

THE EFFECT OF CORPORATE GOVERNANCE MECHANISM ON TAX AGGRESSIVENESS: EVIDENCE FROM PHARMACEUTICAL COMPANIES IN PAKISTAN

<sup>1</sup>Qurat-Ul-Ain Qaseem, <sup>2</sup>Dr. Muhammad Muzamil

<sup>1&2</sup>Karachi University Business School, University of Karachi, Pakistan

<sup>1</sup>[aini.siddiqui7@gmail.com](mailto:aini.siddiqui7@gmail.com), <sup>2</sup>[muhammad.muzammil@uok.edu.pk](mailto:muhammad.muzammil@uok.edu.pk)

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Corresponding Author: \*

Qurat-Ul-Ain Qaseem

Abstract

Corporate governance is considering the major issue now days. So, this research is conducted to examine the impact of corporate governance mechanism on tax aggressiveness. As it has been observed that for various reasons companies are trying to avoid paying taxes, which is the income for the government. Previous studies show that board diversity has no significant impact on tax aggressiveness. One independent variable (Board Diversity) along with controlling variables (ROA) have been taken to examine the impact on tax aggressiveness. The data for this research has been collected from the pharmaceutical sector from 2015 to 2024 listed in Pakistan Stock Exchange. Multiple regression models have been used to run the test and found out the impact and after running the data we have concluded that diversity both have significant impact on tax aggressiveness on industry of Pakistan.

INTRODUCTION

Corporate tax aggressiveness is become a major issue in Pakistan. To overcome this issue Federal Board of Revenue has leverage to corporate companies to pay their tax liability at minimum rate. Company's tax rate in Pakistan stands 55.48% till 2018 by survey report from FBR. Revenue from company's tax rate is essential source of an income for government of Pakistan.

There are different definitions that define tax aggressiveness which we will find in different research papers. Tax aggressiveness means to reduce explicit tax liabilities said by Hanlon and Heitzman (2010). We can say that the term tax aggressiveness, tax shelter and tax avoidance are interchangeable terms used in financial world. Corporate tax behavior is

based on government tax rules and corporate rules. High tax rate reduces the private benefits of shareholders (Desai et al, 2007). As corporate must pay tax because company considers itself as entity and if shareholder is its owner, he has also pay tax on dividends issued that causes shareholder trouble. As in Section 5 of Ordinance Act in Pakistan stated that tax imposed on shareholder if he received gross amount of dividend. Desai also stated that when corporate governance is ineffective, increasing tax rate reduces tax revenue. In developing countries companies do not pay taxes because they take away huge amounts of income from pretax earnings which reduce their profit margin. Tax savings applied after the deduction of expenses from earnings.

Chen et al, (2010), defines tax aggressiveness as it is the management planning and strategy used to reduce tax liability. From different research it has been seen that this issue is caused by poor corporate governance or by poor management. Corporate management is managed by board of directors. In board of directors there are independent directors, executive directors and women are also part of board of directors. It is human psychic and natural phenomenon that each and every person obtains his own views regarding any issue in organization. It has also been observed that companies do not pay their taxes to invest in a new project or must pay their debt liability along with their interest, which leads to tax avoidance.

Several studies have been conducted to find out the reason for tax aggressiveness done by organizations. (Desai & Dharmapala, 2006a), found that corporate social responsibilities also affect tax aggressiveness as companies used that amount in their account to serve or support society, to increase their goodwill in mind of their customers or consumers. Tax sheltering strategy was designed by companies to reduce tax liability because companies consider tax as their liability cost and expense which reduces their profitability margin and companies' main purpose is to increase shareholders' equity. By studying several research studies, it has been found that only executive, non-executive or independent directors affect tax aggressiveness but also board size and board diversity has significant effect on tax aggressiveness. In developed or developing country women also play important role in societies. As they have seen to be good communicators and believed to be high level of tax compliance. So, board diversity has also some significant effect on tax aggressiveness. Due to cultural and gender differences in developing countries girls or women are not promoted for top management even though literacy rate was low as compared

to boys or men's education. These factors are barriers for women to get promoted to top management.

So far, this study has been conducted to further investigate whether there is a significant effect between corporate governance on tax aggressiveness or not. For that purpose, we support our research through previous observations and research along with theoretical framework and statistical evidence.

Terms: **Board Diversity** (refers to the number of women appears to be director in an organization).

#### **Objective of the study**

This study is helpful to overcome the issue of corporate governance mechanism internally and externally that has thought to be the principal factor of tax aggressiveness. Due to it, economy suffers badly and reduces the source of government income.

#### **Research Gap**

Several researchers have conducted research to find out the impact of corporate governance on tax aggressiveness, and they have used statistical evidence to prove their hypothesis. Mostly this research was using European and United states data. It has observed that in Pakistani organization women are not that much appreciated to board level and the reason behind is the cultural perspective. But now, in emerging world women are promoted as highly appreciable persons in board as with men. They are good communicators and have management expertise. This research will conduct to find out effect of corporate governance mechanism on tax aggressiveness is consistent or not in pharmaceutical companies in Pakistan.

#### **Hypothesis**

Hypothesis is a suggestion which supports our initial studies that could be tested by experiments. Our hypothesis is based on

pervious observation that need to be explained further.

**H<sub>01</sub>:** Board diversity has no significant effect on tax aggressiveness.

**H<sub>1</sub>:** Board diversity has some significant effect on tax aggressiveness.

### LITERATURE REVIEW

Our study is based on agency theory that defines the relationship between principal and agent. (Anderson et al., 1993), stated that shareholders want more control over company than managers to reduce agency costs. It also stated that female directors on board are more involved in supervision and boards activity, (García-Meca et al., 2015).

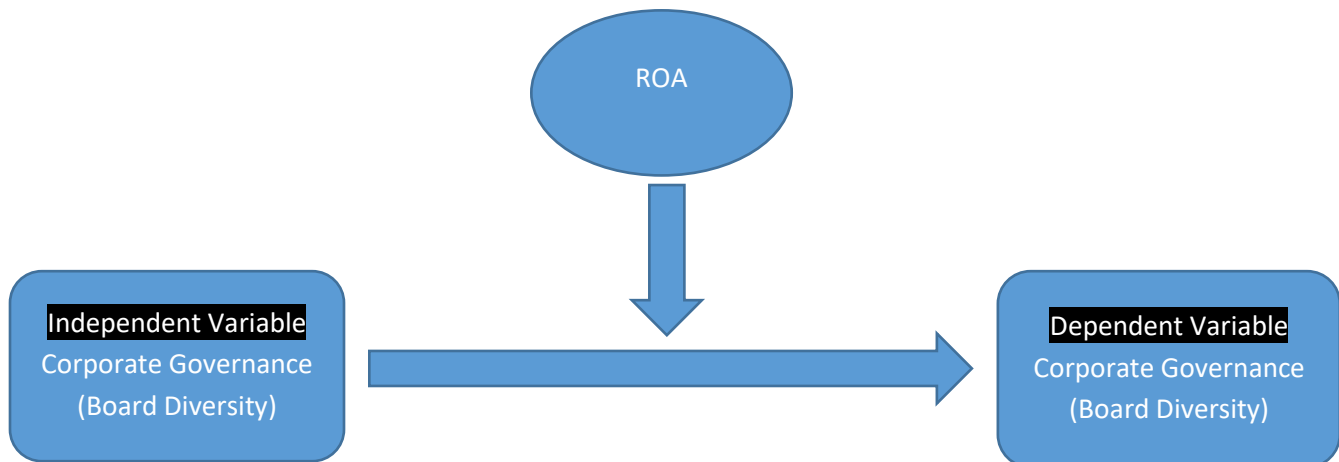
(Eris Nanda Mufarikha<sup>1</sup>, Rosidi<sup>2</sup>, Wuryan Andayani, 2023), in Indonesia found out the effect of gender diversity and institutional ownership on tax aggressiveness with audit quality as a moderating variable. They had used the agency theory in their research. In their study they had used quantitative approach to gather the data and their sample size was 17 mining companies along with moderated regression analysis as a method to run the data. The results of their study showed that gender diversity and institutional ownership have a significant effect on tax aggressiveness by using audit quality as a moderating variable.

Ratnawita., Lestari, D. F., Tawil, M. R., Mujtaba, M. I. E., & Durya, N. P. M. A.

(2024), in their studies on Indonesia found out the analysis of family ownership, corporate governance, company size, and board diversity on tax aggressiveness. They used quantitative approach for data gathering and they had 100 samples as purposive sampling on mining companies listed on IDX. The results show that gender diversity has no significant effect on tax aggressiveness.

(Yahya, Farzan/Manan, Abdul et. al. (2021), in their study on Pakistan found out the role of moderating role of board gender diversity between power-based corporate governance and tax aggressiveness. They used panel data to run the data, and they had selected 296 non-financial firms from 2010 till 2018. They had CEO Power, Gender diversity and ownership concentration as a independent variable and return on asset and board size as their moderating variable to found out the effect on tax aggressiveness. in their study regarding Pakistan found out that female directors decrease the likelihood of tax aggressiveness in a firm ( $\beta = -1.363$ ,  $p = 0.053$ ), due to male dominant society they also conclude that men have curb the power of women and rights to minimize tax planning activities in Pakistani firms. Future studies may incorporate other ownership types and behavioral variables to generate more generalized and robust estimates.

## Moderating Variable



## RESEARCH METHODOLOGY

We have examined our data by using EViews to analyze our hypothesis with the support of the data we have gathered from the financial reports of the companies. Variables in the conceptual framework have been discussed in respect of their importance related to the topic.

**Dependent Variable:** Halnon and Heitzman, (2010), said that tax aggressiveness is used to reduce tax liabilities. Tax aggressiveness is a dependent variable, calculated by current income tax expense/ pretax income. All the data is collected through annual report of the companies.

**Independent Variable:** Board diversity is an independent variable in our research as it defines the ratio of women on board. We have calculated all the data from financial reports of the companies.

**Moderating Variable:** Return on Asset (ROA) is our moderating variable as it strengthens the relationship between both are dependent and independent variables. Return on assets describes the profitability of an organization in respect of their assets. It has been calculated by total asset to net income. To calculate ROA all

the data has gathered from financial report of the companies.

**Data Collection**

Our research is based on quantitative approach, so we have chosen secondary approach to gather all data. All data we have gathered is available on annual reports of the company that reports we have gotten from Pakistan Stock Exchange website. As for our research we have chosen FMCG and Pharmaceutical companies listed in Pakistan Stock Exchange (PSX) and their 11 years data from 2015 till 2024. As all companies listed on Pakistan Stock Exchange is our population but from population, we have done random sampling by taking all companies of pharmaceutical sector in Pakistan.

**Instrument:** Annual reports of the listed companies in Pakistan Stock Exchange

**Instrument Verification:** Audit firms audited annual reports of the companies and PSX also made their audit report by analyzing annual reports of the companies.

**Statistical Analysis**

To examine our research, we have used multiple regression models which analyze the

impact of corporate governance mechanism on tax aggressiveness. To test our hypothesis, we used inferential statistics which included coefficient and regression test.

Regression model formula (it can generally form of panel data analysis model):  $Y_{it} = \beta_0 + \beta_1 X_{it} + \mu_{it}$ ..... (1)

By adding variables in above equation, we have a modified formula used by Zemzem, & Ftouhi

as:  $TAG_{it} = \beta_0 + \beta_1 BDIV_{it} + \beta_2 ROA_{it} + \mu_{it}$

Here,

$\beta_0$  = Constant

$\beta_1$  = coefficient of variables

$\beta_2$  = coefficient of variables

$\mu_{it}$  = error term

**RESULTS AND FINDINGS**

**Correlation coefficient**

	ROA	TAG	BD
ROA	1.00000	-0.29614	-0.1587
TAG	-0.29614	1.00000	0.26827
BD	-0.1587	0.26827	1.00000

As scatter diagram shows the nature and extent of relation between two variables while correlation shows the relation in terms of measurement and parameters. It shows a linear relation between two variables, and its value lies between +1 to -1. As in our research the correlation between ROA and ROA is 1.00 means perfect positive correlation, while the correlation between ROA and TAG is near to zero 0.29 means weak positive correlation and similarly the correlation between ROA and BD is close lesser than zero is -0.158 means weak negative correlation present between them.

Further the correlation between TAG and ROA is 0.296 which is close to zero means

TAG = Tax aggressiveness

BDIV = Board diversity

ROA = Return on assets

We have found out the impact of an organization’s governance mechanism in tax aggressiveness (TAG) we have used multiple regressions technique. Multiple regressions define that board diversity has significant or non-significant effect on tax aggressiveness. As regression model also describes the relation between the variables in equation for. These techniques are very helpful to find the impact of an organization’s governance mechanism in tax aggressiveness.

weak positive correlation, while the correlation between TAG and TAG is 1.000 means perfect positive correlation and similarly the correlation between TAG and BD is close to zero which is 0.26827 means weak positive correlation present between them.

In the last the correlation between BD and ROA is -0.1587 means weak negative correlation, while the correlation between BD and TAG is near to zero 0.26827 means weak positive correlation and similarly the correlation between BD and BD is 1.000 means perfect positive correlation present between them.

**Regression Analysis**

Dependent Variable: TAG				
Method: Panel Least Squares				
Date: 05/23/25 Time: 09:39				
Sample: 2015 2024				
Periods included: 10				
Cross sections included: 7				
Total panel (balanced) observations: 70				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.327179	0.047508	6.886833	0.0000
ROA	-0.527892	0.233157	-2.264101	0.0268
BD	0.275387	0.139383	1.975754	0.0523
R-squared	0.137926	Mean dependent var		0.320286
Adjusted R-squared	0.112192	S.D. dependent var		0.165485
S.E. of regression	0.155926	Akaike info criterion		-0.836956
Sum squared resid	1.628970	Schwarz criterion		-0.740592
Log likelihood	32.29345	Hannan-Quinn criter.		-0.798679
F-statistic	5.359767	Durbin-Watson stat		1.163787
Prob(F-statistic)	0.006930			

Regression analysis describes the effect of independent variables on dependent variables. In our research we have run multiple regression to find out the effect of corporate governance mechanism on tax aggressiveness and, we have tested our hypothesis through probability (F-test) individually and all over. The probability of BD (board diversity) is 0.0523 which is smaller and equal to 0.05 that means we reject our null hypothesis and accept H1 that shows board diversity has significant effect on tax aggressiveness.

**Descriptive Analysis**

	ROA	TAG	BD
Mean	0.121714	0.320286	0.208286
Median	0.120000	0.290000	0.140000
Maximum	0.300000	0.870000	0.430000
Minimum	0.000000	0.040000	0.000000
Std. Dev.	0.081543	0.165485	0.136403
Skewness	0.427863	1.297224	0.234069
Kurtosis	2.382135	5.202669	2.092736
Jarque-Bera	3.249232	33.78348	3.039985

By seeing overall probability F- test that is 0.006930, which is also smaller than 0.05 means we are going to reject null hypothesis and can say that return on asset and board diversity has significant effect on tax aggressiveness.

Adjusted R-Squared shows the goodness of fit of our equation and the result shows that adjusted R-Squared is 0.112 that indicates that independent variable is 11% to dependent variable and we can say that goodness of model is 11%.

Probability	0.196987	0.000000	0.218714
Sum	8.520000	22.42000	14.58000
Sum Sq. Dev.	0.458794	1.889594	1.283794
Observations	70	70	70

In descriptive analysis skewness shows the normality of distribution, and as in our research the skewness of ROA = 0.427, which is slightly greater than 0 means positively skewed, the skewness of TAG is 1.29 means positively skewed and skewness of BD is 0.2340 also indicates the distribution is positively skewed.

Kurtosis describes the concentration of data towards mean. The kurtosis value of ROA is less than 3 which is 2.382 means the curve is relatively flattered and the distribution is called platykurtic. While the kurtosis value of TAG is greater than 3, which is 5.20 that indicated that curve is at peak and leptokurtic and the kurtosis of BD is 2.09, which is less than 3 means the curve is flattered and distribution is platykurtic.

**CONCLUSION**

The objective of the research is to find out the impact of corporate governance mechanism on tax aggressiveness. As corporate governance is not the new issue in Pakistan, and it has been seeming that due to low board diversity causes bad management decision and to increase shareholder’s wealth company avoids paying taxes that effects the country’s economy. So, this research has investigated the effect of board diversity on tax aggressiveness.

To achieve the objective, we have taken the data from Pakistan stock exchange. The data which we have taken was from 2015 to 2024 and the sector we have chosen was Pharmaceutical. It has also been observed that board diversity influences the tax aggressiveness as women have good management skills and nature of risk averse.

All this research concludes that women empowerment in the board committee can affect the decision-making policy in the firm and as world is changing so few members with full efficiency are enough to run the business in an aggregate manner.

**Implication of study**

Results found some practical implications in this research. As it seems that all the companies in the stock exchange do not perform management of corporate governance which indicates that there is a need for improvement which can occur through proper training. It has been observed that the need for a fair board of directors to be taken without any influence to perform better for sake of shareholders and company’s reputation.

**Study limitations**

We have seen that there is a lot of research on corporate governance. As it is a vast topic on which many researchers are still working but pharmaceutical is a sector of consumer goods on daily basis, there is a lack of proper research on it. Due to which we gathered data for ten years on both sectors from 2015 to 2024.

**Recommendation**

As it is a very interesting topic for research, in future there is a much need of research of board diversity on tax aggressiveness. Also, there is a need to find out the impact of non-executive directors on tax aggressiveness that how much a company has influence of non-executive directors on decision making policy that affects company’s performance towards

tax aggressiveness that contributes to increasing country's growth.

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