	8.0%	15 023	2 318	17 341	5.0%	0.1%	0.5%
Totals		302 304	2 957 678	3 259 982	100.0%	100.0%	100.0%

Source: 2014 Zambia labour force survey report (CSO, 2015)

As can be seen in Table 2, the agriculture sector has the largest number of employees in Zambia, accounting for nearly 88 percent of the country's labour force.³ Based on the METRs estimates in this paper, the sector is however not the most prioritised sector in terms of tax incentive provision. Mining and manufacturing are the most subsidised sectors for each addition capital unit invested despite contribution only a fraction of jobs to total employment. So, while it is important to ensure that the manufacturing and mining sectors are viable due to their strategic role in industrialisation and skills development in Zambia, it is also important that government considers the provision of tax incentives in proportion to each sector's employment contribution particularly given the high unemployment levels in Zambia.

³ Among the five sectors under review in this study

3. Comparisons of METRS in Zambia and the Region

This section briefly compares sector METRs in Zambia with selected countries in the region.⁴ The METR estimates for Botswana and Uganda do not account for some features of the tax system such as country-specific asset composition (and therefore are not strictly comparable with the Zambian estimates). Nonetheless, the comparisons give a sense of tax competitiveness for incremental capital investments in Zambia and among Zambia's neighbours. Table 3 shows the METR comparisons.

Table 3: Comparison of Selected METRs for Zambia and Regional Neighbours

	Zambia	South Africa	Botswana	Uganda
Headline statutory tax rate	35%	28%	22%	30%
METR for Agriculture	3.0%	-	-	-
METR for Mining	-7.6%	-1.2%	-	-
METR for Manufacturing	-6.4%	19.2%	8.3%	5.30%
METR for Tourism	2.0%	6.1%	-	-
METR for Financial services	8.0%	-	12.5%	11.90%

Source: World Bank (2015)

As can be seen, Zambia's sector METRs are overall quite competitive, even though as already indicated, the other country estimates are not directly comparable but arguably close. The effective tax environment could be classified as competitive, or at least not discouraging to investment in relation to other countries. The headline tax rate is however quite high. To the extent that the statutory corporate tax rate is the primary indicator of tax competitiveness and incentive policy, the Zambian headline rate policy should be re-visited and possibly lowered to make it competitive.

⁴ Sector level METRs estimates among Zambia's neighbours are quite scanty. The comparison here is driven by data availability.

4. Overview of the Economic Sectors and Tax Policies in Zambia

Sectoral Contribution to GDP

The agricultural, mining, manufacturing, tourism and financial services sectors are strategic sectors in Zambia's economy. The sectors not only contribute significantly to GDP and to socio-economic development, but also present opportunities for future growth and diversification of the economy.

Table 4: Sectoral Contribution to GDP (% of GDP)

	1998	2003	2011	2015
Agriculture	18.7	20.8	10.2	5.3
Mining and quarrying	6.3	2.8	16.3	13.4
Manufacturing	11.5	10.9	8.0	7.9
Tourism	2.2	2.5	1.6	1.8
Financial services	9.1	9.2	10.1	11.6

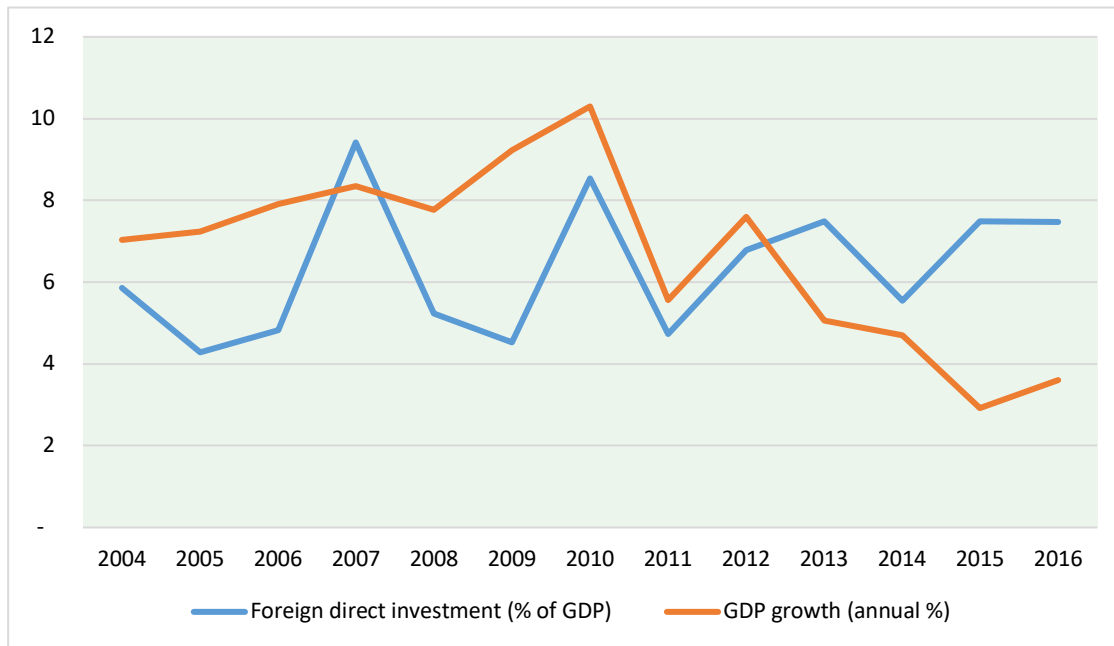
Source: World Bank (2005); AfDB (2018)

The share of mining and financial services contribution to GDP has steadily increased over the last 20 years. This is primarily due to new large investments in the mining sector, such as the Lumwana and Kansanshi mine projects and the coming on board of new banks such as FNB and Access Bank. Agriculture has seen the largest drop in sectoral contributions to GDP, presumably due to various factors, such as droughts in the recent past. Tourism has also seen a decline in GDP contribution most likely due to rising competition from other regional markets such as Zimbabwe, South African and Kenya. While various other factors could potentially drive sectoral contributions to GDP, tax policy is certainly an important internal factor that could influence investment growth especially in competitive markets such as Zambia.

Figure 4 shows trends in GDP and FDI. The figure highlights that FDI inflows as a percentage of GDP are quite considerable and an important source of economic growth in Zambia⁵. While this report does not directly assess any statistical relationships between tax incentives on one hand, and FDI or GDP growth on the other, tax policy incentives still remain an important internal factor for consideration among local and international investors planning to undertake capital investments. In this report, we assess the marginal effect of tax policies on incremental capital investments in the key sectors of the Zambian economy.

⁵ Over the period 2004-2016, FDI inflows are a percentage of GDP averaged six percent in Zambia. This is higher than the SSA average of three percent (and four percent for Botswana, two percent for Zimbabwe, four percent for Malawi and one percent for South Africa) over the same period.

Figure 3: GDP and FDI Growth in Zambia, 2004-2016



Source: World Bank WDI database (2018)

Tax Policy in Zambia

Tax policy in Zambia is set by the Ministry of Finance and administered primarily by the Zambia Revenue Authority. Tax policy is governed by various acts including; The Income Tax Act, Zambia Development Agency Act, VAT Act and the Customs and Excise Act. Various other regulations, guidelines, and international obligations and treaties further inform and define the tax legal framework.

This report focusses on taxation of capital inputs, and thus mostly considers the impacts of corporate taxation (rates and capital incentives) and indirect taxes, such as VAT and customs duties on the effective tax burden on capital.

5. Marginal Effective Tax Rates

Overview of the METRs

The METR basically measures the proportion of returns of a marginal investment that is paid out to compensate for the effects of taxation. It is a standardised measure of the net-impact of tax policies such as tax rates, provisions and incentives on marginal investments. The METR accounts for the impact of tax policies, such as the corporate tax, VAT on capital inputs or customs duties on capital investment costs that work to increase the marginal cost of investment. On the other hand, the METR also incorporates features of the tax system, such as accelerated depreciation, interest deductibility of debt financing, capital allowances and so on that work to reduce the marginal cost of investment. The overall aim of calculating the METRs is therefore to show, in a transparent and intuitive manner, the net impact of a country's tax policies and investment incentives. The analysis of METRs would thus help policymakers understand the effective impact of tax policies on marginal capital investments.

A relatively high marginal METR for a given investment may discourage investment in a particular project as a relatively high proportion of the returns or profits of the marginal investment would be given up in taxes. Negative METRs, on the other hand, indicate that the marginal investments are essentially subsidised, usually by such tax provisions as generous accelerated depreciation or investment allowances which work to encourage investments. An METR with a value of zero indicates neutrality: the net impact of a given tax system is to not tax the returns of a marginal investment.

Calculation of the METRs

Estimating the METR for a given investment requires a detailed description of the investment under consideration. The investment or asset is often fully defined by the rates of depreciation, type of financing, time path of returns, the macroeconomic environment (such as inflation and interest rates) as well as the tax policies that impact the investment such as tax depreciation rates, investment allowances, special exemptions, tax discounts, interest deductions and so on. Given such detail and under the behavioural assumption of profit maximisation and competitive markets, METRs can then be computed.

This report applies the King and Fullerton (1984) neoclassical investment model to calculate METRs for various assets and industries in Zambia. To establish the basic model, consider a simple scenario where a firm wishes to make a capital investment in Zambia under the assumption of no corporate taxation. The firm will continue to invest, for example in machinery equipment for as long as the equipment can generate a rate of return that is greater than or equal to a hurdle rate of return – usually taken as the minimum rate of return an investor would realise in alternative investment markets.

Typically, the hurdle rate of return, denoted R , is the real rate of return (net of depreciation) that investors would earn in the next best alternative investments. From neoclassical investment theory, a profit maximising firm will invest in capital inputs until the point where the rate of return on the marginal unit (the marginal revenue, MR) is equal to the real opportunity cost of capital, which is the real interest rate plus the value of depreciation of capital ($R + \delta$). This term, ($R + \delta$), is also simply referred to as the cost of capital. At the equilibrium point of investment therefore, marginal revenue will therefore equal the cost of capital as below:

$$MR = (R + \delta)$$

Introducing corporate taxes and/or tax incentives alters the equilibrium condition above, thereby affecting the optimal investment levels. The changes in investment arise as a direct response to changes in the effective cost of capital that the tax policies impose. Various components of the tax system affect the above equilibrium condition differently. Consider the effect of accelerated depreciation allowances or a reduction

in the real interest rates on the marginal cost of an investment. These changes directly reduce the effective purchase price and financing costs of capital by reducing the value of cost of capital; thereby encouraging more investment. Imposing a tax on capital returns, such as a corporate tax on the other hand, then requires that the firm realises a higher rate of return or profits on the marginal investment, such that after deducting corporate taxes, the net realised returns would be sufficient to cover the real cost of capital. The effect of imposing a corporate tax, holding all else constant, is therefore to raise the effective cost of capital and thus discourage investment.

Associated with the concept of cost of capital is the marginal effective tax rate, which is a measure of the marginal returns of investment given up to compensate for taxation. The METR can be calculated as:

$$\text{METR} = \frac{R^g - R}{R^g}$$

Where R^g and R are the gross of tax policy cost of capital and real hurdle rate of capital, respectively. Appendix I presents the detailed METR model used in this report.

Limitations of the METRs Methodology

There are some limitations regarding the METR model in general and the model adopted in this report. Firstly, only the formal and widely applied and significant tax rules have been modelled. Individually negotiated formal tax elements that do not affect typical investments in a particular sector are excluded. Factors, such as tax evasion or the impact of the informal economy on marginal investments are not considered. Furthermore, payroll and individual taxes are excluded, as we focus exclusively on the impact of taxes on fixed capital, holding constant taxes on other inputs.

Table 5 summarises the main tax rates and parameters that are used in estimating the METRs.

Table 5: The Main Taxes and Parameters Used in the METR Model

Variable	Rate(s)	Comments
Corporate income tax rates	10%-40%	The corporate income tax is variable in Zambia. The standard rate is 35 percent. However, preferential rates are available for various sectors and incentive schemes as follows:; Agricultural sector (10 percent), Large scale mining sector (30 percent), Fertiliser manufacturers (15 percent).
Accelerated depreciation allowances	Various	Preferential rates could range from 50 percent to 100 percent for plant and machinery equipment in certain sectors.
VAT rate	16%	VAT adds to capital input costs to the extent that VAT on capital inputs is non-claimable. Most capital inputs are however VAT-exempt.
Customs duties	0%-25%	Customs duties and excise taxes impose a cost on capital inputs thereby increasing the METRs on capital.
Capital Gains Tax (CGT)	-	Capital gains in Zambia are not subject to taxation.
Inflation rate	6.57%	Average CPI interest rate for 2017. Obtained from the Bank of Zambia website.

Interest rates on debt	26.76%	Nominal interest rate based on central bank reported commercial bank lending rates.
Interest rates on equity	22.08%	Estimates based on the 10-year government bond rates. Average rates obtained from the Bank of Zambia website.
Debt-Asset Ratio		Empirically determined from the consolidated sector level balance sheets obtained from the Zambia Revenue Authority.

Source: Tax Laws; Bank of Zambia, Zambia Revenue Authority

6. Detailed Sectoral METR Analysis

6.1 Manufacturing

Overview

The manufacturing sector in the economy has somewhat declined over the last 15 years. In the year 2000, the sector contributed about 10.2 percent of Zambia’s GDP, but this has since declined to only 7.9 percent of GDP in 2015. In spite of this, the key stakeholders have described the general investment and business climate as favourable. Specifically, the ongoing road development projects over the years have had a positive development for the manufacturing sector as they have allowed local manufactures easier access to export markets in the region.

In addition, local producers consider the five percent surtax on imported goods that are already produced in Zambia as a positive move that has protected Zambian manufacturing. However, the stakeholders are concerned about the business impact of the delays in processing VAT and duty drawback refunds at the ZRA. In addition, some industry players view the proposed scrapping of the five year tax holidays which were offered by the ZDA as a negative development. Furthermore, the industry noted a lack of sufficient tax incentives for medium scale firms in the sector.

Taxes and Incentives in Manufacturing

The following are the key tax parameters and incentives in the manufacturing sector.

Corporate tax rate	<ul style="list-style-type: none"> The manufacturing sector faces a standard corporate income tax of 35 percent. The manufacture of organic and chemical fertilisers is however only taxed at 15 percent while new listings on the Lusaka stock exchange attract a two percent discount.
Capital allowances	<ul style="list-style-type: none"> Implements, machinery and plant used in manufacturing qualify for 50 percent annual wear and tear allowances. Industrial buildings qualify for a five percent wear and tear allowance. Industrial buildings further qualify for once off initial and investment allowances of 10 percent respectively.
Value Added Tax	<ul style="list-style-type: none"> VAT is charged at the standard rate of 16 percent. VAT registered companies could claim input VAT on qualifying capital purchases. VAT refunds are generally not available to VAT exempt business such as producers of exempt goods and services, small businesses etc.
Import duties and other incentives	<ul style="list-style-type: none"> Import duties are generally charged at rates between 5 and 15 percent respectively.

	<ul style="list-style-type: none"> • Most capital investments are exempt from import duties. • The sector also benefits from a recently introduced surtax of five percent for imports of goods already produced and available in Zambia.
MFEZ general incentives	<p>Under the ZDA act, investors investing not less than US\$0.5mn in an industrial park, priority sector or other designated areas and sectors may qualify for the following incentives.</p> <ul style="list-style-type: none"> • Zero percent tax rate on dividends for five years from year of first declaration of dividends. • Zero percent tax on profits for five years from the first year of operation for manufacturing projects in a rural area, MFEZ and Industrial Park. • Zero percent import duty rate on capital goods, machinery including specialised motor vehicles for five years. <p>In the 2018 fiscal year however, the five-year tax holiday measures have been discontinued and would be replaced with accelerated capital allowance deductions in priority areas.</p>

METRs Analysis for Manufacturing

The weighted average METRs for manufacturing is negative and stands at about -6.4 percent. The asset-specific METRs range from -22 percent for plant and machinery to 17.47 percent for inventories respectively. Table 5 shows the rest of METR and key parameters.

Table 6: METRS for the Manufacturing Sector

Asset	Asset Weight	Economic Depreciation rate (δ)	Tax Depreciation (yrs)	Present value of depreciation allowances	Investment allowances	METR
Land	3.18%	0%	-	-	-	0.86%
Buildings	13.89%	10%	20	0.32	20%	-2.45%
Plant and machinery	48.86%	19%	2	0.92	-	-22.22%
Motor vehicles	4.16%	26%	4	0.79	-	-11.82%
Inventories	29.91%	0%	-	-	-	17.47%
Total	100.00%					-6.44%

The overall negative METR for manufacturing is largely driven by the tax incentives provided for machinery and equipment assets in the sector. In particular, machinery attracts a generous 50 percent tax depreciation (depreciated over two rather than four years) which results in significant present value accumulated depreciation deductions per kwacha of investment. In addition, the first year investment allowance of 20 percent plays a major role in reducing the METR for the sector.

A relatively high debt-to-asset ratio of 0.66 turns out to be an important determinant of METRs for the sector, and this is due to the provision for interest deductibility of debt capital for all assets. Deductibility works to reduce the marginal cost of investment in the manufacturing sector. For example, calculating METRS with a debt-asset ratio of 0.5, increases the overall METR to 3.11 percent and shifts the investment climate in the manufacturing sector from one that is subsidised to one that could pay positive marginal taxes. Inventories have a relatively higher METRS than all the other assets, and that is as expected especially with the First-in, First-out (FIFO) valuation method used in Zambia where inflation has an important bearing on costs.

Recommendations

1. While the overall METRs for manufacturing is quite generous and relatively competitive, the headline corporate tax rate in Zambia are generally very high compared to Zambia's counterparts such as Botswana, South Africa, Zimbabwe and Mozambique where the headline rates are lower than Zambia's 35 percent standard corporate tax rate. Given that the headline rates act as a signal to the attractiveness of investments and investment policy, Zambia should consider reviewing and lowering its headline corporate tax rates to signal competitiveness.
2. Government must consider designing and targeting some investment incentive to medium-scale enterprises which largely do not benefit from the ZDA incentives due to the very high investment incentive thresholds.
3. The VAT and duty drawback refunds must be made timely to help support manufacturing firms cash flows and financial planning.

6.2 Agriculture

Overview

Agriculture in Zambia employs more than 50 percent of the labour force and, therefore, has huge potential to improve the socio-economic wellbeing of the masses in Zambia. The good climate, soils and abundant rain and water resources as well as relatively cheap land are particularly strong incentives for investment in Agriculture in Zambia. However, only 14 percent of the vast 43 million hectares of the medium to high potential agricultural land is utilised. In addition, the sector has very little value addition and low rainfall in the last few years. Consequently, despite the huge economic potential of the sector, contribution to GDP declined from 10.2 percent in 2011 to only 5.3 percent in 2015.

To accelerate economic growth and diversification and to reduce poverty, the Government has put in place plans to increase financing for mechanisation and irrigation, as well as plans to increase the amount of land under cultivation by creating more farming blocks in 2018.

Discussions with stakeholders indicated that the single most important impediment to the agricultural sector was policy inconsistency. This issue is why most capital-intensive agricultural investments are under distress and as such there are limited numbers of large commercial farming entities in the sector.

Other concerns raised are poor coordination between agriculture and the other sectors. For example, the Ministry of Energy has a blending policy which states that in order for one to invest in a sugarcane plant for the purposes of producing ethanol, permission from the one requires permission from the government. Similarly, in order to irrigate 50 hectares of land, an environmental impact assessment is required which can cost up to US\$150,000. Investment in various agricultural subsectors is often, therefore, hindered by the bureaucracy and environmental requirements. Conflicting legislation and various changes in policy bring about uncertainty thereby leading to slow growth in the sector.

Taxes and Incentives in Agriculture

The following are the key tax parameters and incentives in the agriculture sector.

Corporate tax rate	<ul style="list-style-type: none"> ○ Incomes from farming and agro-processing activities are taxed at the reduced rate of 10 percent. This is a significant discount given that the standard corporate income tax rate is 35 percent.
Capital allowances	<p>The Zambian government increased investment allowance in the farming and agro-processing sectors to encourage capital investments in the sector. The key measures include;</p> <ul style="list-style-type: none"> ○ Implements, machinery and plant used in farming and agro-processing qualify for 100 percent capital deductions. ○ Farm improvements also attract a 100 percent capital deduction allowance. ○ Buildings classified as industrial buildings are depreciable at 5%. Commercial buildings are depreciable at two percent.

Value Added Tax	<ul style="list-style-type: none"> ○ VAT is charged at the standard rate of 16 percent. ○ Most farming businesses are VAT exempt and therefore do not eligible for VAT refunds on capital inputs. ○ For zero-rated items, VAT in inputs may be claimed back for certain allowed inputs.
Import duties	<ul style="list-style-type: none"> ○ Custom duties include 0 percent, five percent duty and deferred payments on VAT for certain raw materials and capital inputs.

METRs Analysis for Agriculture

The overall METR for agriculture is only 2.65 percent. The range of the asset specific METRs is quite narrow, going from about -3 percent for motor vehicles to about 8 percent for machinery and equipment capital. The asset and overall METRs are largely driven by the fact that the low preferential corporate tax rates of 10 percent yield relatively smaller tax deductions or tax savings per kwacha investment in depreciable assets (compared to what would be realised if the 35 percent standard tax rate applied in other sectors). Consequently, the deductions in depreciable assets are modest. For the non-depreciable assets like land and inventory, the low corporate tax rate and zero assumption indirect taxes on marginal investments reduces the METRS in those assets. Table 7 presents the main METR results.

Table 7: METRS for the Agriculture Sector

Asset	Asset Weight	Economic Depreciation rate (δ)	Tax Depreciation (yrs)	Present value of depreciation allowances	Additional Investment allowances	METR
Land	32.2%	-	-	-	-	0.8%
Buildings	14.6%	0.02	20	0.27	10%	-2.2%
Plant and machinery	22.6%	0.16	1	1.00	-	8.4%
Motor vehicles	4.3%	0.26	4	0.76	-	-2.9%
Inventories	26.2%	-	-	-	-	4.8%
Total	100.0%					3.0%

The overall METRs are quite competitive. The low METR estimate for Zambia is actually comparable to South Africa's agriculture METR (of about 0.4 percent).

Recommendations

1. Given the economic significance of the agricultural sector and the high contribution to employment in Zambia, the government must maintain the preferential rate of 10 percent corporate tax to help accelerate agricultural investment and productivity and facilitate economic diversification.

2. Government must reduce the administrative bottleneck associated with obtaining environmental assessments and streamlines the administrative processes associated with obtaining large scale agricultural licences.
3. Government must set up inter-ministerial committees which meet regularly to harmonise programmes and policies aimed at increasing investment in agriculture.

6.3 Tourism

Overview

The Zambian government perceives the tourism sector as key to economic diversification. The government is committed to making Zambia among the top five tourist destinations in Africa by 2030 and has embarked on various initiatives such as development of tourism infrastructure and tourism awareness campaigns. Though the sector has potential for growth, various impediments such as limited tourism, product range and the perceived high costs of living in Zambia need to be addressed.

Taxes and Incentives in the Tourism Sector

The following are the key tax parameters and incentives in the tourism sector.

Corporate tax rate	<ul style="list-style-type: none"> ○ The tourism sector is generally taxed at the standard rate of 35 percent. ○ However, specific agreements exist, such as the reduced rate of 15 percent for foreign earnings of Sun International.
Capital allowances	<ul style="list-style-type: none"> ○ Implements, machinery and plant in the tourism sector are depreciable at an accelerated rate of 50 percent ○ Hotel buildings (classified as industrial buildings) are depreciable at 5 percent and enjoy a further 10 percent investment allowance and an additional 10 percent initial investment deduction.
Value Added Tax	<ul style="list-style-type: none"> ○ Zero rating of VAT on tour packages throughout Zambia and for services provided to foreign tourists outside the tour packages. ○ VAT refunds to non-resident tourists and visitors for selected goods. ○ No import VAT on all goods temporarily imported into the country by foreign tourists.
Import duties	<ul style="list-style-type: none"> ○ Removal of the 5 percent customs duty on helicopters and micro-lights for use in the tourism sector.

METRs Analysis in the Tourism Sector

The overall METR in the tourism sector stands at only two percent. This is quite competitive in comparison with other tourist destinations such as South Africa (METR of 6.1 percent). Table 8 shows the METRs in the sector.

Table 8: METRS for the Tourism Sector

Asset	Asset Weight	Economic Depreciation rate (δ)	Tax Depreciation (yrs)	Present value of depreciation allowances	Additional investment allowances	METR
Land	4.4%	-	-	-	-	8.7%
Buildings	62.0%	6%	20.00	0.31	10%	4.1%
Plant and machinery	15.2%	16%	2.00	0.92	-	-14.8%
Motor vehicles	14.7%	25%	5.00	0.73	-	3.0%
Inventories	3.7%	-	-	-	-	23.6%
Total	100.0%					2.0%

As expected, buildings (hotels, lodges, conference facilities, etc.) comprise the largest asset category in the sector. Plant and machinery are the second largest category. With relatively generous first year investment allowances 10 percent as well as a 5 percent tax depreciation deduction, buildings have a low METR. The 50 percent generous depreciation of plant and machinery equipment (where the economic depreciation rate is roughly 6 percent) further lowers the sectors METR rate. The METRs on inventories and land are relatively high, but their impact on overall METR is minimal due to their relatively negligible weight in the sector asset portfolio.

Recommendations

1. Corporate tax rates in the sector must be harmonised to enhance competitiveness and create a level playing field for all investors. At present, some tourism sector players face different corporate tax rates.
2. Government must work to keep inflation rates in check. Rising and volatile inflation rates such as those seen in 2015 and 2016 reduce local tourist visits and revenues given that tourist visits are particularly sensitive to cost perceptions.
3. Government must prioritise timely completion of infrastructure projects such as the roads and airports to make the sector competitive in comparison with other neighbouring countries such as Botswana and South Africa.

6.4 Financial Services

Overview

The financial services sector in Zambia comprises 19 registered commercial banks, 24 registered life and general insurance providers, 242 registered pension schemes, and 36 microfinance institutions. The financial services sector has remained a significant contributor to GDP over the years. However, due to challenges such as high lending rates, reduced lending and tightening liquidity sectoral contribution declined from 15.1 percent in 2014 to 12.1 percent in 2015.

According to stakeholders, however, the financial sector has seen six commercial banks emerge on the Zambian market in the last ten years indicative of increased investor confidence in the sector. Interviews revealed that the access to the Zambian market and a conducive business environment were the two most important reasons investors in the financial sector choose Zambia as an investment destination.

One of the concerns highlighted, however, was that the tax regime was negatively affecting the financial sector, as firstly, the amount of tax imposed on citizens has direct effects on the amount of money people can save thereby affecting the level of engagement with financial institutions. And similarly, the corporate tax rate of 35 percent which is one of the highest in the southern African region (South Africa 28 percent, Botswana 22 percent, Zimbabwe 25 percent, Angola 30 percent) makes the cost of doing business in Zambia high with implications on their corporate clients.

Taxes and Incentives in the Financial Services Sector

Corporate tax rate	<ul style="list-style-type: none"> ○ Banks and other financial services sector businesses generally face a corporate income tax rate of 35 percent. ○ Taxes on interest and dividend income stand at 15 percent.
Capital allowances	<p>Financial services players are subject to the standard capital deductions available in Zambia</p> <ul style="list-style-type: none"> ○ Implements, machinery and plant used in the banking and financial services sector are depreciable at the rate of 25 percent on a straight line basis. ○ Buildings in the banking sector would typically be classified as commercial buildings and would be depreciated at 2 percent per year. ○ Commercial vehicles are depreciable at 25 percent while non-commercial vehicles are allowed a 20 percent depreciation deduction.
Value Added Tax	<ul style="list-style-type: none"> ○ The key business operations of the financial services sector, such as provision of account services, loans and charging of interest are generally VAT exempt.
Customs duties	<ul style="list-style-type: none"> ○ In general, customs and import duties are not a significant input cost factor for the

	financial sector, primarily due to the nature of the business activities in the sector. However, customs exposure would generally be around 5 percent to 15 percent for some office equipment.
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METR Analysis for the Financial Services Sector

The METR for the financial services sector stands at 8 percent - relatively higher than the sector METRs for agriculture, manufacturing and tourism but not alarming in comparison with prevailing METR rates in neighbouring countries.

Table 8 shows the METRs by sector for the financial services sector.

Table 9: METRS for the Financial Services Sector

Asset	Asset Weight	Economic Depreciation rate (δ)	Tax Depreciation (yrs)	Present value of depreciation allowances	Additional investment allowances	METR
Land	10%	-	-	-	-	10%
Buildings	37%	6%	20.00	0.31	10%	6%
Plant and machinery	19%	19%	4.00	0.79	-	20%
Motor vehicles	28%	25%	4.00	0.79	-	-2%
Inventories	6%	-	-	-	-	25%
Total	100%					8%

The relatively higher overall METR for financial services is driven by the fact that the tax code provides less generous depreciation deductions for plant and machinery assets in the sector. In addition, as most services are VAT exempt, the financial sector is unable to recover any VAT on input resulting in higher purchase costs of capital and therefore higher METRS. In this report, we estimate that the unclaimed indirect taxes such as VAT and duties potentially raised costs by 15 percent. Leasing services are however subject to VAT, and therefore, VAT could be claimed on inputs.

Recommendations

1. Government needs to re-visit the application of VAT in the banking sector, to make VAT inputs claimable or consider any relief to help achieve cost efficiency in the banking sector.
2. To increase growth in the leasing market, government must re-visit the VAT exempt status of some agricultural producers who are the major clients of the leasing sub-sector. The VAT exempt status of most agricultural firms acts as a constraint to acquiring leasing capital finances, as the VAT on leasing services cannot be claimed back and hence presents an additional capital cost.

6.5 Mining Sector – Large-scale Copper Mining

Overview

Zambia is among the largest copper producer in Africa, with production estimated at 850,000 metric tonnes in 2016. The mining sector has historically been Zambia’s main economic activity, contributing about 70 percent of Zambia’s foreign exchange earnings on average per year. The mining sector’s contribution to GDP stood at 13.4 percent in 2015. Despite the significance of mining to Zambia’s economy, the sector is faced with various challenges such as uncertainty in mine tax policies, unstable power supplies and the high indirect costs imposed by policies such as the national health insurance, skills development levy and so on considering that mining comprises a large proportion of skilled workers in Zambia. Other concerns raised by the mine sector stakeholders are the need to revise the property transfer tax system in the mine sector to make it more affordable for rights transfers and the need to revert to the 100 percent capital allowances on all capital expenditures incurred in the sector.

Taxes and Incentives in Mining

A key feature of the Zambian mining sector is that tax concessions are negotiated individually between the mining companies and the government. This presents a challenge in summarising the main tax features in Zambia as a whole. For purposes of estimating the METRs, we consider a simplified general case of a large-scale copper mining investment where we assume away mineral royalties, property transfer taxes and various other applicable taxes for simplicity.⁶ The METRS for mining in this report are therefore indicative only. Below are some of the main tax features of the tax system in that sub-sector.

Corporate tax rate	<ul style="list-style-type: none"> ○ Mining companies holding a large-scale mining license carrying on the mining of base metals are taxed at 30 percent. Other mining companies are taxed at 35 percent.
Mineral royalty rate	<ul style="list-style-type: none"> ○ Mineral royalty rates range between five percent and six percent.
Capital allowances	<ul style="list-style-type: none"> ○ 25 percent capital deductions for Implements, machinery and plant used in mining. ○ Qualifying mine development costs are expensed immediately.
Value Added Tax, Customs and Excise duties	<ul style="list-style-type: none"> ○ Mining companies are exempt from customs, excise and VAT duties in respect of selected machinery and equipment required used in exploration or mining activities.

METR Analysis for Mining Operations

The mining sector has an overall METR rate of -7.6 percent, indicating overall investment subsidisation for the sector, particularly driven by the capital allowance deductions that accrue due to the relatively large

⁶Mineral royalties for example require that estimates of the mineral quantities mined and accurate LME prices be obtained. Such estimates are certainly mine and mineral or metal specific and were not available at the time of writing this report.

weight of plant and machinery and mining vehicle assets in mine assets. The exemption of duty and import VAT on mining capital equipment also works to reduce marginal costs of capital in mining.

The METRs below only incorporate some of the key parameters applicable in the mining operations sector for a large-scale mining.

Table 10: METRS for the Mining Sector – Large-scale Mining Operations

Asset	Asset Weight	Economic Depreciation rate (δ)	Tax Depreciation (yrs)	Present value of depreciation allowances	Additional investment allowances	METR
Land	2.7%	-	-	-	-	2.1%
Buildings	6.9%	16.9%	20	0.30	20%	6.9%
Plant and machinery	72.2%	18.6%	4	0.79	-	-13.7%
Motor vehicles	4.3%	26.7%	4	0.79	-	-8.4%
Inventories	13.9%	-	-	-	-	15.6%
Total	100.0%					-7.6%

Recommendations

1. Government must seek to make the mining tax policy and investment environment predictable. Minimising the levels of tax incentive and tax loopholes in such a lucrative and non-competitive sector such as the mining industry would help raise revenues without necessarily losing mine investment.
2. Government must minimise the provision of special incentives to resource-rich sectors such as mining which face very little competition and where investment decisions are largely driven by profitability.
3. Government must resolve the VAT refund impasse between the ZRA and mines and ensure regular and timely refunds to qualifying tax refunds to the sector.
4. Property transfer tax on mining licences based on exploration expenditure should be revised to only be based upon probable and proven reserves.

7. Analysis

In general, relatively low positive METRs (in comparison to the statutory rate) encourage investors to increase investment levels. This is because low METRs imply a low burden on the profits from a marginal capital investment. From this perspective, low METRs encourage investments, all else being equal. Low METRs also imply that governments are likely to increase tax revenues as more investments and taxable profits are generated by the tax incentive system. METRs could also be negative in which case investments are effectively subsidised by the tax system.

In general, this causes a decrease in tax revenues from the marginal capital projects. However, if strategically targeted to high-linkage areas with potential to stimulate growth in other taxable economic activities, the negative METRs may stimulate positive tax revenue in the long run even though revenues may decline in the short term.

A careful balance, therefore, needs to be struck between the use of taxes and tax incentives with regard to investment promotion. An excessively high tax rate environment with no incentives would yield the highest tax revenues per unit of marginal investment, but the net effect would be significant reduction in overall tax revenues as there would be very few capital investments in an economy. An excessively generous tax system on the other hand would, while attracting and increasing investment due to the very low tax per capital project, yield very little to national tax revenue due to the high tax expenditures. These two extremes are certainly undesirable from a tax revenue perspective. A healthy balance between taxes and incentives, such as one with a low positive METR would help improve both the levels of investment and overall tax revenues.

Table 11 presents summary estimates of the METRs by capital asset and sector.

Table 11: METRs on Capital by Sector

Asset	Manufacturing	Agriculture	Tourism	Financial services	Mining
Land	0.9%	0.8%	8.7%	10.1%	2.1%
Buildings	-2.4%	-2.2%	4.1%	6.4%	6.9%
Plant and machinery	-22.2%	8.4%	-14.8%	19.9%	-13.7%
Motor vehicles	-11.8%	-2.9%	3.0%	-2.4%	-8.4%
Inventories	17.5%	4.8%	23.6%	24.6%	15.6%
Overall METR	-6.4%	3.0%	2.0%	8.0%	-7.6%

Sources: Own calculations based on ZRA data; World Bank (2004) Zambia METR study.

The range and distribution of the METRs in the table is overall reasonable, in comparison to METR estimates from other African countries for which recent studies are available as well as past METR estimates for Zambia. Below are the main METR findings:

- Zambia's investment tax policy is competitive, especially in comparison with past estimates and METR estimates from other countries in the region. Overall, we find that marginal investments in Zambia significantly benefit from the various tax provisions available. This is confirmed by the fact that METRs across all the sectors are significantly lower than the standard statutory tax rate of 35 percent, thus indicating substantial tax advantages and discounts for new investments in Zambia.
- The range of the METR estimates across the sectors is somewhat relatively wide, in effect due to the differential impact of the non-uniform application of tax rates and incentives such as accelerated depreciation and capital deductions on sectoral METRs. These differences in METRs

could potentially distort and discourage investments into particular sectors perceived as less tax advantaged.

- **The manufacturing and mining sectors have the lowest METRS at -6.4 percent and -7.6 percent respectively.** The METRS are in fact negative, indicating that the marginal investments in these sectors are effectively *subsidized by the tax system*. The negative METRS are largely driven by the combined impact of accelerated depreciation and the capital allowances available for plant and machinery and *industrial building assets which have a relatively higher asset weight for these industries*. In addition, the relatively low net indirect taxes on capital inputs in plant and machinery works to reduce the METRS even further.
- **The METRS for agriculture and tourism are positive but very low at 3 percent and 2 percent respectively.** The discounted statutory tax rates of 10 percent in addition to the 100 percent expensing of plant and machinery works to keep the METRS quite low in the agriculture sector. The METR for tourism is also quite low owing to the generous 2 year accelerated depreciation for plant and machinery assets used in the sector. In addition, the once off capital allowances and mildly accelerated depreciation available for building assets in the sector contribute to the low METRS especially given the high weight of buildings in tourism assets.
- **The METR in the financial services at 8 percent is relatively reasonable and regionally competitive.** The assumed higher implicit indirect taxes on capital inputs, due to the non-exemption of indirect taxes on capital input raises the METRS for the sector slightly higher. The relatively low weight for inventory in the asset portfolio for the banking sector works to reduce exposure to higher METRS.

Overall, the METRS in Zambia are quite low, certainly pro-growth and very competitive, in as far as attracting marginal investments is concerned. However, various cross cutting key constraints have been noted.

- Some tax incentives such as preferential statutory tax rates and accelerated depreciation allowances for similar assets are not applied uniformly across sectors. For example while the agriculture sector has preferential rates of 10 percent, the telecommunications sector faces statutory tax rates as high as 45 percent. Wide variations such as these may induce distortions in investment perceptions and actual patterns.
- Second, the use of individually negotiated tax incentives appears widespread, across all the sectors from manufacturing to agriculture and mining. While this approach could tailor incentives based on individual investor circumstances, there are concerns that such practices could fuel corruption in the awarding of tax incentives and ultimately dent investor perceptions.
- Finally, we note that significant administrative delays in processing VAT refunds and duty drawbacks create an unfavourable business and investment climate and may discourage business activity.

Recommendations

7. The overall government investment promotion strategy must be broad based, focussing on improving the overall investment climate by improving the social and political stability, expanding physical infrastructure such as roads and railways and maintain stability in the macroeconomic environment.
8. Government must keep tax incentives at the minimum particularly in sectors where Zambia has a natural advantage such as agriculture (excellent climate, abundant water and land-locked status ensure access to regional markets, e.g., the Congo DR, etc.) or mining sectors. Offering incentives in sectors where investments would be made regardless of incentives is a waste of government tax revenues.

9. Tax incentives such as accelerated depreciation or preferential tax rates must be kept largely uniform to avoid causing investment distortions in the economy.
10. The administration of tax incentives by the Zambia development agency must be standardised based on transparent and objective criteria, with little room for individually negotiated tax incentives and benefits.
11. The Zambia Revenue Authority must improve VAT refund and duty draw back administration and payment times to ensure timely refunds and financial management by investors.

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10. Appendix I: METR Model

This model is based on the King and Fullerton (1984) neo-classical METR framework. I adapted the version presented in the 2014 Zambia METR study (World Bank, 2005) but extend it to explicitly show the formula for land and inventory METRs.

Consider an investment in an asset that costs q , has a marginal revenue product of c , and lasts forever but depreciates exponentially at a constant rate of economic depreciation. Suppose further that the corporate income tax rate is u , the net indirect tax rate on the purchase of the asset (due to non-creditable VATs, customs duties, sales taxes, excise taxes, transaction taxes, etc.) is t (which is included in the tax basis of the asset), and an initial investment allowance of n is granted (with no adjustment of basis). Let z be the present value of the depreciation deductions allowed under the income tax, per dollar of investment, over the life of the asset. For example, if the tax code allows exponential (declining balance) deductions at rate α , with no adjustment for inflation.

$$z = \int_0^{\infty} \alpha q e^{-\alpha t} e^{-(r^f + \pi)t} dt = \alpha q / a + r^f + \pi$$

Where r^f is the firm's real discount rate and $r^f + \pi$ is the firm's nominal discount rate where π is the expected steady state rate of inflation. To calculate r^f , assume that the debt-asset ratio is fixed at β , the nominal interest rate is i and the return required by equity holders (which reflects dividends and capital gains) is ρ in which case

$$r^f = \beta(1 - u)i + (1 - \beta)\rho$$

reflecting the deductibility of interest payments coupled with the lack of deductibility of payments to shareholders. The calculation of a marginal effective tax rate (METR) assumes that a marginal investment in an asset just breaks even, that is, that the net benefits generated by the investment, taking into account all tax factors, just equals the after-tax net cost of the investment. For a depreciable asset this requires

$$(1 - un)(1 + t)q = (1 - u) \int_0^{\infty} c e^{-\delta t} e^{\pi t} e^{-(r^f + \pi)t} dt + u(1 + t)qz$$

$$(1 - un)(1 + t) = \frac{(1 - u)(\frac{c}{q})}{\delta + r^f} + u(1 + t)z$$

$$c/q = \frac{(1 - un)(1 + t)(\delta + r^f)}{(1 - u)} - \frac{u(1 + t)z(\delta + r^f)}{(1 - u)}$$

The gross return of return to a depreciate asset (e.g., plant and machinery equipment), net of depreciation, is thus

$$r_g = c/q - \delta = \frac{(1 + t)(\delta + r^f)}{(1 - u)} [1 - u(n + z)] - \delta$$

For land, the gross return is obtained by setting the depreciation rate in this expression equal to zero. Thus,

$$r_g^{land} = \frac{(1+t)(r^f)}{(1-u)} [1 - u(n)]$$

For inventories, the gross return is obtained by setting the depreciation rate in this expression equal to zero and, in the case of FIFO inventory accounting, adding a term to r^f equal to the product of the corporate tax rate and the inflation rate to the numerator.

$$r_g^{inventory} = \frac{(1+t)(r^f + \mu * \pi)}{(1-u)}$$

Finally, letting r_n denote the net return to investment, the marginal effective tax rate on the investment is

$$METR = \frac{r_g - r_n}{r_g}$$

11. Appendix II: Sector and Sub-Sector Level Corporate Tax Rate

Corporate Tax Rates	2018	2017
Standard rate	35%	35%
Banks	35%	35%
Telecommunication companies:		
Income not exceeding K250,000	35%	35%
Income exceeding K250,000 40% 40%	40%	40%
Farming	10%	10%
Income earned by producers of organic and chemical fertiliser	15%	15%
Export of non-traditional products	15%	15%
Foreign earnings of Sun International Limited 15% 15%	15%	15%
All other companies except mining companies 35% 35%	35%	35%
New listings on LuSE**	2% discount	2% discount
New listings on LuSE> 33% shares taken up by Zambians**	5% discount	5% discount
Listings on LuSE>33% shares taken up by Zambians	5% discount	5% discount
Mining Profits:		
Profits earned from mining operations (for both base metals and industrial minerals)	30%	30%
Mineral Processing	35%	35%
Mineral Royalty Rate		
On norm value of minerals/precious metals under licence:		
Base metals excluding copper	5%	5%
Precious Metals	6%	6%
On gross value of gemstones/energy minerals under licence:		
Energy/Industrial Minerals	5%	5%
Gemstones	6%	6%
Source: Tax laws, Republic of Zambia		

12. Appendix III: Capital Deductions in Zambia

Capital Deductions	2018	2017
Investment allowance on industrial buildings**** (one off)	10%	10%
Initial allowance on industrial buildings**** (one off)	10%	10%
Industrial buildings wear and tear allowance	5%	5%
Commercial buildings wear and tear allowance	2%	2%
Implements, machinery and plant:		
Used for farming and agro-processing 100% 100%	100%	100%
Used for manufacturing, tourism, leasing 50% 50%	50%	50%
Used for electricity power generation 50% 50%	50%	50%
Implements, machinery and plant- Other uses 25% 25%	25%	25%
Motor vehicles:		
Commercial 25% 25%	25%	25%
Non-commercial 20% 20%	20%	20%
Farming:		
Farm improvement/ Farm works allowance 100% 100%	100%	100%
Source: Tax laws, Republic of Zambia		