# The Effect of High Ownership Concentration on Tax-motivated Income Shifting

Lynda Soltani[1,*]

[1]*Faculty of Law, Economics and Management, University of Jendouba, Tunisia*

**Abstract:** This paper focuses on multinational corporate groups that resort to income shifting motivated by tax evasion, measuring their association with high ownership concentration.

To test our hypothesis, our sample is composed of parent companies located in North Africa as well as subsidiaries with a lower tax rate than the parent company. The model is based on the natural logarithm of pretax profit.

The results show that parent companies with a high concentration of ownership transfer income for tax avoidance purposes.

The result is that governments are reducing their statutory tax rates to encourage investors to focus on high-concentration companies to increase economic growth. This study shows that, depending on their characteristics, enteprises can practice tax avoidance strategies, with an emphasis on high levels of ownership concentration.

**Keywords:** Ownership concentration, Tax-motivated income shifting, Multinational groups, Tax avoidance.

## 1. INTRODUCTION

There are many strategies used by mulinational business groups to avoid taxes, the mobility of capital and the lack of transparency in the activities of their subsidiaries, which is why many companies shift income for tax avoidance purposes with the aim of optimising economic advantage.

The paying tax is an integral part of a multinational company's responsibilities to the countries and the business group in which it operates. A local or foreign company uses many country resources when it is founded, and tax avoidance is a form of illegal public resource use.

Tax evasion occurs when income is transferred for tax purposes from high-tax countries to low-tax countries. Regardiong tax transparency, there is the Africa Initiative, which aims to exploit improved transparency to curb tax evasion based on the use of information exchange as a tool for detecting tax fraud and evasion. The implementation of an automatic exchange of information standards adopted by the OECD in 2014, allowed tax authorities around the world to receive, on an annual basis and without request, information about the taxpayer's tax affairs. Authorities around the world to receive, each year, without prior request, details of financial assets held by their residents and income received in other jurisdictions (Note 1).

Highly concentrated business groups represent independent entities that can make decisions considering minority subsidiaries, which facilitates income shifting by multinational groups to increase their net income and maximise the economic benefits of their shareholders.

*Address correspondence to this author at the Faculty of Law, Economics and Management, University of Jendouba, Tunisia;
E-mail: lynda_soltani@yahoo.fr

On the basis of these considerations, the aim of our research is to study income shifting for tax purposes and tax evasion after the implementation of transparency-based tax standards in North African countries (Tunisia, Morocco and Egypt) where multinational firms are highly concentrated.

Our study advances the study of the association between the transfer of income for tax purposes and the high concentration of ownership of parent companies.

The study consists of eight sections beginning with a review of the literature and research hypothesis section 2, then a description of the research method is given in sections 3, 4 and 5. Section 6 presents the empirical results, section 7 describes the robustness tests, and the conclusions are peresented in a section 8.

## 2. LITERATURE REVIEW AND HYPOTHESIS

### 2.1. Ownership Structure and Income Shifting

A previous literature review revealed that a company that is part of a group is more appropriate for analysing the organisation than an individual company. Highly concentrated business groups are independent when making decisions without taking into account the opinions of minorities and by granting them tax advantages. Their results in Europe show that in a multinational group with a high concentration of ownership, income transfers take place at the level of the parent company and the subsidiaries.

This is probably because minority shareholders have limited influence, and the shareholders of the parent company are in a position that allows them to opt for a tax avoidance strategy. (Alice Medioli *et al*., 2023).

Multinational companies have many opportunities to transfer income abroad, which is generally explained by the large differences in international tax rates, which give them powerful incentives to do so.

Researchers have shown that the international transfer of profits depends on the ownership structure and tax regime of each country.

A study carried out on European multinational companies (Harry Huizinga and Luc Laeven, 2008) found significant evidence of both types of profit transfer between parent companies and subsidiaries and between subsidiaries and subsidiaries and found that the costs of international profit transfer appear to be considerable, leading to a significant redistribution of national corporation tax revenues in Europe, particularly in Germany, which in 1999 had the highest rate of corporation tax and lost tax revenues.

Al-Jaifi, (2017) found that a high concentration of ownership requires the protection of minority shareholders against manipulation of information to retain control of the company.

The transfer of income from companies in high-tax countries to low-tax countries is a method of tax evasion in the world of multinational companies. Multinational companies change the distribution of declared profits regardless of whether the company is profitable or not (De Simone *et al.*, 2017).

In 2020, Medioli *et al.*, in their study of a sample of European companies focused on multinational intragroup income transactions and more specifically, ownership structure and minority interests, European multinational groups transfer income to countries with a high level of regulation.

In China, research has revealed a significant and positive nonlinear association between a concentrated ownership structure and income tax, which means tha an increased concentration of ownership reflected by voting rights has a positive impact on tax avoidance and vice versa if a lower level of control and voting rights are negatively related to tax avoidance (Richardson, *et al*, 2016).

In terms of the impact of performance, the empirical results of Gu *et al.*, (2018) show that multinational groups have a more positive effect on investment in developed countries than in developing countries and on the performance of EMNEs (emerging economy multinational enterprises)

In the same context, researchers have studied the relationship between the ownership structure of companies and performance indicators in the Middle East and North Africa (MENA).They find that ownership concentration is positively associated with return on equity firm value creation (Arayssi and Jizi, 2019).

In a second paragraph, Midioli *et al.* 2020 found that the transfer of income motivated by property and taxation is why it is worth studying the transfer of income and tax evasion.

## 2.2. Income Shifting and Tax Avoidance

Tax avoidance is the application of finance law to obtain a tax advantage. This involves artificial transactions carried out by the company, not for genuine commercial reasons, but for the sole purpose of obtaining a tax advantage.

Since the 1990s, a number of researchers have studied the phenomenon of income shifting motivated by the search for a tax advantage in multinational business groups. (Collins *et al*., 1998; Jacob, 1996; Klassen *et al*., 1993).

The first model, developed by Huizinga and Laeven (2008), concerns the differences in tax regimes in the countries where companies belonging to the same group are located, as well as profit transfers between subsidiaries and parent companies.

De Simone (2016), finds a positive relationship between the transfer of income by companies and tax motivation.

In their study, Markle (2016) tests the comparison of multinationals' profit transfers motivated by territorial and international tax regimes, and finds that, on average, multinationals subject to territorial tax regimes transfer more income than those subject to worldwide tax regimes.

The complexity of companies and the reduced transparency of accounting information as a result of income transfer operations for tax purposes reduce information quality (chen *et al.*, 2018).

Many studies have examined the phenomenon of ownership concentration, which is associated with an increase (Slemrod 2004; Crocker and Slemrod 2005; Chen and Chu 2005, Khan *et al* 2016).

Multinational companies use their size and complexity to shift profits from high-tax to low-tax jurisdictions (Choi *et al*., 2020).

Profit transfer operations by multinationals represent a threat to the tax base of high-tax economies around the world. To reduce its tax burden, the multinational group engages in profit transfer activities, and transfers a fraction of the parent company's additional profits to its low-tax subsidiaries only (Dharmapala, D. and Riedel, N. 2013).

This study of European companies makes two contributions. The tax avoidance achieved through the transfer of income depends on the level of taxation in different countries.

Moreover the concentration of group ownership is linked to income transfer activities.(Medioli *et al*., 2023).

The previous results lead us to empirically test the effect of the concentration of ownership on the transfer of income made for tax evasion purposes on companies located in North Africa and in the application of the standard initiative based on tax transparency.

## 2.3. Theoretical Framework

Many studies have investigated the determinants of income shifting activities for tax purposes (Toby Stock, 2004 ; Kingsley O. Olibe, Zabihollah Rezaee, 2008).

Based on a review of previous literature, the objective of this study is to test the high level impact of ownership concentration on the transfer of income from one country to another so that firms benefit from a tax advantage. It is therefore of interest to empirically study North African firms that are members of the global forum on transparency and exchange of information for tax purposes.

As a result, we find that in multinational companies shareholders with a high concentration are independent when making decisions.

The Africa Initiative ensures the commitment of African countries to take advantage of global progress through tax transparency, which provides access to financial and accounting information to identify the origin and destination of flows; as a result, national authorities can find companies that are engaging in illegal activities.

Focusing on income shifting between highly concentrated parent companies and subsidiaries, in our study we propose the following hypothesis:

*H*. Concentrated ownership has an impact on tax-motivated icome shifting between the parent company and its subsidiary.

## 3. MODEL

Based on the idea developed by ( Markle 2016 ; Medioli *et al*., 2023) and which represents an extension of the study of (Huizinga and Laeven, 2008) the following econometric model is allowed :

$$Ln(PBT) = \beta_0+\beta_1 CParent_{it}+ \beta_2\ Ownership90_{it} + \beta_3\ CParent_{it}* Ownership90_{it}+\beta_4 Ln(TAssets)_{it} + \beta_5 Ln(GDP)_{it} + \text{parent firm and year fixed effects}+ \varepsilon_{it}$$

The equation is based on empirically tested studies, our dependent variable is the natural logarithm of profit before the icome tax expense which measures the transfer of income and concerning the independent variables, C parent represents the tax difference between a subsidiary and the parent company only if this negative variable explains the existence of a transfer of tax-motivated revenue between the subsidiary and the parent company.

Ownership90 represents the level of control of a parent company to its subsidiary; if it is 90% or more the parent company affects the income transfer activities between the subsidiaries.

The multiplication of C parent and Propriété90 represents the intention to avoid tax by shifting income between parent and subsidiary, and this negative variability shows that if the parent company controls its subsidiary to 90% or more, it is motivated by a shifting income tax.

We include parent-firm fixed effects to control for systematic differences in reported income and year fixed effects. The definitions of the variables are presented in the appendix.

## 4. SAMPLE

To test our hypothesis, we chose our sample of 24 multinational companies in North Africa (Tunisia, Egypt and Marroc). Financial statement and ownership data were taken from the Thomson One Banker database and from reference documents and reports on the websites of the companies themselves. In reference to the Huizinga and Laeven (2008) model, we use nonconsolidated information; these companies were observed over a period of 5 years from 2018 to 2022, taking into account the periods of the implementation of the African initiative during these 3 renewable phases (2015-2017), (2018-2020) and (2021-2023) and the commitment of countries to implementing the tax transparency standard.

We use data on tax rates in countries linked to the website https://stats.oecd.org/. Our research focuses on the international transfer of profits, so our sample includes multinational groups other than financial firms based in North Africa that have a subsidiary with a lower tax rate than that of the parent company whose registered office is outside the parent company's country.

## 5. DESCRIPTIVE STATISTICS AND CORRELATION MATRIX

Starting with the descriptive statistics of the sample used for our hypothesis, the mean profitability is 135 million dollars and the median is 14.46. To complete the analysis, we use a logarithm.

The coefficient of the mean of parent company C is negative (0.06) with a low standard deviation (0.01), which reflects that the statutory tax rate of the subsidiaries in the analysis is differentiated and this low standard deviation value shows that the statutory tax rate of the parent company is higher than the statutory tax rate of its subsidiary for the reference period.

The descriptive statistics presented in Table 1 show that our sample comprises approximately 70% of subsidiaries controlled at 90% or more. Table **1** presents the descriptive statistics of the control variables.

Finally, to detect the risk of multicollinearity, we opted for a correlation analysis and found that there was no multicollinearity problem. (Table **2**).

## 6. RESULTS AND DISCUSSION

The results of our model presented in Table 3 show a negative relationship defining the existence of an income transfer strategy between the parent company and the tax-motivated subsidiary, but this relationship is statistically insignificant (coefficient -1.916619, p value 0.236). This is confirmed by the results of (Markle, 2016), which show that the lack of statistical significance in the estimate of the coefficient of Cparent indicates that, the transfer occurs between foreign subsidiaries and not between the parent company and its subsidiary.

The results in Table **4** show that our model tests the relationship between the parent company and ownership concentration between" the C parent" and "Ownership90". The results show that there is a negative and significant relationship between "C parent ownership90" and pretax profits (coefficient of -7.217655, p-value of 0.010). This indicates that companies that are at least 90% owned transfer their income differently between the parent company and the subsidiaries, which confirms our hypothesis.

This shows that in North African countries, tax evasion through the transfer of income between parent companies and subsidiaries is not confirmed by studies carried out in Europe.

This finding confirms this activity between subsidiaries, which is explained by the differences in tax rates between countries.

The incentives for tax evasion *via* income transfer come from significant differences between international tax rates. Our theoretical framework suggests that the international transfer of profits by a multinational enterprise depends on its ownership structure. More precisely, this framework allows the transfer of profits between parent companies and foreign subsidiaries which leads to a significant redistribution of national corporate tax revenues in North Africa, because this top tax rate causes a loss of tax revenue due to international profit shifting, which incentivises countries to reduce their statutory tax rate.

## 7. ROBUSTNESS

To assess the robustness of our results, we also performed a robustness check by controlling for the country fixed effect. Our analysis presents results that confirm the main results and Tables **5** and **6** show that the results are consistent with those of the basic regressions.

## CONCLUSION

In conclusion, we have studied the impact of ownership concentration on income shifting for tax purposes and empirically tested it in multinational groups located in three North African countries (Tunisia, Egypt and Morocco). The focus of our study is on Africa, which is committed to the iniciative of fighting tax evasion according to the specialised literature (Medioli *et al*., 2023) on European groups, the transfer of income for tax purposes becomes more important as the controlling shareholder encounters fewer obstacles or no at all when the minority shareholdres are completely independent, which confirms our earlier findings that parent companies with a high level of concentration take measures to transfer income to avoid taxes.

In the African countries studied, this is explained by the fact that the countries studied have not yet started to apply tax transparency standards. Tunisia is committed to starting exchanges of financial accounts information in 2022, Egypt in the end of 2023 and Morocco in 2024.

The profit transfer strategy for tax purposes encourages governments, on the one hand to reduce their statutory tax rates to strengthen voluntary compliance with tax obligations to increase economic growth and on the other hand, to invest in companies with high concentrations of ownership.

Our study is limited by the small number of exchanges. This topic is of interest for future research.

Our study raises interesting questions for future studies. It would be particularly interesting to examine characteristics other than ownership structure that have an impact on income transfer strategy and to focus on other countries.

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## APPENDIX: VARIABLE DEFINITIONS

| | |
|---|---|
| **Dependent Variable** | |
| **LN (PBT)** | natural logarithm of profit before income tax |
| **Independents variables** | |
| **C parent** | Statutory tax rate of subsidiary - Statutory tax rate of parent |
| **Ownership90** | 1 if parent controls subsidiary at least at 90% , 0 otherwise |
| **LN(Tangible asset)** | natural logarithm of tangible asset |
| **LN(GDP)** | natural logarithm of Gross Domestic product |

**Table 1. Descriptive statistics.**

| | **Mean** | **SD** | **25$^{th}$ Percentile** | **Median** | **75$^{th}$ Percentile** | **Maximum** | **Minimum** |
|---|---|---|---|---|---|---|---|
| **Dependent variable** | | | | | | | |
| **PBT** | 135.0888 | 328.4363 | 4.76 | 14.46 | 104.83 | 1564.9 | 0.084 |
| **LnPBT** | 2.943925 | 2.189162 | 1.560212 | 2.671386 | 4.65121 | 7.355577 | -2.476938 |
| **Independants variables** | | | | | | | |
| **Cparent** | -0.0589167 | 0.0894333 | -.1 | -.0375 | -.02 | .16 | -.31 |
| **Ownership90** | 0.6557377 | 0.4770864 | 0 | 1 | 1 | 1 | 0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **CParent$_{it}$* Ownership90** | -0.0385833 | 0.063471 | -0.09 | -0.02 | 0 | -0.23 | 0.16 |
| **TAsset** | 135.5408 | 194.1639 | 30.7 | 55.4 | 150.1 | 876.8 | 3.8 |
| **LnTAsset** | 4.061229 | 1.392989 | 3.424257 | 4.01458 | 5.003731 | 6.776279 | 1.335001 |
| **GDP** | 220.5456 | 137.2662 | 121.3 | 196.3 | 365.3 | 410.2 | 41.91 |
| **LnGDP** | 5.124746 | 0.8163558 | 4.798267 | 5.241203 | 5.900719 | 6.016645 | 3.735524 |

**Table 2. Pearson correlation matrix.**

| - | LnPBT | Cparent | Ownership90 | CParent$_{it}$* Ownership90 | LnTAsset | LnGDP |
|---|---|---|---|---|---|---|
| **LnPBT** | 1.0000 | | | | | |
| **Cparent** | -0.2594 | 1.0000 | | | | |
| **Ownership90** | -0.2183 | 0.0165 | 1.0000 | | | |
| **CParent$_{it}$* Ownership90** | -0.0753 | 0.5703 | -0.4316 | 1.0000 | | |
| **LnTAsset** | 0.3700 | -0.5092 | 0.0232 | -0.1701 | 1.0000 | |
| **LnGDP** | 0.0891 | -0.2012 | 0.2617 | -0.2600 | 0.2235 | 1.0000 |

**Table 3. Multivariate regression (income shifting).**

| LnPBT | Sign | Coefficient | P value |
|---|---|---|---|
| **Cparent** | - | -1.916619 | 0.236 |
| **LTAsset** | + | 1.255944 | 0.000 |
| **LnGDP** | ? | -0.6332739 | 0.000 |
| **Constant** | | 0.9073984 | 0.301 |
| **Parent firm and year fixed effect** | | | |
| **Adj. R2** | | 0.5864 | |
| **Observations** | | 120 | |

**Table 4. Multivariate regression (income shifting and ownership concentration).**

| LNPBT | Sign | Coefficient | P value |
|---|---|---|---|
| **Cparent** | | 1.219185 | 0.568 |
| **Ownership90** | | -1.204017 | 0.004 |
| **CParent$_{it}$* Ownership90** | - | -7.217655 | 0.010 |
| **LnTAsset** | ? | 1.287506 | 0.000 |
| **LnGDP** | ? | -0.5823924 | 0.001 |
| **Constant** | + | 1.225695 | 0.148 |
| **Parent firm and year fixed effect** | ? | | |
| **Adj. R2** | | 0.6337 | |
| **Observations** | | 120 | |

**Table 5. Multivariate regression (incomeshifting).**

| LNPBT | Sign | Coefficient | *p* value |
|---|---|---|---|
| **Cparent** | - | -1.916619 | 0.236 |
| **LTAsset** | + | 1.255944 | 0.000 |
| **LnGDP** | ? | -0.6332739 | 0.000 |
| **Constant** | | 0.9073984 | 0.301 |
| **Parent firm and year fixed effect** | | | |
| **Adj. R2** | | 0.7137 | |
| **Observations** | | 120 | |

**Table 6. Multivariate regression (income shifting and ownership concentration).**

| LNPBT | Sign | Coefficient | *P* value |
|---|---|---|---|
| **Cparent** | | 1.219185 | 0.568 |
| **Ownership90** | | -1.204017 | 0.004 |
| **CParent$_{it}$* Ownership90** | - | -7.217655 | 0.010 |
| **LnTAsset** | ? | 1.287506 | 0.000 |
| **LnGDP** | ? | -.5823924 | 0.001 |
| **Constant** | + | 1.225695 | 0.148 |
| **Parent firm and year fixed effect** | ? | | |
| **Adj. R2** | | 0.7415 | |
| **Observations** | | 120 | |

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