EFFECTIVE TAX RATE BY SECTOR IN SOUTH AFRICA

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INTRODUCTION

Business profit tax in Africa became recently a topic of particular interest. The degree of tax burden is crucial for the development of the industrial system, to finance the basic functions of the State and to ensure equity and redistribution of income in the society. Our work builds on other studies on South Africa, such as the Davis Tax Committee Report (2014) and World Bank (2015), while providing a more focussed analysis of corporate income tax using a different definition of Effective Tax Rate.

OBJECTIVE OF THE STUDY

The aim of this report is to investigate the determinants of the ETR, whether the system is effectively progressive or regressive, despite its design on paper, and potential areas for reform for South Africa. For this analysis, we will use the dataset provided by UNU-WIDER, with the collaboration of the South African Revenue Service (SARS) and the National Treasury (NT). The dataset contains micro level data of South African corporations for the years 2010-2013.

DATA

The dataset used in this analysis is obtained from UNU-WIDER with the collaboration of the South African Revenue Service (SARS) and the National Treasury (NT). One of the limitation is that data on tax returns are collected for administrative reasons and not for academic research, including only firms officially registered in the country and not considering informal firms. We do not also have any information about underreported income of the companies, therefore our analysis does not provide any policy recommendation in terms of tax evasion. However, we can provide indications in terms of the tax burden and, potentially, tax avoidance.

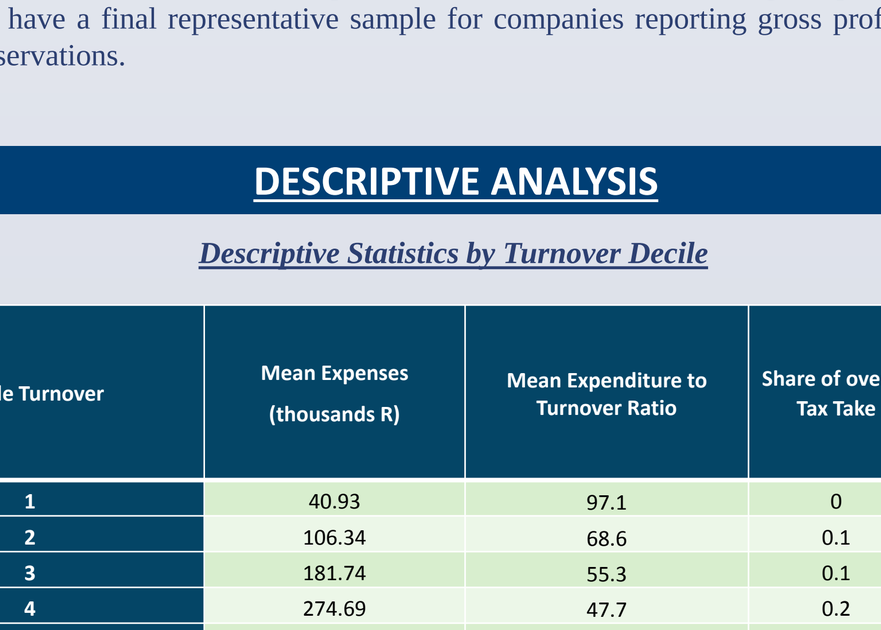
The full sample includes more than 6.5 million observations, however 73% of the observations are companies not reporting any information on variables necessary to calculate the ETR as tax paid and gross profit/loss, leaving the sample with 1.8 million observations. Further, excluding companies for which the ratios of tax paid over taxable income and over gross profit are greater than 1, we have a final representative sample for companies reporting gross profit of roughly 395000 observations.

DESCRIPTIVE ANALYSIS

Descriptive Statistics by Turnover Decile

Decile Turnover	Mean Expenses (thousands R)	Mean Expenditure to Turnover Ratio	Share of overall Tax Take	ETR
1	40.93	97.1	0	1.9
2	106.34	68.6	0.1	1.9
3	181.74	55.3	0.1	1.8
4	274.69	47.7	0.2	1.7
5	397.98	42.7	0.3	1.6
6	615.68	39.9	0.5	1.7
7	926.55	34.6	0.9	1.8
8	1490.98	30.2	1.7	2.2
9	2749.06	24.6	4.2	3
10	42806.01	18.6	91.9	4.9
Total	5685.19	43.9	10	2.3

Relation ETR-Size - 2010-2013



METHODOLOGY

We define the Effective Tax Rate as the ratio of business profit tax paid and gross profit (The Tax Policy Center, 2011). Even though business profit tax is not the only tax paid by companies, it definitely represents the most relevant one for the purpose of key firm decisions such as organisational form or scale, making it a good indicator for the tax burden. In 2013/20214, Corporate Income Tax in South Africa represented the third contributor to tax revenue and accounted for 19.9% of the overall gross tax revenue (SARS Report 2014).

$$ETR = \frac{Tax\ Paid}{Gross\ Profit}$$

Where $Tax\ Paid$ is the final amount that SARS collects from the company, inclusive of all credits the company claimed. Gross Profit is defined as net sales minus the cost of goods sold, where the latter is a measure that includes only the cost of raw materials and does not incorporate deductions such as depreciation, employment cost, interest payments and other expenses. As a consequence, the ETR in this analysis is expected to be lower than the statutory 28% applied to all companies in South Africa, with few exceptions regarding particularly the mining sector.

Given the U-shaped relation between tax paid and size highlighted in the descriptive statistics, our main variable of interest is size, defined as log turnover and its squared term. As explanatory variables we further include the age of the firm and we control for sector, location, age and exports status of the company. Further, we include controls for capital intensity and a measure of leverage (indebtedness) of the company.

The analysis will present the results of the *between* estimator (BE) to explore differences across firms.

(1): $ETR = X'\beta + \varepsilon$

(2): $ETR = X'\beta + Z'\delta + \varepsilon$

X'	Z'
Size	*Leverage*
$Size^2$	*Capital Intensity*
Export	
Young	

REGRESSION RESULTS

	(1)	(2)
	BE	BE
$Turnover\ (ln)$	-2.15*** (-51.34)	-1.20*** (-4.90)
$Turnover^2(ln)$	0.09*** (59.93)	0.05*** (6.71)
$Export$	0.61*** (11.94)	0.83*** (7.48)
$Young$	-0.48*** (-15.50)	-0.99*** (-8.89)
$Leverage$		-0.03*** (-8.49)
$Capital\ Intensity$		-0.00 (-0.85)
$Constant$	14.39*** (45.33)	12.49*** (5.78)
N	361417	34244
adj. R2	0.051	0.026
Sector Fixed Effects	Yes	Yes
Region Fixed Effects	Yes	Yes

CONCLUSIONS

The difference between the statutory 28% applied to all South African companies and the Effective Tax Rate presented in this study is explained by the high level of tax credits claimed by the companies. Further, the U-shaped relationship between firm size and tax take highlights the extent to which small companies report less tax credits than bigger companies, possibly explained by the high reporting costs.