Corporate Income Taxation in The Gambia

A Study of Revenue and Investment Elasticities

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Abstract

In this paper, we conduct a brief literature review, benchmarking exercise and illustrative elasticity calculation to understand the impact of corporate tax rates on revenue and investment in the Gambia. We find that Gambia's tax rates are slightly lower than the regional average and that in the last decade, tax revenues and investment indicators do not respond significantly, negatively to the fall in corporate tax rates. We suggest a deeper analysis of the tax base and maintenance of a longer time series analysis/higher frequency to structurally estimate the elasticities and to develop a more efficient tax regime.

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1 Introduction

In his Budget Speech for 2018, the Minister of Finance of The Gambia announced a reduction of corporate income tax as one of the tax reforms for the new year. The corporate income tax rate (charged on profits) was reduced from 30% to 27%; and the turnover tax rate (charged on turnover) was reduced from 1.5% to 1% for audited accounts and from 2.5% to 2% for unaudited accounts. This comes at a time when there is significant international pressure on the Gambia to introduce reforms both in the fiscal regime and the business environment. According to the World Bank's Ease of Doing Business Rankings[1], The Gambia stands at 146/190 in the World and 22 in Sub-Saharan Africa. At the same time, The Gambia is also grappling with a 120% debt to GDP ratio and at present Tax Revenue forms only 17% of the GDP. Thus the country faces a dual pressure for providing impetus to private industry whilst also bolstering revenue collections. Using a short time series data set of 12 years (2006-2017), in this paper, we provide descriptive evidence on how changes in corporate income tax can impact the economy through revenues and investment (domestic and foreign). In this paper we only concentrate on calculating the effects of corporate income tax rate and not of the turnover tax rate. This is because, although firms' tax liability is calculated as the lower of the two, the turnover tax rate is not treated as a business incentive and has only been changed once in the period of study.

2 Review of Literature

There is a wide literature on effective corporate tax rates and corporate tax revenue mobilization, however in the context of West Africa or sub-Saharan Africa, research is relatively nascent. Even within this modest literature, there is little consensus on direction of impact changing the corporate tax has on the economy through output or investment.

(Mooij and Ederveen 2008) conducted a meta analysis of corporate tax elasticities across the world and found that corporate tax does have a negative elasticity of -0.7. The primary channel of this effect is through changes in organizational form i.e. firms respond to tax changes by changes in their organization form. According to the calculations of (Klemm et al. 2012), a 10 percentage point increase of the CIT rate lowers FDI by between 0.33 and 0.45 percent points of GDP. This study focused on Latin American, Carribean and African countries and was

[1]See http://www.doingbusiness.org/rankings

aimed at understanding if countries were strategically interacting over tax incentives. Interestingly they find that "lower corporate income tax rates and longer tax holidays are effective in attracting FDI, but not in boosting gross private fixed capital formation or growth", hinting at a possible crowding out effect.

Another concern with regard to tax policy reform is the degree of revenue uncertainty introduced by it, if any. “Tax revenue instability in Sub-Saharan Africa is not only high but also highly detrimental since it leads to increased public spending volatility” states (Ebeke et al. 2012). They theorize that high public spending volatility in turn adversely impacts investments. (Action Aid 2015) takes a stronger position in their paper on corporate tax incentives, in which which they accuse "significantly reduces domestic revenue collection" and are "not necessary to attract foreign direct investment (FDI)". According to the calculations in this paper Ghana, Nigeria and Senegal are losing up to $5.8 billion a year because of corporate tax incentives. The authors argue that corporate tax incentives lead to loss in revenues but can also encourage corruption.

This is in contrast to an earlier paper, where (Mansour and Keen 2009) argue that despite the narrowing of the corporate income tax base in Sub-Saharan Africa (because of the spread of tax holidays and special zones), tax revenues have been holding up.

Consistent with the findings of this paper, (Abbas et al 2013) find that in Africa specifically, increasing tax rates has no significant impact on corporate tax revenues. Their argument on similar lines, is that because of the prevalence of special regimes, the standard tax rate has become irrelevant. In their study, higher tax rates raise revenues in the short-run but adversely affect domestic investment and FDI. However, they also discuss the strong danger of a race to the bottom (in tax rates) in Africa, which may be detrimental to all competing countries.

(Klemm et al. 2009) describes the degree of nuance required while deciding on a tax incentive. The author provides a matrix for this decision wherein the tax cut as incentive is believed to be “ambiguous” accompanied by the recommendation “May be best to wait. However, if eventual tax cuts inevitable, possible benefit from being first mover”.

In conclusion, the literature is ambiguous on the over all effect of corporate tax reforms. While the elasticity of corporate tax revenue with respect to the tax rate is expected to be negative, the elasticity of FDI or Private Investment is ambiguous in the literature in the Sub-Saharan African context.

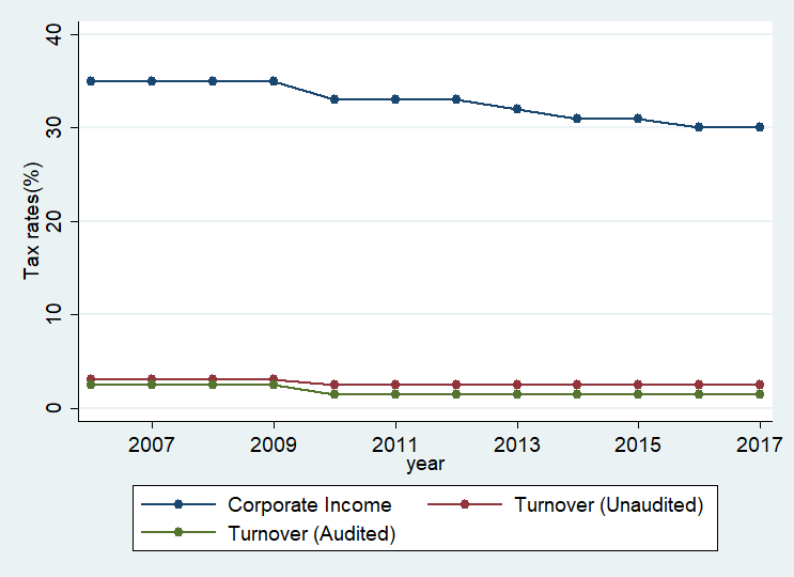
3 Data Description

In this paper we use time series data on corporate tax rates, corporate tax revenue, foreign direct investment and total private investment to conduct preliminary estimations of the impact of change in corporate tax on the economy. We obtain corporate tax information from 2006 to 2017, from the Gambian Revenue Authories Tax database. Foreign direct investment is obtained from the Central Bank of The Gambia's contribution to the Financial Programming and Policies(FPP), Balance of Payment section maintained at the Ministry of Finance. Total Private Investment is proxied for by Gross Fixed Capital formation (less Total Government Fixed Capital Formation) which is also obtained from the FPP, National Accounts section. Inflation is calculated by using CPI figures from the month of December. GDP is estimated at current market prices. Inflation and GDP was obtained from the Gambian Bureau of Statistics' contribution to the FPP.

4 Stylised Facts

In this section, we briefly describe the trends in the indicators of interest. Corporate tax (CT) rates (calculated on the Profits of corporations) and turnover tax rates (calculated on total revenue of corporations) have been steadily decreasing the in last decade. However the total variance in the tax rates in very low, with CT rate having fallen by 5% in the last decade, the tax on turnover of unaudited firms has fallen by 0.5% and that of audited firms by 1%.

Figure 1: Trends in Tax Rates



Since 2010, Corporate Tax Revenue has been steeply increasing at an average rate of 12% per annum. In the last decade overall revenue from corporate tax collections has grown by 7% on average. However inflation has also been growing rather consistently in the same time period (2010-17), averaging at 6% for the last decade. Similarly growth rates have kept up pace at 8% on average over the decade.

Interestingly total private investment and foreign direct investment do not follow the same trajectory except for the period between 2010-2013. In 2017, total private fixed capital formation fell by 17% but FDI grew by 3%. This is perhaps because FDI has reacted quicker to the regime change than domestic capital investment.

Figure 2: Trends in Variables of Interest

5 Sub-regional benchmarking

Table 1 documents Corporate Income Tax rates across 16 countries in West Africa, with an average rate of 28.7%. Gambia's recent decrease to a slightly lower rate of 27% highlights that the country marginally under-cuts the regional average. Save a few countries, the tax rates are quite similar and very close to the average, hinting at a downward pressure on the countries of the sub-region. While some countries have a fixed tax rate across the board, some countries like Ghana, Liberia, and Ivory Coast have differential tax rates. For instance the tax rates differ for specific industries like mining/petroleum, communication, and IT.

However while making this comparison, it is important to note that the nature of the tax base differs across the countries of the sub-region. Further, the contribution of tax revenue to total GDP differs between resource-rich countries, agro-based economies and service-sector-driven economies. In Gambia, corporate tax forms only 0.17%

Table 1: Corporate Taxes in West Africa

Country	Corporate Tax Rate (2017)
Benin	30
Burkina Faso	27.5
Cape Verde	25
Ghana	25
Guinea	35*
Guinea-Bissau	35*
Ivory Coast	25
Liberia	25*
Mali	30
Mauritania	25*
Nigeria	30
Senegal	30
Sierra Leone	30
Togo	29
Gambia	27
Average Rate	28.6
*2016 rates	

of the GDP as of 2017.

6 Tax Elasticity Illustration

Using time series data from 2006, we calculate the elasticity of corporate tax revenue, foreign direct investment and total private investment (to corporate income tax) in three ways. It is important to note that we treat corporate tax changes as an exogeneous policy change, which need not be necessarily true. We also assume that the effect of corporate tax change will be observed within the year of its announcement i.e. contemporaneously. While we account for GDP and inflation, we do not account for other variables that may affect investment or corporate tax revenue, the most important of which is tax compliance. That is we assume that tax compliance has remained constant across the decade.

In the first unadjusted case, we regress the natural log of the indicators of interest (i) to the natural log of the corporate tax rate (ct) [2]. Table 2 captures the results of the same. The regression coefficient for corporate

[2]The coefficient of the regresser in a log specification provides us with an elasticity as $\beta = \frac{\frac{di_t}{i_t}}{\frac{dct_t}{ct_t}}$.

tax is only significant for corporate tax revenue and not significant for FDI or Private Investment. Moreover, the coefficient is qualitatively positive for FDI. Note that since we are using a log specification, 2016 data is excluded as FDI was in the negative. Since 2016 was the year of the political impasse, it is justified to exclude 2016 as an outlier.

	(1)	(2)	(3)
	Log Corporate Tax Revenue	Log FDI	Log Private Investment
Log Corporate Tax	-4.507***	3.276	-1.113
	(0.650)	(2.551)	(1.096)
Constant	19.68***	-4.121	12.28**
	(2.266)	(8.918)	(3.821)
Observations	12	11	12
Adjusted R^2	0.811	0.061	0.003

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2: Elasticities of indicators of interest

In the second specification, results of which are documented in Table 3, we adjust the indicators of interest to account for inflation and growth. To account for inflation, we deflate the indicator by the contemporaneous inflation rate and to account for growth, we express the indicators as proportion of GDP. The adjusted specification produces qualitatively very different results. Here, the coefficient of corporate tax is only significant for adjusted private investment and is positive. This suggests that the negative elasticity from the previous specification was largely driven by growth in inflation in the GDP. In this specification, we can see that corporate tax by itself has no explanatory value (adjusted $R^2$is negative) for corporate tax revenues.

	(1)	(2)	(3)
	Log Adjusted Corporate Tax Revenue	Log Adjusted FDI	Log Adjusted Private Investment
Log Corporate Tax	0.695	8.577*	4.089**
	(0.703)	(2.832)	(1.108)
Constant	-8.792**	-32.94**	-16.19**
	(2.453)	(9.901)	(3.866)
Observations	12	11	12
Adjusted R^2	-0.002	0.450	0.534

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3: Elasticities of adjusted indicators of interest

In the final exercise, we concentrate only on the four years that corporate tax changed (ct) viz 2010, 2013, 2014 and 2016 and calculate elasticity of those years in exclusion. Elasticity was calculated on the adjusted variables of interest (ai) and we exclude 2016 in the calculations for adjusted FDI. Using the formula $\frac{\frac{\triangle ai_t}{ai_t}}{\frac{\triangle ct_t}{ct_t}}$, we find that the elasticities of adjusted FDI (7.30), adjusted corporate tax revenue (0.17) and adjusted private investment (240.25) with respect to corporate tax change is positive.

Although all three elasticity calculation exercises in this section have are purely descriptive, what is clear from this analysis is that at the moment there is no evidence of significant negative elasticity between corporate tax and revenue or investment and if anything the results qualitatively suggest that corporate tax is positively correlated to investment.

7 Discussion

While a simple elasticity calculation such as the one in this paper can be informative, in order to develop deeper understanding of the dynamics of corporate taxation on businesses and to develop a more efficient corporate tax policy it is important to carry out further analysis. A longer or higher frequency time series data on corporate tax rates, revenues, investment and other macroeconomic variables needs to be compiled in order to carry out a analysis which takes into consideration the dynamic nature of the variables of interest. For instance, it is possible that tax incentives reflect in revenue and investment with a lag. Similarly there are many other macroeconomic variables that may be impacting the process over and above GDP and inflation. This is why a VAR analysis is necessary at the very least to isolate the effect of corporate tax rates.

Further we recommend a detailed study of the composition of the tax base. For instance, learning how tax elasticity varies with profit (in levels) or how it varies across industry and understanding the nature of foreign investment that needs to be promoted through tax incentives. It is also important to distinguish between the firms who pay tax on profit and those who pay tax on turnover. Such study would also allow for the development of a more efficient, differential corporate tax regime as opposed to a flat rate for all companies/industries.

Finally, this study does not look into corporate tax compliance. In an environment where tax compliance is strengthened, corporate tax incentives may indeed bolster revenue and investment. However without improving compliance, if tax elasticity is negative, tax revenue will indeed suffer.

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