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COSTS AND TAXES IN THE LIGHT OF FINANCIAL MANAGEMENT IN COMPANIES LISTED ON WSE

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Abstract

The purpose of the article/hypothesis: The goal of this paper is to present costs and taxes as a part of financial management process in companies listed on the WSE. In the hypothesis it is expected that costs influence taxes paid by companies in a negative way due to the tax avoidance purpose attitude presented by managers, and as a result, both liquidity and debt levels are influenced.

Methodology: Correlation coefficients and regression models are evaluated to find the answers for the research questions related to the relationships between tested variables.

Results of the research: The correlation between costs and taxes is negative as expected, as well as their relationship with the liquidity. Contrary to the expectations, the correlation between taxes and costs is mostly positive, alike the relationship between liquidity and debt. Findings are characteristic for the Polish market that is rather conservative in the approach to taxes, liquidity and leverage strategies compared to other developed markets. These findings prove that liquidity and debt management issues are subjective and related to the market behavior such as tax evasion attitudes.

Keywords: costs, taxes, liquidity, capital structure.

JEL Class: M21.

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INTRODUCTION

From the point of view of governments, taxes constitute their main source of revenue and are considered in positive terms. However, from the viewpoint of companies that have the obligation to pay their corporate taxes, this issue is something to be avoided as much as possible, and since it cannot be extinct, many enterprises try to minimize it. If a firm wants to avoid paying high taxes, it must show high levels of various types of costs. Hence, the earnings before taxes will be as low as possible, and the taxes based on that, will be low too. Such decisions, very often related to the personal view on cheating on taxes affect the policy of companies in the fields of financial liquidity and capital structure management.

The goal of this paper is to present costs and taxes in companies in the light of financial management concepts related to liquidity and capital structure, as well as to test the hypothesis that there exists a significant relationship between taxes, costs and financial management strategies. A negative relationship between corporate costs and corporate taxes is expected, and the same situation applies to a negative relationship between taxes, liquidity, and external financing. The other research question that arises is what types of costs play the most significant role in reducing the earnings before tax and influence corporate taxes. We can distinguish the cost of goods sold or the cost of revenues, the depreciation cost, the selling and other administrative expenses as well as the research and development ones. Looking for the explanation of the main goal provided in this paper, we attempt to evaluate whether there is any relationship between the level of taxes and the financial liquidity measured in dynamic (CCC – cash conversion cycle) and static ways (CR – current ratio). When a firm pays its taxes due, its most liquid assets are being reduced, so the less taxes, the better its liquidity position. On the other hand, fewer liquid companies with liquidity problems may execute the strategy of avoiding paying taxes. It can be also a behavioral phenomenon related to the need of possessing liquid assets to reduce risk.

Avoidance of taxes may be the main driver of decisions made by managers that influence the strategies performed by companies. It can partially explain various theories in the field of optimal capital structure. Avoidance of taxes may be the main driver of decisions made by managers that influence the strategies performed by companies. It can partially explain various theories in the field of optimal capital structure.

A company's capital structure is the proportion of debt and equity capital that is used to finance its assets and is represented by the debt-to-equity ratio (DE). The mix of these sources of financing that maximizes the value of the firm is its optimal capital structure and is one of the goals of firm's management.

According to Modigliani and Miller (1958: 261–297, 1963: 433–443), if we assume that there are taxes to be paid by companies, the firm can increase its value by preferring to finance its assets and investments more with debt than equity capital, because of the debt tax shield, which allows the firm to pay less taxes. In other words, more debt financing indicates more tax deductions, and less taxes to be paid. The present analysis is based on companies listed on the Warsaw Stock Exchange in Poland, a transition economy that could give different results from the previous studies that mostly analyzed the developed economies of the USA and the UK.

The results of our study will enrich the pertinent literature, since more light will be shed from the point of view of a transition economy on the issue of the tax management, or on the influence of taxes on the firm's value. Our study can also contribute to the decision-making process of the company managers regarding the strategic decisions on the optimal capital structure, liquidity and the handling of taxes.

The paper is structured as follows. The next section includes the analysis of the literature. Then, the data and methodology are presented followed by Section 3 that presents and discusses the empirical results. The last section contains a summary and concluding remarks as well as ideas for further research.

1. REVIEW OF LITERATURE

Since 1963, based on Modigliani and Miller's (1963: 433–443) statements with the assumption that there are perfect capital markets and corporate taxes, for the same level of risk, the value of a levered firm is higher than the value of an unlevered firm to an amount equal to the gain from leverage. Later, Brennan and Schwartz (1978: 103–114) and Chen (1978: 863–877) concluded that the optimal level of leverage is determined by a trade-off between the expected bankruptcy costs if there is too much leverage and the tax deductibility of interest payments of the company's debt. In the decade of the 1990's, Harris and Raviv (1990: 321–349), Stulz (1990: 3–28), Barclay and Smith (1995: 609–631) stated that the main determinants of a firm's capital structure were taxation and agency costs. However, the relevant empirical studies on whether taxes affect debt financing have revealed conflicting and/or inconclusive results. These finding can be related to some external issues that can influence the decisions of managers and value of companies, such as costs management and taxes due.

DeAngelo and Masulis (1980: 3–81) found a positive relationship between the effective corporate tax rates and leverage because of the advantage of debt financing due to the tax deductibility of interest. Jensen (1986: 323–329) implied that companies were expected to use debt in financing their investment

projects to gain from tax shields and to diminish the agency costs arising from the agency conflicts between managers and owners. Furthermore, because of the debt covenants which implied that debtholders were analyzing thoroughly the underlying company, the performance of that company would be superior, since the managers would work harder and more efficiently.

Lasfer (1995: 265–285) examined empirically the effect that corporate taxes and agency costs had on the capital structure of the corporations. He used the ratio of long-term debt to capital employed as the dependent variable for both long-term and medium-term debt. He found that there was a significant negative relation between leverage and Tobin's q, total assets, beta, and managerial ownership. If Tobin's q reflects the investment opportunities, these results imply that firms with high growth options most likely will not have free cash flow problems and they will use less debt financing. Also, companies with high managerial ownership issue less debt, which supports the agency theory. A positive relationship between the level of leverage and its lagged value and a weak relationship between leverage and the firm's effective tax rates was found. Hence, he inferred that in the short run, the companies determine their capital structure to reduce their potential agency costs and not to gain from tax shields. His results contrasted with the tax hypothesis, since he found that tax-exhausted companies had a higher level of debt in their capital structure than tax-paying companies. This implies that taxation does not influence the capital structure of the companies in the short-run, while in the long-run, companies that have no benefits from tax shields and companies that are owned by managers issue less debt.

Lasfer's findings (1995: 265–285) and regression results indicated that leverage is not affected by corporate tax rates, similarly to Myers (1993). When considering large firms, it is assumed that they will be more diversified (hence, less risky), they will have a higher liquidation value and more redeploy able assets. For this group of firms, their results were consistent with Bradley et al. (1984: 857–878), Williamson (1988: 567–592), Titman and Wessels (1998) and Harris and Raviv (1990), in other words, the higher the value of a firm, the higher its leverage. Myers (2001: 81–102) argued that agency problems and conflicts could cause significant reasons for a company to hold liquid assets and that would also influence its capital structure. Companies with more growth opportunities should hold more cash and all the firms should monitor their liquidity in relation to their debt structure.

There are empirical studies which have found that more liquid companies can afford more debt and have lower costs in monitoring them, so they depict a positive relation between liquidity and leverage, such as Williamson (1988: 567–592), Shleifer and Vishny (1992: 1343–1366), Anderson (2002: 1–29) and others. On the other hand, De Jong et al. (2008: 1954–1969), Lipson and Mortal (2009:

611–644), Šarlija and Harc (2012: 30–36) and others have found that more liquid companies have less debt, because they use the additional liquidity to finance their activities internally. Anderson (2002: 1–29) for a sample of the UK and Belgian companies examined the relationships among the firm's financial structure, its choice of liquid asset holdings and growth. The results revealed a positive relationship between leverage and liquid asset holdings.

Weichenrieder and Klautke (2008) tried to analyze the corporate capital structure from a public finance perspective, through a theoretical model by evaluating the efficiency costs of a distorted financial structure. Then they attached numbers to the cost of financial distortions and developed an example suggesting that a 10% difference between the corporate tax and the personal income tax may lead to yearly efficiency costs per unit of total assets that lie between 1.3 and 3.3 percent of the nominal interest rate. A number of empirical studies have tried to analyze the correlation between the corporate tax rate and the corporate debt ratio, but the results are not consistent and vary too much.

Sussman and Olivola (2011: 1–19) for the USA market conducted several experiments to investigate whether US citizens are tax averse or not. Their results indicated that US citizens did not like paying taxes and demonstrated a tax averse behavior. They were willing to make sacrifices to avoid paying any taxes whereby they would not make to avoid other even larger costs but not related to taxes. In other words, the desire of the Americans to avoid taxes was more than rational economic behavior that determines that someone would always try to avoid a monetary cost and from two costs would always try to avoid the highest. Hence, the authors concluded that US citizens disliked taxes for more reasons than monetary costs, such as political and/or ideological factors. Irrational decisions of entrepreneurs regarding costs and taxes influencing the policy of a company can be considered in terms of behavioral biases, too.

Šarlija and Harc (2012: 30–36) investigated the effect of liquidity on the capital structure of Croatian firms and found a statistically significant negative correlation between liquidity and leverage ratios. The results showed that there was a statistically significant negative relation between leverage ratios and the structure of current assets. Bolton et al. (2014: 1–61) focused on financially constrained firms and following the dynamic trade-off theory, they analyzed a model of optimal capital structure and liquidity choice. Their proposition was a valuation model for debt and equity in the presence of taxes and external financing costs. They considered expected tax advantages of debt and bankruptcy costs, and they added the cost of external financing for the company to that model. External financing reduces the firm’s liquidity reserves and increases the cost of debt. So, they studied the "debt conservatism puzzle" from another point of view and showed that financially constrained companies select to use less debt in their capital structure to conserve their liquidity. They showed that by incorporating the

external financing costs of debt, the classical model for the net tax benefits of debt does not hold, since the realized corporate earnings are separated in time from the payouts to the underlying firm's owners. They offered as an explanation about why the trade-off hypothesis was not supported by their data, the fact that the latter only applies to financially unconstrained companies, while the sample firms were financially constrained with external financing costs and for them, they can adjust their debt policy or their cash/liquidity policy, or both of them.

Miloş (2015: 129–134) for a sample of Romanian companies investigated the determinants of capital structure and found a negative relation between liquidity and leverage. Růčková (2015: 69–79) analyzed the impact of liquidity and other factors on the use of debt in manufacturing companies in V4 Group. The results for four countries were not the same but in most of the cases, including Poland, liquidity influenced the debt ratio in a negative way. Canzoneri et al. (2016: 39–53) developed a theoretical model for public debt management and stated that liquidity demand must be satisfied as well as a constant tax rate must be maintained so that conflicts would not arise. Šeligová (2018: 223–234) focused on the energy sector in the Czech and Slovak Republics for the period of 2007–2015 and determined the impact of funding sources on the firms' liquidity**.** The correlation between debt to equity ratio and liquidity current ratio was found negative in both cases. So, the results indicate that the more liquid the firm is, the less leveraged it is.

Ni et al. (2017: 1158–1169) in his theoretical approach stated that the corporate tax level can also play a significant role in capacity of debt financing. Higher tax rate leads to a bigger tax benefit of debt, it also gives rise to a higher tax liability. The firms balance the tax benefit of debt with the agency cost, to meet the optimal level of debt. On the other hand, Ko and Yoon (2011: 824–855) attempted to determine whether or not, Korean firms failed to fully utilize the tax benefits of debt. These firms' low leverage, however, seems reasonable when the financial distress costs were considered. Waluyo (2018: 331–339) indicated that a company tends to use taxes efficiently by maximizing costs, which can be reduced with income by using debts. He analysed Indonesian market and found that the tax rate from manufacturing companies has a positive coefficient on leverage; it shows that, if the income tax rate is high, the company tends to use taxes efficiently. The efficient use of tax rates is accomplished as a company depreciates the value of its fixed assets; this is done, so that the company does not need to make any more fiscal corrections. The company aims to intensify its capital against the effect of tax rates to be more efficient.

Private companies have a set of strategies to optimize their compliance cost burden and they can be expected to choose cost-optimal decisions, Therefore, based on the results of the above mentioned studies for the countries of Belgium, the USA and the UK as developed economies, and the transition economies of

Romania, Croatia, the Czech and Slovak Republics and Indonesia, we have developed the research questions related to the relationships between costs, taxes, liquidity and indebtedness and the testable hypotheses. Our testable hypotheses try to investigate the relation between corporate costs and corporate taxes, as well as the relation of corporate costs and liquidity, the relation of leverage and corporate taxes and costs and liquidity for the Polish market.

Based on the findings presented in the literature and the goal of this paper that is to present costs and taxes in companies in the light of financial management concepts related to liquidity and capital structure, the hypothesis that there exists a significant relationship between taxes, costs and financial management strategies is tested in the next sections.

2. DATA AND METHODOLOGY

There are 8804 observations related to 419 non-financial companies listed on the Warsaw Stock Exchange taken into consideration for the period of 2012–2018 representing the time between financial (2008–2010) and health crises (2019–to date). The data was collected from the Eikon database. We considered the large- and medium sized companies listed in the main and alternative markets on the WSE. Our initial sample consisted of 807 companies but almost half of them were excluded due to the limited available information regarding their costs and taxes.

The following variables are assessed for the Pearson correlation analysis and for the regression analyses:
CCC = cash conversion cycle;
CR = current ratio;
DE = debt to equity ratio;
CostR = costs of revenue divided by revenues;
CostsSGA = selling, general, administrative expenses divided by revenues;
CostsRD = R&D expenses divided by revenues;
CostsDeprA = depreciation and amortization costs divided by revenues;
TaxProv = provision for taxes divided by revenues;
TaxCur = current taxes divided by revenues;
TaxInc = income tax divided by revenues.

We applied several OLS single regression models as described generally in Equation (1):

$$Y_i = a_0 + a_1 X_1 + e_i \qquad (1)$$

The dependent variables in our various models according to the hypothesis we are testing are as follows: the cash conversion cycle for liquidity *(CCC*), the debt to equity ratio for leverage (*DE*) and three tax variables i.e.: *TaxProv, TaxCur* and *TaxInc*. Taking into consideration different variables as independent that could be affecting our dependent variables considered in this analysis, 26 simple regressions are estimated to detect the influence of costs, taxes and liquidity on various strategies performed by the Polish companies. Wherever necessary, some models were corrected regarding the heteroskedasticity.

In order to answer our research question that there exists a significant relationship between taxes, costs and financial management strategies, we have formulated the following testable hypotheses:

H1: There is expected to be a negative relationship between corporate costs and corporate taxes.
This hypothesis is tested with the correlation and regression models based on the following variables representing costs: *CostR, CostsSGA, CostsRD*, and *CostsDeprA* and the variables representing taxes: *TaxProv, TaxCur* and *TaxInc*. In various regression models, for this hypothesis to be tested, the dependent variable is one of the tax variables in each model and we test how it is affected by each of the costs in single regressions.

H2: There is expected to be a negative relationship between a firm's corporate taxes and costs with the liquidity.
This hypothesis is tested with the correlation and regression models based on the following variables representing taxes: *TaxProv, TaxCur* and *TaxInc*, costs: *CostR, CostsSGA, CostsRD,* and *CostsDeprA* and the following variables representing liquidity: *CR* and *CCC.* In the various regression models for this hypothesis to be tested, the dependent variable is the *CCC*, and the independent variables represent taxes and costs.

H3: There is expected to be a negative relationship between corporate debt and corporate taxes and costs.
This hypothesis is tested with the correlation and regression models based on the following variables representing taxes: *TaxProv, TaxCur* and *TaxInc* and *DE* as a variable representing debt. In various regression models for this hypothesis to be tested, the dependent variable is the debt ratio, and the independent variables represent taxes and costs.

H4: There is expected to be a negative relationship between corporate debt and financial liquidity.
This hypothesis is tested with the correlation analysis based on the following variables representing liquidity: *CR* and *CCC* with *DE* representing the debt ratio. We do not analyse this issue in depth because this issue is not the main subject of this paper. We rather focus on the costs and taxes influencing the debt and liquidity management, but this information can be useful for the interpretation of the results.

3. RESULTS AND ANALYSIS

As a first step, the analysis of the sample descriptive statistics is presented in Table 1.

Table 1. Descriptive statistics, number of observations - 8804

Variable	Mean	Median	S.D.	Min	Max
CCC	-0.0000173	-40.3	0.00000341	-0.000000147	229.00
CR	3.20	1.48	14.6	0.000	802.00
DE	0.297	0.0858	6.33	-350.00	251.00
CostR	2.94	0.753	114.	-252.00	0.000923
CostsSGA	2.79	0.165	51.1	-128.	0.00096
CostsRD	1.29	0.00367	7.08	-0.0380	62.40
CostsDeprA	1.13	0.0172	26.20	-0.747	0.000106
TaxProv	-0.320	0.00844	24.50	-0.000176	482.00
TaxCur	0.0238	0.00819	0.466	-0.101	28.60
TaxInc	-0.444	0.00954	26.40	-0.000176	227.00

Source: own study

Mean values indicate that the selected companies performed an aggressive dynamic liquidity strategy with a negative mean and median level of the cash conversion cycle (*CCC*) and a conservative working capital policy as measured by the current ratio (*CR*). The mean value of the debt to equity ratio (*DE*) indicates how the level of debt on average in the selected companies is taken into consideration.

The Pearson correlation coefficients between the examined tax ratios and costs/expenses variables are presented in Table 2.

Table 2. Pearson correlation coefficients between costs/expenses variables and tax ratios

Correlation	CostR	CostsSGA	CostsRD	CostsDeprA	DE
TaxProv p-value	-0.86 0.0000	-0.39 0.0000	-0.38 0.0001	-0.13 0.0000	0.0002 0.9857
TaxCur p-value	0.0002 0.9882	0.16 0.0000	-0.11 0.3539	0.13 0.0000	0.00001 0.9409
TaxInc p-value	-0.98 0.0000	-0.47 0.0000	-0.04 0.7457	-0.67 0.0000	0.00009 0.9957
DE p-value	-0.0001 0.9912	0.001 0.9076	0.32 0.0051	0.000009 0.9968	

Source: own study

Provision on tax is significantly negatively correlated to costs of revenue, selling expenses, R&D costs, and depreciation. This result is consistent with our first hypothesis. Current taxes are correlated in a positive way with selling expenses and depreciation costs, which is in contrast to our hypothesis. Income tax is negatively correlated with costs of revenue, selling expenses and depreciation costs, which is consistent with our hypothesis. Thus, we observe that in two out of three tax variables, we are investigating the data supporting our hypothesis. Moreover, when investigating the relationship between costs and taxes, it can be observed that the strongest negative correlation is between Income tax and Revenue costs.

Furthermore, the results in Table 2 depict the relationship of leverage and taxes. This relation is positive but not statistically significant so, our results are in contrast to our hypothesis that we were expecting a negative relation between leverage and taxes. However, the existence of no relation between leverage and taxes is in accordance with the studies of Myers (1993) for the US companies, and Lasfer (1995: 265–285) for the UK companies, indicating that leverage is not affected by corporate tax rates for the Polish companies, too, although the latter ones belong to a transition economy. Hence, the issue of being a developed or a transition economy does not matter. In addition, our results are in conflict with the study of DeAngelo and Masulis (1980: 3–81) who found a positive relation of the leverage and the tax rate.

The Pearson correlation coefficients between the selected liquidity ratios and the other examined variables are presented in Table 3.

Table 3. Pearson correlation coefficients between selected variables and liquidity ratios

	CostR	CostsSGA	CostsRD	CostsDeprA	TaxProv	TaxCur	TaxInc	DE
CCC p-value	-0.28 0.0000	-0.27 0.0000	-0.91 0.0000	-0.04 0.1029	-0.20 0.0000	-0.17 0.0000	-0.28 0.0000	-0.001 0.9357
CR p-value	-0.002 0.8800	-0.003 0.8054	-0.03 0.8237	-0.004 0.8405	0.001 0.9055	-0.003 0.8743	0.002 0.8775	0.12 0.0000

Source: own study

The results presented in Table 3 indicate that the dynamic liquidity ratio of the cash conversion cycle (*CCC*) is significantly negatively correlated to various costs and taxes but it is not significantly correlated with the capital structure ratio of debt to equity (*DE*), while the static one, the current ratio (*CR*) is significantly correlated and this relationship is positive.

These results regarding the cash conversion cycle and its negative relation to the taxes and costs confirm our second testable hypothesis. Polish market was not tested before for this kind of relationship between liquidity and tax/costs.

On the other hand, the static liquidity indicator, the current ratio (*CR*) is significantly positively correlated with the debt-to-equity ratio (*DE*), which is the proxy for the firms' capital structure, but is not linearly correlated with the variables of various costs and taxes. Hence, the fourth hypothesis is rejected by our data. This implies that for the Polish companies, their liquidity as measured by the current ratio is positively affected by debt, in contrast to the other transition economies of Romania (Miloş, 2015: 129–134) and Croatia (Šarlija and Harc, 2012: 30–36). On the other hand, our results are in agreement with the studies of Williamson (1988: 567–592), Shleifer and Vishny (1992: 1343–1366) and Anderson (2002: 1–29), which, however, refer to the developed economies. So, we can infer that for the Polish firms, the more liquid they are, the more debt they can afford and have less costs in monitoring their debt. So Polish managers seem to be more efficient in dealing with debt and liquidity management than in the other transition economies.

In the next step, we test which costs and tax variables influence the financial policy of the companies. The regression models with the *CCC* as the dependent variable and taxes and costs as independent variables are assessed according to Equation 1 and the results are presented in Table 4. Seven separate models are tested due to the collinearity of the independent variables.

Table 4. Parameters of OLS Models with the CCC as the dependent variable

Model no	Independent	N	Coefficient	Std. error	t-ratio	p-value	F	p-value (F)
1	CostR *	3906	-947.25	344.05	-2.753	0.0059	7.58	0.0059
2	CostsSGA*	3950	-5203.92	245.91	-21.16	0.0000	447.83	0.0000
3	CostsRD*	70	-28088.70	1719.17	-16.34	0.0000	266.95	0.0000
4	CostsDeprA *	158	-28044.10	4138.96	-6.776	0.0000	45.91	0.0000
5	TaxProv	3960	2443.41	186.8	13.07	0.0000	170.94	0.0000
6	TaxCur	2336	-87101.6	10598.6	-8.289	0.0000	68.70	0.0000
7	TaxInc	2836	2348.80	150.79	15.58	0.0000	242.65	0.0000

*Heteroskedasticity-corrected

Source: own study

All variables and models are significant. In most of the cases the liquidity as measured by the *CCC* is influenced by costs and taxes in a negative way, only the tax variables provision on tax and income tax influence the *CCC* in a positive way.

The regression models with the *DE* as the dependent variable and taxes and costs as independent variables are assessed according to Equation 1, and the results are presented in Table 5. Seven separate models are tested due to the collinearity of the independent variables.

Table 5. Parameters of OLS Models with the DE as the dependent variable

Model no	Independent	N	Coefficient	Std. error	t-ratio	p-value	F	p-value (F)
1	CostR *	4336	-0.00004	0.0002	-0.019	0.9855	0.0002	0.9997
2	CostsSGA*	4384	0.0007	0.007	0.09	0.9855	0.004	0.9954
3	CostsRD*	74	0.03	0.01	2,86	0.0055	4.76	0.0114
4	CostsDeprA *	178	0.0009	0.0008	0.102	0.9184	0.04	0.9573
5	TaxProv	4400	0.0001	0.0006	0.04	0.9668	0.0008	0.9991
6	TaxCur	2570	0.008	0.07	0.12	0.9041	0.16	0.8518
7	TaxInc	3136	0.0001	0.0004	0.03	0.97	0.005	0.9946

*Heteroskedasticity-corrected

Source: own study

Capital structure is influenced in a positive way by the *R&D* costs, and it is the only significant variable in the tested models. This result is according to the study of DeAngelo and Masulis (1980: 3–81).

We look for the answers to the questions regarding factors influencing the taxes in the next step. The regression model with Provision on Taxes as a dependent variable and costs as independent variables are assessed according to Equation 1 and the results are presented in Table 6. Four separate models are tested due to the collinearity of the independent variables.

Table 6. Parameters of OLS Models with TaxProv (provision for taxes divided by revenues) as the dependent variable

Model no	Independent	N	Coefficient	Std. error	t-ratio	p-value	F	p-value (F)
1	CostR	6647	-0.18	0.001	-139.9	0.0000	19581.9	0.0000
2	CostsSGA	6716	-0.24	0.007	-34.45	0.0000	1186.80	0.0000
3	CostsRD	93	-0.01	0.002	-3.97	0.0001	15.76	0.0001
4	CostsDeprA	3073	-0.08	0.01	-7.61	0.0000	57.91	0.0000

*Heteroskedasticity-corrected

Source: own study

All the selected types of costs influence the provision on taxes in a negative way. The explanatory variables in all four models are significant. The level of Provision on taxes is influenced in 74% by the Costs of revenues.

In the next step, the Current Tax as the dependent variable and the selected costs as independent variables, are assessed according to Equation 1 and the results are presented in Table 7. Four separate models are tested due to the collinearity of the independent variables.

Table 7. Parameters of OLS Models with TaxCur representing the Current Tax as the dependent variable

Model no	Independent	N	Coefficient	Std. error	t-ratio	p-value	F	p-value (F)
1	CostR	3727	0.0007	0.000001	0.01	0.98	0.0001	0.9891
2	CostsSGA	3732	0.003	0.0003	20.20	0.0000	102.02	0.0000
3	CostsRD	73	-0.001	0.001	-0.9331	0.3539	0.87	0.3539
4	CostsDeprA	1403	0.12	0.02	4.95	0.0000	24.45	0.0000

*Heteroskedasticity-corrected

Source: own study

Selling expenses and Depreciation are the cost variables that influence the Current Tax variable positively and significantly.

In the next step, Income Tax as the dependent variable and the selected costs as independent variables are assessed according to Equation 1, and the results are

presented in Table 8. Four separate models are tested due to the collinearity of the independent variables.

Table 8. Parameters of OLS Models with TaxInc representing Income Tax as the dependent variable

Model no	Independent	N	Coefficient	Std. error	t-ratio	p-value	F	p-value (F)
1	CostR	4536	-0.19	0.0005	-355.30	0.0000	126149.4	0.0000
2	CostsSGA	4559	-0.29	0.008	-36.00	0.0000	1295.77	0.0000
3	CostsRD	79	-0.004	0.01	-0.32	0.7457	0.10	0.7456
4	CostsDeprA	1694	-0.15	0.004	-36.72	0.0000	1348.27	0.0000

*Heteroskedasticity-corrected

Source: own study

Income tax is influenced by all the costs except the R&D one that is not a significant variable. Hence, we observe that costs strongly and negatively determine the level of Income Taxes.

Therefore, our results have revealed that different types of taxes are influenced differently by the selected types of firm expenses. The variables provision on taxes and Income tax are affected negatively by the costs we have determined, while current tax is positively influenced by the selling expenses and depreciation.

CONCLUSIONS

There is a general rule that if a firm wants to avoid paying taxes, and it is its goal, it presents a lot of costs (direct, administrative costs and R&D costs which promote growth) and then, as a result excessive costs lower earnings and less taxes are due. We were looking for the answer to the research question whether there is any relationship between the level of taxes and costs with the company's liquidity and leverage representing the financial strategy a company follows. A company with high costs reports low EBT which implies less taxes. So, there is expected to be a negative relationship between corporate costs and corporate taxes. In most of the cases there was a negative relationship between corporate costs and corporate taxes found in our research, according to our hypotheses. Only the Current Tax was affected positively by the selling expenses and depreciation. Growing expenses including depreciation, did not reduce taxes. The effect could be offset by a less efficient debt management (the average debt to equity ratio was only 0.297). The relation between corporate costs and taxes with liquidity was negative as expected, only the CCC was influenced by tax provisions and income tax in a positive way. The efficiency of the cash conversion as reported by CCC is positively

influenced by taxes, and it can be concluded that the higher taxes a company pays, the higher the CCC, so the lower the liquidity (a dynamic liquidity). Contrary to our hypotheses, corporate taxes and expenses and debt were related mostly in a positive way. Only the cost of revenue and debt were negatively correlated. The debt of Polish enterprises is small and when it rises, it is spent on expenses in order to reduce the amount of taxes paid. Debt and liquidity as measured by the current ratio were related in a positive way, the correlation with the CCC was negative but not significant. Probably companies that increase their debt want to achieve a better solvency level. In these results one can clearly observe the fear of getting into debt.

Mocanu et al. (2021) found that larger companies with lower financial performance and a lower leverage ratio are more inclined towards tax avoidance. The geographical region and the industry sector in which companies operate in, are also determining their tax avoidant-behavior. Taking into consideration our findings the future research can cover the issue of differences regarding costs and tax approaches between countries with a different level of tax avoidance acceptance.

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