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Did large Algerian enterprises pay an equitable tax contribution? Evidence from Longitudinal Data

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Abstract. This research paper used financial statements information to measure Effective Tax Rates (ETRs) , which represent the proportion of profits incurred by large Algerian enterprises as a tax burden during a given financial year, and compared them with the Statutory Tax Rates (STRs) imposed by Algerian law. The purpose of the study was to determine whether, in the context of a political economy, that tax contribution respects the principle of Tax Equity. It employed a sample of 114 enterprises for the 2012 to 2018 financial year. The variability between ETRs and STR indicates the intervention of elements that cause differences between the accounting result and the taxable base. Higher ETRs mean that these enterprises are under fiscal pressure and lower ETRs mean that the tax burden effectively supported is inconsistent with these enterprises' profits level. The findings indicate that there are considerable differences in the tax burden borne by these enterprises and that most ETRs were lower than STRs. According to the results of this study, we conclude that large Algerian enterprises have not paid an equitable tax contribution.

Keywords. Tax Equity, Tax incentives, Effective Tax Rate, Statutory Tax Rate, Large Algerian enterprises

1. Introduction

In the context of political, economic and social changes in Algeria that coincided with the global oil price crisis, it is necessary to reconsider the phenomenon of *rentierism*, which is a character of the internal and foreign policy of several Arab countries [1]. The need to create alternative sources of income and productivity requires the Algerian government to reassess the role of oil and gas rent and radically reform an economy dependent exclusively on these two public treasury receipts. During the last 20 years, the Algerian government's tendency to invest rents in a productive way emerged through an attempt to pursue the advancement of a less developed agricultural sector than its neighbors and seeking to diversify the economy by launching new projects and attracting foreign investors who will pay taxes. This process will contribute to reduce the unemployment and to create value and wealth and.

The World Bank and PwC “Paying Taxes 2015” report [2] put Algeria at the bottom of a global ranking where enterprises are under the greatest fiscal pressure in Africa and the Arab world. What is noteworthy in that report is, in spite of that alleged great fiscal pressure, the effective corporate profits tax rate was equal to 6.6%, which is the sixth lowest rate in Africa after Mauritania, Guinea, Equatorial Guinea, Zambia and Gambia, and is less than at least 12.4% of the STRs provided by the tax law.

Note that taxation is an important revenue source to the Public Treasury, which contributes covering the budget of the State and other Public Entities. The design of tax systems is intrinsically arbitration between effectiveness, economic growth and equity purposes across taxpayers. The 6.6% effective corporate profits tax rate mentioned in “Paying Taxes 2015” report suggests that there was a serious design problem in the Algerian tax system.

The concept of Tax Equity in modern Finance has expanded beyond its concept in the context of the traditional role of Public Finance. Overall, the transition to an equitable tax system requires a reliance on direct taxes represented in income and corporate taxes depending on income and wealth levels. Improving Tax Equity involves achieving the equity in the distribution of the tax burden and the prevention of tax evasion.

The concept of the Tax Equity focuses on the contribution of taxpayers to the financing of public expenditure depending on their ability to pay. It is based on two fundamental principles: utility and capacity to pay. According to the principle of utility, it is the contribution of each taxpayer to the total tax revenue in accordance with the services and public goods received. Thus, the marginal utility of the taxpayer derived from public services provided by the State must be equal to the marginal cost (tax) of the taxpayer to finance public expenditure. According to the principle of capacity to pay, there are two concepts of Tax Equity. The first concept is **the horizontal Tax Equity**, which means that taxpayers with equal capacity bear the same tax burden. The second concept is the **vertical Tax Equity**, which is intended to vary and differentiate the treatment of taxpayers in accordance with the ability of each taxpayer to bear the tax burden. This requires the application of progressive tax rates and reliance on the Tax incentives System to take into account their burden, as well as differentiation in tax rates depending on the type of income and activity [3].

As Algeria is a developing country, the enterprises (in particular, small- and medium-sized enterprises) may face regulatory failures resulting in a higher tax burden that might need to be corrected via the Tax incentives System. Moreover, the latter has been used clearly and frequently by the Algerian Government for economic considerations as a tool for attracting foreign investment and stimulating domestic investment, especially in development areas, and for social considerations such as the fight against unemployment. The total exemption of Corporate Profits Tax (CPT) constitutes the full application of this system. So, the Algerian tax system offers several levels of tax incentives, which may lead to its ineffectiveness, shortfall in public treasury revenues, and unbalanced distribution in the tax contribution between different types of taxation resulting in violation of the principle of equity in paying taxes.

Whilst one should acknowledge the considerable importance of the effect of tax incentives on the tax burden of enterprises, the debate would gain even more consistency by emphasizing that taxation (essentially of legislative origin) is based on accounting (essentially of regulatory origin) to determine the taxable base. The harmonization with the International Accounting Standards (IAS) has changed the relationship between accounting and taxation by reversing that relationship; the Tax Law is now being borrowed from purely accounting concepts and legal qualifications are being used less systematically. However, this influence ends where the determination of the taxable base begins. The differences between them may arise either from the rejection by taxation of certain charges (such as fines and penalties) or from the exemption of certain products (such as dividends received), accounting treatments not allowed by the Tax Authorities (value reduction, discounting of receivables, etc.) in addition to taxable temporal differences and deductible temporal differences generated by transactions determined by the Normalization Commission of Accounting Practices and Professional Diligence.

In this research paper, we looked at the equity of the tax contribution of large Algerian enterprises, focusing on the magnitude of the gap between the tax contribution expected by setting the STRs and the tax contribution effectively paid by each enterprise, based on the assumption that a large distortion is probably due to the tax incentives and the various techniques for determining the taxable base.

This paper is considered to be the first research contribution analyzing the effective corporate profits taxation in Algeria. It is meant to provide meaningful quantitative estimates of the ETRs for a longitudinal data collected from 114 large Algerian enterprises relating to the 2012 to 2018 financial years.

This Paper used individual financial statements information to measure ETRs, this information is enterprise-specific and they require no simulation, no underlying assumptions.

The results of our study can be useful for national policy makers for filling legislative gaps that provide too many tax incentives. Thus, an additional benefit of this research consists of improving the understanding of the tax burden ensuing by each sector of activity.

The study has found that comparing the effective tax burden incurred by large Algerian enterprises on the basis of the difference between the ETRs and STRs reveals considerable variation. For the most of these enterprises, the ETRs were lower than the STRs. This can be due to the intervention of elements that allowed them to pay taxes, which were incompatible with their profits level. Additionally, the stimulus did not target a particular sector of activity because the results showed that all sectors benefited from a varying share of tax incentives.

2. The Theoretical Foundation & Hypotheses Development

The new Constitution of People's Democratic Republic of Algeria states that « no tax may be imposed except by the Law » [4]. This means that only the law (Parliament) is empowered by the Constitution to create, identify the persons concerned, determine the calculation methods and the manner of collecting any tax. The Law is also the only one that has the power to determine and change the STRs according to the budgetary needs of the State and the Government Economic Strategy. This concept mentions that the State is a Resource or a Threat to all enterprises. Thus,« with its power to prohibit or compel, to take or give money, the State can and does selectively help or hurt a vast number of industries»[5].

Due to the above, our study is inscribed in a political economy perspective where we refer to the main pillar in the literature "the political costs theory" [6], which stipulates that politicians, seeking re-election, will try to satisfy the natural persons, holders of the right to vote. Consequently, there is a risk of the transfer of wealth from enterprises, which do not hold voting rights, to the public, in particular through the adoption of new tax or social regulations that are costly for enterprises. These regulations would be the result of pressure exerted by certain groups of actors (consumer associations, non-governmental organizations, environmental associations, etc.) on the legislator. The objective of these groups would be to denounce the unethical nature of certain practices adopted by enterprises and to demand a more equitable distribution of wealth within the economy. Therefore, according to this theory,

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enterprises are therefore particularly vulnerable to tax and social transfers likely to be made by the legislator to the benefit of those with the right to vote.

Our attention focuses on the extent of the tax contribution of large Algerian enterprises with the idea that they play an important role in economic growth and stability. Due to their increased visibility and therefore their increased scrutiny, large enterprises can face greater political pressure than small enterprises, namely the pressure to finance the public treasury and engage in social responsibility, which appears as a public demand. These assumptions suggest that such a situation causes a large tax burden and therefore a higher ETR, which does not promote the growth and investment in these enterprises. Thus, we developed a research hypothesis with the following formulation:

H1: Large Algerian enterprises are exposed to transfer of wealth to finance the public treasury and engage in social responsibility, manifested in an enormous tax burden, and consequently ETR that exceeds the STR.

On the contraryto the previous, “the political power theory” [7] provides that larger enterprises would face lower ETR by exerting their political power to negotiate the level of taxation to the extent that they have the resources to manipulate political processes in their favor. In addition, due to their large size and therefore their large resources, these enterprises can recruit tax experts who enable their clients to achieve a tax optimization strategy. All these circumstances mean that large enterprises justify low ETR. Thus, we developed a research hypothesis as formulated below:

H2: Large Algerian enterprises manipulate political processes to reducing their effective taxation and to incur a tax burden that does not commensurate with their level of profits, thus violating the principle of Tax Equity.

3. Enterprises Tax Law In Algeria: Synthetic Overview

In 1962, Algeria prolonged French legislation, except for texts, which may affect national sovereignty, by the Law 62-157 of 31 December. In this context, Algeria inherited the French Tax Legislation.

In 1976, five (5) Tax Codes appeared: the Direct Taxes and Similar Taxes Code (DTSTC), the Indirect Taxes Code (ITC), the Turnover Taxes Code (TTC), the Registration Code (RC) and finally the Stamp Code (SC). This system lasted until 1991 when the DTSTC and ITC underwent a substantial reform.

Algerian tax law originates from both legal sources (Constitution, Legislative Acts, Regulatory Acts), and infra legal sources (Circulars and Instructions of the Services, the Tax Rulings). Algerian taxation is a practical tax system, dominated by numerous complex and rigid rules, providing an opportunity to administrative interpretations that can vary from one department to another. In order to understand Algerian taxation, one must understand it through the knowledge of its practices and uses.

For enterprises, the Algerian tax legislation in force is based on levies at the level of profit realization. The CPT is established by the DTSTC.

The CPT is an annual tax intended for legal persons (whatever their turnover, legal form and object) subject to the real regime. It is calculated on the basis of the profits made by an enterprise during an accounting period (i.e. from 01/01/N to 31/12/N).

To calculate the amount of CPT that appears in the Income Statements Accounts, a taxable base is subject to a STR determined by Law. During the past 20 years, the STRs had undergone several changes, the 2008 Complementary Finance Law [8] introduced for the first time discrimination between:

- Profits from commercial and service activities , which were subject to the rate of 25%;
- Profits from goods production, construction and tourism activities, were subject to the reduced rate of 19%.

Subsequently, the 2015 Finance Law [9] removed this rate differentiation to make corporate profits subject to a single rate of 23%, resulting in enterprises engaged in production losing the privilege tax rate they had.

The Complementary Finance Law [10] of the same year restored the differentiation of rates according to the nature of the activity:

- 19% for goods-producing activities;
- 23% for construction, public works and hydraulic activities and for tourist and thermal activities excluding travel agencies;
- 26% for other activities.

In the case of the concomitant exercise of several activities, the legal persons subject to the CPT must keep separate accounts for these activities, allowing to determine the share of profits for each activity to which the appropriate CPT rate is to be applied. Failure to keep separate accounts systematically entails the application of the 26% rate.

The measuring of the tax burden is affected by two important elements: the first concerns the different techniques for determining the taxable base, the second concerns tax incentives granted by tax legislation.

From the neoclassical point of view, taxation influences the cost of capital [11], which is the main determinant of the level of investment. In accordance with this focus, reducing the cost of capital through tax incentives would imply an increase in local investment and attract foreign investment (particularly foreign direct investment to introducing new technologies, know-how and creating jobs), given its elasticity to the cost of capital. In Algeria, by carefully looking at the direction of economic policy decisions made over the last 20 years, it is clear that the Government's logic is in this context.

Tax incentives are easy to identify. They are those special provisions that allow for exclusions, credits, preferential tax rates or deferral of tax liability. Tax incentives can take many forms: tax exemptions, current deductibility for certain types of expenditures or reduced import tariffs or customs duties [12]. Tax incentives are needed to offset the additional costs that enterprises must incur as a result of the regulatory failures (related to political stability, legal certainty, macroeconomic policy, quality of the labor forces and the status of the infrastructure) that cause in high taxation burden, to stimulate certain economic activities, promoting strategic sectors and subsidize them during their downturn. Additionally, in today’s global economy, characterized by high capital mobility, Incentives effect on reducing the effective taxation is a very important measure of competitiveness of a tax system.

Currently, the Algerian tax legislation provides tax incentives for economic operators in various forms as a kind of instrument to fight unemployment and increase the national production of goods to satisfy needs and reduce imports. They consist of exemptions and/or tax reductions.

Exemptions are provided for economic or social reasons and are classified according to their duration. The main tax measures providing permanent exemptions from CPT are aimed at promoting the agricultural, social and cultural sectors, currency-generating operation

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and corporate grouping. While the measures allow temporary exemptions up to a maximum of 10 years, mainly concerning investments governed by the National Agency for the Development of Investment, activities eligible for employment aid, the introduction of Shares and Securities Assimilated to the Algiers Stock Exchange as well as the proceeds and surplus-value from the sale of these shares and securities, the tourism sector, venture capital companies and professional football clubs.

With regard to tax reductions, the Algerian legislator intends to give a tax advantage to production activities by the reduced tax rate of 19%. For the purposes of this provision, the legislator determines what he means by activity of production of goods: it is the extraction, manufacture, shaping or processing of products. It excludes from this preferential tax rate commercial packaging or presentation activities for resale as well as mining and hydrocarbon activities.

Recently, the 2022 Finance Law [13] introduced a new reduced CPT rate equal to 10% for production enterprises (instead of 19%), this reduced rate is applicable on profits (to the limit of the declared amount) reinvested (acquisition of production equipment in connection with the activity carried on and/or the acquisition of at least 90% of the share capital of another enterprise).

4. Algerian Context of Accounting Regulation

Like the tax legislation of 31 December 1962 inherited from the colonial era by Law 62-157 of 31 December, Algeria inherited the French General Accounting Plan (GAP) of 1957.

The French Accounting standards require the use of an accounting framework and a strictly defined account plan that is subject to imperative decimal codification. This plan of accounts, this codification has the role of ensuring the homogeneity of the basic records in all enterprises and, hence that of the headings and items of the annual accounts, making comparisons possible and relevant in time and space. In addition, it avoids the cost to small- and medium-sized enterprises of drawing up a specific general accounting plan and simplifies the task of external auditors in all enterprises. This codification standardization of a general nature is only possible because of the classification by nature the items in the balance sheet and, above all, of charges and income. From this we find that the accounting was based on a rigid and fixed body of rules, leaving no domain for appreciation and favor much more the legal appearance on the economic background.

The information produced by a system such as this was not intended to give priority to satisfying the needs of investors, but rather to meet the requirements of the State in terms of taxation and macro-economic indicators, and of the Financial Institutions that provide enterprises with the bulk of their resources.

From 1969, in the context of the process of implementation of the development strategy, Algeria begins the first attempt to replace the GAP. It was not until 1975, after the promulgation of the Order n° 75-59, bearing the Commercial Code, amended and supplemented, the accounting became a branch of the Law (Articles 9 to 18), and the National Accounting Plan (NAP) was created by the official establishment of the Superior Council of Accountancy. This plan is carried out by the National Society of Accounting with the participation of French Accounting experts from the Superior Council of Accountancy and the National Institution of Statistic and Economic Studies. The accounting was therefore based on its own law, yet coexists with the tax law.

After that, against the background of the liberalization of Algeria's economy and its openness to the national private sector and foreign investment, the NAP causes a lack of timeliness because it was characterized by the State domination and the accounting rules were closely linked to the tax rules. The need for an accounting framework that responds to developments that were emerging at that time and that makes it possible to compensate for the shortcomings of the 1975 NAP has been strongly felt. Therefore, and following the promulgation of the Law 07-11 of November 27, 2007, which came into force on January 1, 2010, the Financial Accounting System (FAS) replaced the NAP. The accounting rules applicable to enterprises shall be modernized and incorporated into the international accounting harmonization movement in which IAS/IFRS have established themselves as a reference where the accounting system had autonomy in relation with tax legislation. So, the new FAS was similar to the Anglo-American model, which is characterized by an increased importance of the accounting profession. In this model, accounting regulation is independent of tax legislation, thus creating differences in objects and in objectives.

Talking about the determination of taxable base, the CPT is established by the DTSTC, which provides that *"enterprises must comply with the definitions laid down in the FAS, provided that they are not incompatible with the tax rules applicable to the tax base"*[14].So, the taxable base subject to CPT is calculated on the accounting result basis, which is adjusted for certain rectification provided for by the tax law. Taking these adjustments into account does not lead to the establishment of a separate tax balance sheet from the accounting balance sheet, but rather to the establishment of a Table for Determining the Taxable Result, which gathers the various tax reinstatements and deductions.

Add to the above, the determination of the accounting result is affected by the application of techniques that include several choices specified by the accounting standards and permitted by tax legislation. It is through the discretionary exercise of them that enterprises develop a tax management strategy result in reducing their taxable base and subsequently their tax burden. This set of techniques is called tactical choices, which are likely to provide a financial benefit to the enterprise, generally in the short term, but of limited scope. These technical choices can be made at the level of the valuation of asset elements, the method of depreciation, the method of calculating surplus value, the imputation of deficit…

5. Methodology

5.1. Measurement of The Effective Taxation

What we get from the two previous sections that enterprises are subject to a specific tax at the level of their profits. From a legal standpoint, only the enterprise profit determines the tax burden. However, no enterprise effectively pays a tax equal to its pre-tax accounting result multiplied by the STR. Indeed, the accounting result is the subject of more or less significant restatements according to the differences between accounting standards and tax law; certain expenses not being deductible, certain products being non-taxable or benefiting from favorable tax treatment. As a result, the effective tax burden for each enterprise can vary greatly, up or down, from the tax burden expected from the application of the rates provided for by the legislation in force.

For measuring this effective taxation, a number of different instruments exist [15] [16] [17]. In the present Research Paper we used a backward-looking measure that can be calculated from Financial Statements. However, if carefully applied, backward-looking measures can be useful for ex-post analyses on what is involved in the application of the provisions of the tax legislation, the orientation of the political economy as well as the behavior of the taxpayers in an economy, which could be an indicator of the distributive justices of a tax system.

The measure is the ETRs, which seems to impose itself as an indicator of both tax pressure, optimization of the tax mass or even of precaution against any risk of tax control [18]. The idea of the ETRs approach is to take into account the taxes effectively paid, while relating them to a reduced tax base that is supposed to approach the effective taxable base.

In fact, several studies on the ETRs sought different objectives, they can be grouped into three categories: the first one interested in the study of the impact of a national tax law on the ETR (Gravelle, 1982; Gupta and Newberry, 1992; Scholes and Wolfson, 1992; Shevlin and Porter, 1992; Guenther, 1994; Manzon and Smith, 1994; Martinez, Fernández and Álvarez, 2001; Fernández, 2004; Fernández, Martínez and Álvarez, 2004; Calvé, Labatut and Molina, 2005). The second one carries out a comparative analysis of the effective taxation between different countries (Molloy, 1998; Kim and Limpaphayom, 1998; Jacobs and Spengel, 2000; Buijink Janssen and Schols, 2002; Fernández and Rubín, 2002; Collins and Shackelford, 1995; Devereux and Griffith, 1998; Fernández, Martínez and Álvarez, 2008). The third one researches on the factors that determine the tax burden (Stickney and McGee, 1982; Zimmerman, 1983; Porcano, 1986; Wilkie and Limberg, 1993; Gupta and Newberry, 1997; Holland, 1998; Fernández, 2004; Richardson and Lanis, 2007; Chen and Shevlin, 2010; Fonseca et al., 2011; Molina, 2012)

We joined the first category of previous research where we fixed the main objective of our study at the measurement of the effective taxation of large Algerian enterprises through the calculation of the ETRs and compared it with the STRs to evaluate the equity of that tax contribution resulting from the application of the provisions of the tax legislation, because when the State sets a tax rate, it should want to obtain income equivalent to that rate multiplied by an enterprise’s profit. This doesn't happen if the tax system allows the intervention of some elements that affect the determination of the taxable base, which violates the distributive justice of that tax system.

The ETRs purport to measure the effective tax burden for a given year as a fraction of pre-tax financial accounting result, understanding what the numerator captures is essential. The inferences that are possible across the various numerators are described below [19]:

- **The Accounting ETR:**

This is known as GAAP ETR in the USA context. It is the total profit tax expense (income) divided by pre-tax accounting result. The Accounting ETR is the rate that affects accounting earnings. It reflects the overall proportion of the accounting result payable as taxes and it takes into account the permanent tax incentives. A tax strategy that defers taxes (e.g., more accelerated depreciation for tax purposes) will not alter the Accounting ETR. In addition, several items that are not tax management strategies, such as changes in the valuation allowance or changes in the tax contingency reserve could affect the Accounting ETR.

- **The Current ETR:**

Slightly different from the Accounting ETR, the Current ETR is calculated as the current year’s tax expense in relation to the total pre-tax accounting result. It reflects an enterprise tax deferral strategy by using the current profit tax relative to the total tax burden, giving it an advantage over the Accounting ETR.

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Depending on the research question, the ETRs denominator may be a more important factor. Most ETRs use pre-tax income as the denominator and therefore can only account for non-conformity tax practices. Several studies [20] used operational cash flow (gross or net operating surplus, sales and even balance sheet total) as an alternative denominator of income to control for systematic differences in accounting method choices, in order to capture the impact of tax incentives on ETRs. Other studies suggested that the further away from the concept of profit, the less relevant the ETRs measured over the net operating surplus because it makes effective taxation very dependent on the enterprise financing structure, since interest is deductible while dividends are not. What is then measured is the weight of the tax in relation to the return on all committed capital, both in the form of own funds (internal or external) and borrowings. However, net operating surplus does not include net financial income, which is subject to tax. The interpretation of the ETRs based on the balance sheet total is particularly delicate as profitability becomes an explanatory variable. Moreover, at the individual level, the balance sheet total may be affected by factors that are difficult to control [21].

5.2. Sample & Data

In Algeria, measuring the effective enterprise taxation is one of the major challenges in the relative studies. The main issue that usually relates to the measure is the sources of the information. This information could be obtained from either the Tax Returns filed by the enterprises, which are strictly confidential, or from the Financial Statements in the enterprise's annual reports. Unfortunately, the latter are not publicly available, except the annual reports of five (5) enterprises listed on the Algiers Stock Exchange. To solve this, the data used to calculate the ETRs of large Algerian enterprises were collected from a sample of 520 enterprises engaged invarious sectors of activity (we decided not to include in our analysis sample banking and financial enterprises. Indeed, from a tax point of view, as accountants, these enterprises have specificities that make it difficult to compare them with other enterprises), randomly removed from the Algerian enterprises Directory "ElMouchir" [22], which is designed by the Algerian Chamber of Commerce and Industry and developed with the collective of Chambers of Commerce and Industry. This sample was filtered on the basis of two criteria:

- The compatibility with the definition of large Algerian enterprises;
- The existence of the Financial Statements in the National Data Bank of the Social Accounts on the National Centre of the Commerce Register [23], which provides the possibility of accessing to the Financial Statements of enterprises through a prepaid account.

The study sample resulted in a list of 114 large enterprises. The information needed for each enterprise was hand-collected from the "the Income Financial Statements".

With regards to the studied period, the FAS came into application on 01 January 2010. There were many problems, mainly related to the reassessment process of asset components prevented the application of the new accounting reference. In 2012, most of enterprises fixed that problem and applied the rules of FAS. Therefore, this Research Paper considers the 2012 financial year as the beginning of the period studied and the 2018 financial year as the end of the period, because the most of the 114 enterprises did not publish their financial statements after this year.

So, the sample we used is a longitudinal (panel) data of 114 large Algerian enterprises to which the General Directorate of Taxation definition applies, and its Financial Statements

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are available on the National Data Bank of the Social Accounts in all years from 2012 to 2018, i.e., 798 enterprise-year observations in all.

5.3. Definition of Large Algerian Enterprises

According to the Commercial Code [24], the Algerian Law considers as being Algerian enterprise and is governed by the Algerian Law any enterprise that has its establishment in Algerian Territory.

According to the bimonthly Newsletter published by the General Directorate of Taxation [25], any enterprise which meets the below criteria is considered a large enterprise:

- Legal persons with a turnover of 100 million dinars or more;
- Of Law or fact groups of companies where one of the members has a turnover of 100 million dinars or more;
- Companies operating in the hydrocarbon sector in accordance with Law 86-14 of 19 August 1986, as amended and supplemented, relating to hydrocarbon activities, regardless of the location of their head offices (these enterprises were not included in the sample because they are subject to a special taxation);
- All foreign company members.

6. Result & Discussion

6.1. The STRs

In fact, the data source used does not contain the complete Financial Statements; notes and annexes showing the Table for Determining the Tax Base and applicable STR are not included. In addition, the provisions in the 2015 Complementary Finance Law related to the maintenance of a separate account for each type of activity make it difficult to determine the STR of each enterprise because the source of information used doesn't show the distinction between their profits types. For these reasons, when we considered each enterprise with several activities, we assumed that each type of activity had an equal proportion of the enterprise's profits. Add to this, the STRs have changed during the period studied, that's why we opted for the average statutory rate for each enterprise.

6.2. ETRs Calculation

Effective taxation for each enterprise is calculated as the average of ETRs for the period 2012-2018.Table 1 shows the FAS terminology and the item codes used for that purpose:

Table 1: The FAS terminology and the item codes for effective taxation measures

Effective taxation measures	Numerator/ Denominator (FAS terminology)	Numerator/ Denominator (FAS item codes)
Accounting ETR	(Taxes payable on ordinary results + Deferred taxes (Changes) on ordinary results)/ ordinary result before tax	(695+692)/ VII
Current ETR	Taxes payable on ordinary results/ ordinary result before tax	695/ VII

Source: Own Elaboration

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In reality, the calculation of ETRs is itself problematic. We noticed during our data collection work that some enterprises could pay taxes even though they did not make profits that year (and thus, lead to an excessively high effective tax rate), or not pay taxes even though they made significant profits (and thus, lead to a very low effective tax rate). Thus, to avoid these biases, we had set up the following systems to exclude atypical measures:

- We have decided to reject all measures leading to a ETRs higher in absolute value than 100%to avoid the high dispersion of indicators;
- Leading the ETRs to 0 if the numerator and denominator both have a negative value;
- Leading the ETRs to 1 if the numerator has a positive value and the denominator has a negative value;
- We have accepted all other negative measures because they can be explained by specific factors (deferred tax losses, different tax deductions, tax credit…) that are significant.

Table 2 summarizes our calculation, giving us average STR, average Accounting ETR, average Current ETR, Accounting ETR-STR gap, Current ETR-STR gap of each of the 2012-2018 enterprise that were the sample of our Study:

Table 2: Calculation Results

ENTERPRISE	Average STR%	Average Accounting ETR%	Average Current ETR%	Accounting ETR-STR Gap%	Current ETR-STR Gap %
METIDJI	21	7.99	6.92	-13.01	-14.07
GOUMIDI INDUSTRIAL GROUP	21	15.13	15.13	-5.86	-5.86
STAR AVIATION	25.57	13.69	15.84	-11.87	-9.72
CITAL	25.57	15.45	21.71	-10.11	-3.85
REDMED GROUP	25.57	15.85	17.95	-9.71	-7.61
CEVITAL AGRO-INDUSTRIE	21	10.78	10.80	-10.21	-10.19
SIM GROUP	19	17.88	17.82	-1.11	-1.17
ENOR	23	10.14	7.42	-12.85	-15.57
SODAPAL	19	2.71	2.71	-16.28	-16.28
AGRANA FRUIT	21	9.68	9.69	-11.31	-11.30
ROCHE ALGERIA	21	0	8.86	-21	-12.13
OASIS PHARMA	25.57	14.15	25.61	-11.41	0.04
ENAD SHYMECA	19	6.55	5.46	-12.44	-13.53
ENAG	19	14.17	10.67	-4.82	-8.32
ANEP	21	26.98	26.72	5.98	5.72
CHIALI PROFIPLAST	19	18.34	18.34	-0.65	-0.65
CHIALI TUBES	19	16.19	16.19	-2.80	-2.80
AVIARIB	19	0	2.71	-19	-16.28
SANOFI AVENTIS	19	35.47	36.93	16.47	17.93
HYDRO CANAL	19	5.69	8.14	-13.30	-10.85
SITIF AVICOLE COMPLEX	21	19.41	11.65	-1.58	-9.34

CARRAVIC	19	2.98	2.98	-16.01	-16.01
OASIS PLATRE	21	9.78	9.78	-11.21	-11.21
SKD	21	9.14	10	-11.85	-10.99
AOA	19	0.05	0.07	-18.94	-18.92
SOMIPHOS	19	7.21	8.74	-11.78	-10.25
GPC ALGERIA	21.28	0	0	-21.28	-21.28
AFRICAVER	21	0	0	-21	-21
SFMAI GROUP	25.57	20.62	20.62	-4.94	-4.94
ALPHYT	21	19.72	22.69	-1.27	1.69
RAM SUCRE	25.57	5.48	5.42	-20.09	-20.14
ORAN SACS	19	3.83	0.34	-15.16	-18.65
HELISON PRODUCTION	19	2.34	0	-16.65	-19
SISTEMAS AVANZADOS DE TECNOLOGIA	25.57	0	0	-25.57	-25.57
ENOF	23	19.08	16.30	-3.91	-6.69
SACAR	19	2.71	0	-16.28	-19
GENERAL EMBALLAGE	19	16.52	17.02	-2.47	-1.97
ASMIDAL	21	6.86	9.25	-14.13	-11.74
SOMIFER	19	24.99	25.60	5.99	6.60
ENPC	21	14.68	10.02	-6.31	-10.97
SISCOPLAST	21	0	0	-21	-21
COGB LA BELLE	19	26.87	4.36	7.87	-14.63
LA BELLE AGRO-ALIMENTAIRE	21	21.48	21.50	0.48	0.50
MARGARINERIE LA BELLE	19	16.05	16.05	-2.94	-2.94
CGS LA BELLE	19	18.12	20.90	-0.87	1.90
SOALKA	21	2.68	0.75	-18.31	-20.24
SCHS	21	6.49	6.11	-14.50	-14.88
SCAEK	19	1.23	7.29	-17.76	-11.70
INPHA-MEDIS	19	7.28	7.28	-11.71	-11.71
BIOCARE	21	14.58	14.58	-6.41	-6.41
DANONE DJURDJURA	21	0	0	-21	-21
VIR	21	0	0	-21	-21
CIR	19	9.39	9.39	-9.60	-9.60
NCA ROUIBA	21	14.99	13.99	-6	-7
SAIDAL	21	20.16	19.97	-0.83	-1.02
BIOPHARM	21	19.53	19.60	-1.46	-1.39
IVAL	25.57	24.81	24.82	-0.75	-0.74
INFRAFER	21.28	12.33	1.82	-8.94	-19.45
ENIEM	21	11.41	10	-9.58	-10.99
CEPRO CELLULOSE PROCESSING	21	0	0	-21	-21
SOTUPLAST	19	0	0	-19	- 19
FERTIAL	19	2.03	2.14	-16.96	-16.85
CONDOR ELECTRONICS	21	20.08	20.21	-0.91	-0.78

FADERCO	21	1.89	1.19	-19.10	-19.80
MICHELIN ALGERIA	21	0	0	-21	-21
ROUIBA ECAIRAGE	21	18.74	14.69	-2.25	-6.30
SONELGAZ	21	8.64	8.64	-12.35	-12.35
VERITAL	25.57	31.72	38.65	6.15	13.08
FERPHOS	25.57	0.43	0.47	-25.13	-25.09
ALGERIAN PETROLEUM INDUSTRY	25.57	28.42	23.41	2.85	-2.15
ECE DARCOM TELECOM	25.57	13.11	13.11	-12.46	-12.46
PAPIREC	25.57	3.69	0	-21.87	-25.57
SIDER	25.57	14.56	14.42	-11.01	-11.14
AMIMER ENERGIE	25.57	34.03	21.02	8.46	-4.55
NOVO NORDISK ALGERIA	25.57	35.10	35.10	9.53	9.53
SANDOZ	25.57	7.74	17.36	-17.82	-8.20
WOODGROUP SOMIAS	25.57	15.29	16.81	-10.27	-8.75
CLINIQUE AMINA	25.57	16.64	16.61	-8.92	-8.95
EP ANNABA	25.57	22.18	23.29	-3.38	-2.27
EP ALGER	25.57	20.92	23.66	-4.64	-1.90
EP ORAN	25.57	25.59	32.62	0. 028	7.05
EP BEJAIA	25.57	19.78	20.75	-5.78	-4.81
EP DJEN DJEN	25.57	24.35	24.49	-1.21	-1.07
EP ARZEW	25.57	24.01	24.43	-1.55	-1.14
EP SKIKDA	25.57	22.30	23.87	-3.26	-1.70
EP GHAZAOUET	25.57	25.44	34.38	-0.12	8.81
EP MOSTAGANEM	25.57	25	23.18	-0.56	-2.38
SNTMV	25.57	0	0	-25.57	-25.57
SAFEX	25.75	23.85	26.38	-1.71	0.81
HYGIANIS	25.57	29.38	27.16	3.81	1.59
SAEI	25.57	30.80	19.82	5.23	-5.74
TOURING CLUB GROUP	25.57	17.78	18.14	-7.78	-7.42
SGCT LES ANDALOUSES	21.28	0	0	-21.28	-21.28
ONAB NUTRITION	25.57	25.47	26.10	-0.09	0.53
OMNIUM TELECOM	25.57	12.14	11.40	-13.42	-14.16
SOTRAMEST	21.28	19.04	19.12	-2.24	-2.16
MPV	25.57	50.67	8.58	25.09	-16.99
GATMA GROUP	25.57	9.68	0	-15.88	-25.57
DIVINDUS DIVERSES DISTRIBUTION	25.57	26.54	19.66	0.97	-5.90
DIVINDUS TRADING	25.57	26.18	29.12	0.61	3.54
CEGELEC	25.57	0	0	-25.57	-25.57
ATM MOBILIS	25.57	0	1.06	-25.57	-24.50
INATEL	25.57	1.58	0	-23.98	-25.57
SOMATEL	19	2.93	0	-16.06	-19
AIR ALGERIE	25.57	18.81	11.04	-6.75	-14.52

COSIDER	21.28	11.11	7.56	-10.16	-13.71
OCIA	21.28	3.28	3.28	-17.99	-17.99
L'AURASSI	21.28	17.21	11.65	-4.06	-9.62
KANAGHAZ	21.28	8.76	7.40	-12.51	-13.88
DAHLI	21.28	6.08	13.98	-15.20	-7.30
ETRHB HADDAD GROUP	21.28	17.92	17.92	-3.36	-3.36
EVSM	21.28	11.85	12.99	-9.43	-8.28
AMENHYD	21.28	18.74	19.39	-2.54	-1.89
SOREMEP	25.57	3.57	0	-22	-25.57
TOTAL	**22.37**	**13.37**	**12.64**	**-8.99**	**-9.73**

Source: Own Elaboration

Table 2 presents quantitative estimates for the average Accounting ETR, average Current ETR and the gaps between them and the average STR. We realize that it differences exist from increase to decrease between the Accounting ETR (calculated on the basis of the total tax expense) and the Current ETR (calculated on the basis of the tax payable), the Current ETR has the highest average of 38.65%. In fact, Accounting ETR has an economic significance (it attempts to measure taxes paid as a proportion of economic profit), which goes beyond the amounts actually paid for tax since, at least purely theoretically, the assets deductible for temporal differences, representing taxes paid in advance, will be recovered in the future, while liabilities related to time differences payable, which result in deferral of tax payments, will also be paid in future taxation years. In other words, using the total tax expenses as an indicator of the effective taxation incurred during the tax year, only the impact of permanent differences and deductions and rebates is taken into account, without taking into account the effect of temporal differences (to ensure that the financial year is only subject to the tax on the profit or loss for the financial year, which it had to bear if there were no temporary distortions between the accounting result and the taxable base). This approach seems adequate to attempt to analyze the effective tax burden borne by enterprises as a result of the activities they carry on in each financial year, regardless of when they have to process the payment of the tax. While the Current ETR, termed the fiscal ETR [26], is based on a purely fiscal criterion reflects the tax actually collected paid in relation to the taxable base affected by accrual financial accounting practices between enterprises.

Table 2 shows also that the gaps between ETRs and STRs appear very important and that there are considerable differences between enterprises. We distinguished three levels of the ETRs in comparison with the STRs. The 9.65% of the sample enterprises had ETRs equal to zero (0), this situation can be attributed to reasons generally relating either to the principle of territoriality of tax and profit (in this regard the CPT is determined in the name of legal persons at their social headquarters or their principal establishment, because of the definition we have adopted for large Algerian enterprises that can’t be the reason) [27], either to specific tax incentives, or to the imputation of losses (tax rules gives the possibility to carry forward losses incurred during a financial year on the enterprise’s future profits until the fourth financial year following the loss-making year. An estimated percentage of 13% of the sample enterprises had ETRs exceeds the STRs by a maximum of 25%. This means that there are many tax reintroductions, which lead to taxes to be paid higher than taxes calculated

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solely on the basis of accounting results. However, for the other sample enterprises, the ETRs were lower than the STRs. From 2012 to 2018 financial years, the average Accounting ETR and average Current ETR were respectively about 9% and 10% below the average STRs. Then we talk about elements making it possible to significantly reduce the taxable base versus the accounting result. Within the framework of these findings, it should be noted that the first essential factor of 0 (zero) or low ETRs is present, so we can consider the Algerian tax system as potentially harmful [28].

In fact, the measurement of ETRs does not make it possible to isolate the different determinants of variability with the STRs. It reflects the application effect of the tax legislation, incompatibility of accounting standards with tax rules, enterprises tax conformity and beyond that the enterprise' characteristics. Even so, as the average of the Accounting and Current ETRs were below the average of STRs, thus we concluded that the distributive justice of Algeria's tax system was uneven, allowing for the large Algerian enterprises to pay an inequitable tax contribution because it did not correspond to their profits level.

As Algerian tax legislation imposes enterprises according to their type of activity, our results have led us to question what involve the effective taxation by the sector of activity. In other words, has the preferential STR offered to production activities an impact on the ETR incurred by enterprises acting in different sectors? To answer these questions, we had grouped the various enterprises into sub-samples according to their sector of activity. For this, we have based ourselves on the classification of "ElMouchir", which classifies enterprises in «super-sectors» according to the origin of their turnover. At this level, we are not concerned with the differences between the ETRs and STRs because there are no specific STRs according to the enterprise sector of activity, Table 3 summarizes our sectoral analysis, giving us the average ETRs of each of our sub-samples for the period of 2012-2018:

Table 3: ETRs by activities sector

Sector	Average Accounting ETR%	Average Current ETR%
Activities and other Service Institutions	22.27	19.61
Building, Public Works and Hydraulics	11.58	10.01
Studies, Engineering and Financial Services	30.80	19.82
Extractive, Energy and Related Industries	10.02	10.07
Paper, Paperboard and Publishing	7.52	6.21
Plastics, Chemicals, Rubber and Glass	11.78	12.80
Provision of Industry Sector Services	17.58	13.50
Agri-Food Products	12.65	11.10
Iron and Steel, Metallurgy, Mechanics, Electricity and Electronics	13.24	12.50
Processing of Non-Metallic Ores, Wood and Cork	11.80	11.50
Transport Tourism, Transit, Hotel	16.88	17.16

Source: Own Elaboration

Table 3 shows that, similar to the results by enterprises, there are large disparities by sector of activity. Enterprises in the "Paper, Paperboard and Publishing" sector had the lowest ETRs while those whose activity is in the Studies, Engineering and Financial Services" sector had the higher Accounting ETR.

The Accounting ETR and Current ETR averages were rather close except for “Studies, Engineering and Financial Services” sector the difference between them has reached 10.82%, which indicates the existence of temporal differences between the accounting result and the taxable base. All sectors seem to benefit from tax incentives, these results support the Algerian Government's desire to stimulate all sectors of economic activities alike [29]and the differences in the level of taxation may be due to the disparity in the level of access to incentives, subject them to special accounting standards and/or tax techniques, the exercise of certain economic activities (e.g. export) or even the degree of competition as well as the enterprises characteristics(the financial structure, level of tangible assets,…). So the preferential STR was granted to stimulate production activities regardless of their activity sector in order to achieve self-sufficiency and dispense with import.

The measurement of the effective taxation shows that the large Algerian enterprises pay less than it has to pay in relation to its profits, which violates the principle of the Tax Equity and shows that the CPT system is not suitable for a rental economy that it aspires to becoming a capitalist financed by tax contribution. That is due to the evolution of tax legislation were only at the level of parameters. This parametric approach has left the weakness and inconsistency of some taxes intact and perpetuates the inefficiency of the tax system, which remains a patchwork of measures taken year after year without a strategic vision. On the other side, the excessive use of tax incentives do not meet strategic logic, nor does it adequately target or assess the budgetary cost and reduce the effective level of taxation of a large portion of taxpayers (the level of tax revenue excluding hydrocarbons is low than 16% of GDP in 2020) and demonstrate the need to streamline the provision of tax incentives by improving their design, transparency and administration to reduce indirect costs and unintended consequences.

7. Conclusion

In this Research Paper, we compared the STRs legally imposed with the ETRs measured using items of enterprises’ Financial Statements. It is clear from the study that the ETRs, which represent the tax effectively paid as a proportion of profits, do not correspond with the STRs, which represent the ratio of profits that the Government aspires to receive in the form of a tax contribution. Thus, the STRs are a purely theoretical hypothesis. The distributive justice of the tax contribution are therefore dysfunctional and reflect a violation of the principle of Tax Equity because the results showed that most of the large Algerian enterprises studied used elements affecting the determination of the taxable base that led to be lower than accounting profit and necessarily to ETRs lower than STRs.

The study did not show the determinants of variability between STRs and ETRs, which is a limitation of this research paper, further analyses may be considered for the factors influence and determine the ETRs that will complete the study in better way.

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