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The Nexus of Free Cash Flow and Asset Utilization: Moderating Effects of Gender Diversity and Board Independence

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Abstract

The study examines a moderating effect of gender diversity and board independence on a company's assets and free cash flow andthe relationship between asset utilization and free cash flow. The data has been obtained from the listed companies of the PSX-100 index for2004-2019. The study employed various statistical tools like descriptive statistics, correlation analysis, and pooled regression, with a random effect model. The findings stated that that gender diversity moderates the relationship between asset utilization' and Free cash flow. The findings

also show that firms with higher gender diversity covering free cash flow positively impact the asset utilization of firms. The board independence has less effectiveness for monitoring the various levels of administrative ownership. As free cash flow increases, high board independence allows managers to less efficient asset utilization.

Keywords: Board Independence, Free Cash, Asset and Gender Diversity

1. Introduction

Following the recent corporate scandals, many developed and developing countries have directed more attention to corporate governance mechanisms, particularly on the importance of the board of directors in terms of their roles, free cash flow, asset utilization, effectiveness, diversity and board independence. In this regard, free cash flows and asset utilization are attributes that obtained a lot of interest in the recent period, not only among the scholarly community but also civil organizations and governments throughout the world. Free cash flow is an important metric in financial analysis as it provides insights into a company's ability to generate cash, repay debts, invest in growth opportunities, and distribute dividends to shareholders (Dasman et al., 2021). Likewise, various types of possession structures likewise assume an imperative part in firm free cash flows. This examination means to figure out the relationship between free cash flow and asset utilization in the Pakistan stock exchange. Therefore, corporate governance and transparency play an important role that influencing this relationship. Due to the scarcity of literature in the Pakistani non-financial sector, this study contributes to the existing literature by focusing on this dimension. Moreover, the non-financial sector is more sensitive to corporate governance reforms and profit orientation(Puspitasari et al., 2021).

Moreover, the effective use of corporate assets is achieved due to the monitoring and control given by institutional ownership or the convergence of interests brought about by managerial ownership (Dasman et al., 2021). By increasing free cash flow, lower asset utilization or worsening inefficiencies have been observed. Free cash flow has a negative relationship with asset utilization, although management and institutional ownership may minimize this association.

The study on asset utilization changes when free cash flows are available, however, is sparse. Along with the relationship between FCF and asset utilization, corporate governance reforms such as board structure, board independence, audit committee, and board diversity affect this relationship. Therefore, the non-financial sector is more sensitive to these reforms. To focus on this gap, this study addresses the relationship between FCF and asset utilization with the moderation effect of corporate governance reforms (gender diversity and board independence) in the non-financial sector of Pakistan. Furthermore, gender diversity plays an important role in the board room and is found to have favorable results. The literature shows that gender diversity has a positive effect on firms' cash flows while board independence as per the Pakistan code of governance (2019) is also required for corporate transparency. However, during the global financial crisis (2008), there found mixed results. The literature shows that board independence and gender diversity have a low and negative relationship with FCF(Rossi et al., 2021).

Existing literature revolves around corporate governance practices (in general) and firm performance on alleviating the governance issue and free cash flow choices. However, a little knowledge of whether orientation and choice of board structure affect administrative operations to choose free cash flow. Evidence from a couple of studies(Dewasiri et al., 2019; Guizani & Abdalkrim, 2022; Muchtar et al., 2021) inspected the orientation variety and corporate cash, ownership nexus. However, these empirical pieces of evidence are not just conveyed in developed economies but also provide insight regarding practices of corporate governance practices in free cash flow choices in emerging markets. Moreover, the evidence from the developing economies is not just restricted (just think about orientation variety) yet has more uncertainty. Keeping in view the low support of gender diversity in financial performance and the gigantic number in Pakistani board meeting rooms makes Pakistan an unconventional setting to explore the orientation of different board sway on a company's free cash flow. Along with this the board's independence asper the code of corporate governance (2019) affects the firm performance, while its significance to the relationship between FCF and asset utilization is still under-researched in Pakistan. Moreover, due to the Asian region,

Pakistani firms face gender biases, so this study examines the gender diversity effect on the relationship between FCF and asset utilization. On the bases of this discussion following research questions incorporated?

1. Is gender diversity (presence of females) a moderator between asset utilization and free cash flow at PSX-100 Index firms?
2. Is Board independence a moderator between asset utilization and free cash flow at PSX-100 Index firms?
3. Is there is a significant relationship between asset utilization and free cash flow?

The existing studies also contribute in numerous ways. First, corporation's free cash flow is considered as a standard to measure its performance and establish its market value. This free cash flow indicates the cash available to the firm after subtracting maintenance costs, which may be used for asset expansion and distribution to investors and shareholders. Secondly, the shareholder increases the firm value which leads to enhancedshareholder wealth. Therefore, to maintain agency costs as low as possible, created by conflicts of interest between the managers and shareholders. The free cash flow plays an important in generating operational cash flows to support the firm to run its day-to-day operations (Li et al., 2021). Thirdly, different forms of ownership structure have a substantial influence on a firm's free cash flows. The evidence of the said relationship in respect to corporate governance is researched in developed countries. Lastly, this research is to learn how gender diversity and board independence moderate the relationship between asset utilization and free cash flow of companies listed on the KSE- 100 indexes in Pakistan, as well as how firms use high free cash flows on profitable projects to recommend organizations change their assets utilizations if they are underperforming.

2. Literature Review

2.1 Free Cash Flow (FCF) And Asset Utilization (AU)

According to previous research, companies with higher free cash flows are more likely to contribute to less productive speculations than companies with lower levels of free cash flows.

Free cash flow speculation, companies with the most capital will decline their asset utilization profitability. When managers of companies with a lot of money speculate on free cash flow, their opportunistic behavior becomes clear. Decommissioning free cash flow may be a problem for executives of companies with significant free cash flow. High free cash flow motivates managers to encourage failing businesses to lower asset utilization, given the premise of free cash flow. Administrators often take advantage of the high level of free cash flow to put their interests ahead of the CEO(Ozdemir et al., 2021).

Increased agency difficulties emerge from strong free cash flow, encouraging managers to hold onto non-essential assets for longer periods. This is a really difficult concept to grasp: agency expenses are one thing, but free cash flow is quite another. There are no financial specialists who can estimate revenue from speculation or basic suspicion, according to administrators. As a result of opportunism, managerial advantages, and the incompatibility between owners and managers, agency experts claim that free cash flow cannot be utilized to alter a company's long-term motivation(Van Ness & Kang, 2010).

According to our analysis, free cash flow may persuade directors to invest in the company rather than spend it for personal gain. Free cash flow would be used to buy benefits with a personal advantage for the administrators to expand their influence over the association's benefits. According to this miracle, using free financial flow for senior business activities unrelated to firms' core missions results in needless usage of perks. Because of this, free cash flow is often linked to a company's inability to control spending.

Hypothesis 1: There is a significant positive relationship exists between asset utilization andFCF.

2.2 Moderating Role Of Board Independence

According to research, corporate governance and ownership characteristics have a moderating effect on earnings management in a free cash flow situation, and a sample of French board independence companies included in the SBE-120 index between 2001 and 2010 showed that managers behave opportunistically when there are free cash flows present. Most

notably, if the manager makes use of profit management techniques to boost the reported revenue(Dempsey, 2015).

Additionally, it was found in a different study that a board of independent commissioners can help reduce free cash flow-related earnings management problems, as well as the second board of independence and audit quality. The board of commissioners, second board of independence, and audit quality all keep an eye on directors' opportunistic behavior, exacerbated by free cash flow.

This research looked at the family-controlled firm to see whether the vulnerability of investment cash flow might be mitigated by symmetric information. We show in the paper that a lack of independent directors in family-controlled corporations may alter investors' sensitivity to investment cash flow, whereas a control family reduces the agency issue and enhances board members' independent monitoring. This research sheds light on the link between family control and investment cash flow sensitivity. Thus, another stakeholder plays an essential role in internal governance procedures.In several studies, some researchers have looked at what affects the maturity of the debt. Some of the papers investigate the dynamics of the loan and bond markets, while others look at particular company features. Changes in a company's corporate governance structure have been shown to affect the maturity structure of the company's debt. Board independence is a key emphasis. As boards become more independent and internal board oversight becomes stronger, treatment enterprises' debt maturity also increases accordingly. Government officials and financial decision-makers may have used the study's conclusions to construct sound governance to deal with management and debt agency problems effectively(Rossi et al., 2021).

Hypothesis 2: Board independence strengthens the relationship between FCF and a firm’s asset utilization.

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2.3 Moderating Role Of Boardroom Gender Diversity

According to the second research, gender diversity has significantly impacted company cash holdings in the United States from 2006 to 2015. This study adds weight to the argument that board diversity has a detrimental link to cash on hand. Gender diversity on corporate boards has detrimental impacts on free cash flow holdings. This is discussed in depth in the report. Female board members are shown to be stringent monitors who help mitigate the agency issue of cash hoarding, and their presence on the board harms cash holdings.The existing research examines the effect of gender diversity on company performance based on resource needs and agency theory. The study's findings show that gender diversity on boards has a mixed effect on business success. Researchers utilize nations for this, and they discover that gender diversity improves a company's financial success. In general, many businesses with a high ratio of female directors have high ROS, ROA, ROI, and ROE. Ethnic minorities and women directors as gender diversity in board independence were examined. this research investigates a link between the number of female directors on the board and keyboard committees and financial success as assessed by return on assets and Tobin's. According to the findings, there is no correlation between board gender and financial success(Bananuka et al., 2022).

Hypothesis 3: Gender diversity strengthens the relationship between FCF and a firm's asset utilization.

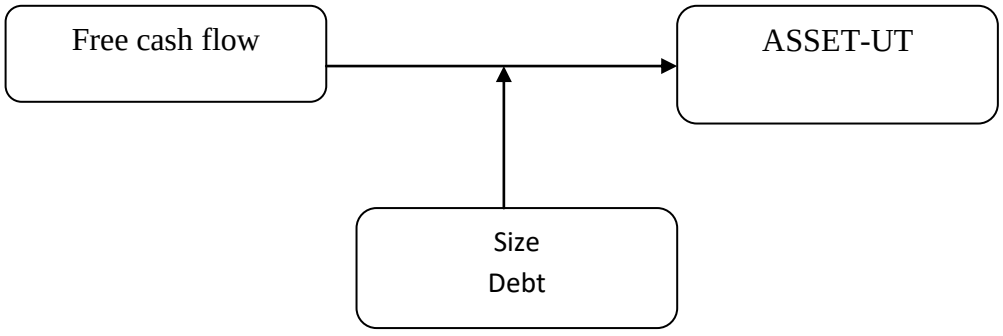

Figure 1: Conceptual Framework

3. Research Methodology

3.1 Sample Size And Selection Procedure

The samples include all non-financial firms listed in the Pakistan Stock Exchange. The firms are selected for the study for ease of data availability. The convenience sampling method is used for selecting sample investors in the study.

This study aims to look into the implications of the nexus between free cash flow & assets utilization: the moderating role of board gender diversity & board independence. A realistic conceptual framework has also been used to accomplish the study's aim. This framework explains how the data was collected and analyzed to derive useful results. This section explains how the study's findings were gathered and how the sample component of the research process has been chosen.

3.2research Model

The accessibility of a conceptual framework is critical since it affects the method of gathering data and the consistency of the research. It specifies the research methods, sample size, and interpretation of the data obtained during the study. As a result, it's critical to understand and implement the conceptual model correctly. In this study, the research methodology is based on an analysis of a prior literature review. All the same, five phases of the study model were employed to achieve the goal of the study. These five stages cover the paradigm for study, research method, sample method, data collection, and data analysis.

This research aims to look into the implications of the nexus between free cash flow & assets utilization: the moderating role of board gender diversity & board independence. As a result, the data was accurately gathered and analyzed.

3.3 Measurement Of Variables

Table no. 1 gives a rundown of factors and a synopsis of their definitions and operationalization.

Table 1: Measurement of Variables

Variables	**Define as**	**Calculation**
Dependent variables		
ASSET-UT	Asset utilization	Asset utilization is the ratio of sales/
		property, plant, and equipment
Control Variables		
SIZE	Size of the firm	The natural logarithm of sales
DEBT	Total debt	Total debt divided by total assets
ROA	Return on assets	The net income after tax divided by total
		Assets
Independent		
Variables		
FCF	Free cash flow	Net 0perating income after tax, interest
		expense and dividend divided by the lagged
		total assets (Altaf, N & Shah, Ahmad H 2015) and Iskandar, T, Mohd-2012)
GD	Gender Diversity	Percentage of female directors (no.of Female Directors/Total Directors)
ID	Independent Directors	Percentage of Independent Directors (Independent Director/total directors)

Results And Discussions

4.1 Descriptive Summary

The Table 4.1 represents the mean, standard deviation, minimum and maximum values of the data set. Table4.1; presents descriptive statistics of all variables included in the study. The statistical values of the dependent and independent variable along with control variables are presented as Mean, Standard deviation with minimum as well as maximum values. The descriptive statistical analysis describes the overall performance regarding assets utilization, gender diversity, and board independence. The results show that the mean value of GD (stand for gender diversity) is.171with a standard deviation of .107. Meaning that the characteristics of employee gender more deviate among 186 firms. The second variable is independence direction (ID), the mean value of ID found 54.286 SD, minimum value shows 1and 189 respectively. The high rate of SD shows the volatile behavior of independent directors. While the SD of asset utilization and FCF is low as compared to ID, debt, and ROA.

Table-4.1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Assetutilization	2951	.931	.628	0	2
FCF	2951	.335	.665	-1.98	2.71
GD	2951	.171	.107	0	.714
ID	2951	95.637	54.286	1	189
Debt	2951	.896	1.033	0	5.93
ROA	2951	2.071	2.069	-2.92	9.87
Firmsize	2951	6.04	2.002	-.72	11.06

4.2 Correlation Analysis

The Table 4.2; representsthe correlation coefficient among dependent, independent, and control variables by measuring the correlation matrix among them. The results show that the correlation between AU and DEBT ROA Firms Size ID and gender was found positive and moderately high. Meanwhile, the correlation between independent variables such as AU andFCF is 19%. Debt is found to havea low but positive correlation with asset utilization. However, the correlation between GD and ID with asset utilization is negative. Thefirm size also has a positive correlation with FCF. But ID has a weak but positive correlation with FCF.

Moreover, the correlation between gender and FCF was found weak but negative. On the other hand, the correlation between DEBT to ROA, DEBT to firm size, DEBT to ID, and DEBT to GD was found week but with positive and negative signs. The correlation between GD (Gender diversity) with other independent variables showsa negative association with the FCF, Debt ROA, and ID with positive with AU and Firm size. The correlation between FCF with other assets is very low(Soana, 2011).

Table 4.2: Correlation Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Asset utilization	1.000						
(2) FCF	0.198	1.000					
(3) GD	-0.013	-0.026	1.000				
(4) ID	-0.025	0.029	0.190	1.000			
(5) Debt	0.041	0.020	0.004	0.121	1.000		
(6) Aoa	0.407	0.259	-0.065	0.008	0.132	1.000	
(7) Firm size	0.321	0.186	-0.018	0.039	-0.046	0.308	1.000

4.3 Regression Analysis

To investigate the nexus between free cash flows on a firm's asset utilization; with moderating effect of gender diversity and board independence,this study employs the well know panel estimation technique, pooled OLS, penal regression with fixed effect, and random effect regression model. All three estimation techniques were utilized as per theoretical and empirical constraints. The study begins with pooled OLS assuming all firms are the same and the error term is not correlated with any of the repressors in the model(Akram et al., 2021).

4.3.1 Pooled Regression Analysis

Table 4.3; Pooled OLS regression analysis when the dependent variable is asset utilization (AU) and independent variables such as Free Cash flows (FCF), DEBT, ROA, frim size, independent direction (ID), and Gender diversity (GD). The empirical findings show that. There is a positive relationship between gender diversity and firms' asset utilization. The slope coefficient of GD shows an average percent change in female directors to total directors among all individual firms, leading to an increasing firm AU by 0.14% in a year. The slop coefficient is statistically

significant as the t-statistics with its corresponding P-values found less than 10%. On the other hand, the relationship between free cash flows (FCF) shows negative and significant relation with asset utilization among the firms. The slop coefficient tells us that on average one percent increase in FCF to asset leads to an increase AU by 7% in a year. The t-statistics corresponding to its P-value found below than 1% level of significance indicates there is a strong relationship between AU and FCF. Meanwhile, the relationship between AU and ID was found negative but statistically insignificant at a 10% level of significance. This indicates that the ID among the firms is independent ofthe AU of all firms under the study.

The control variable in the model such as the size of firms, debt, and ROA found positive and significant at a 1, and 5% level of significance. Keeping all others factorsconstant, the results show that a one percent increase in firm size leads to an increasing firm AU by 6.7% in a year. However,a one percent increase in debt positively increases firms' average AU by 0.005% in the same year. On the other hand, a one percent increase in firms'ROA leads to an increase AU by 0.96% in a given year.

The overall R-square value found 37% of the variation in dependent variable AU is caused by variation of all independent variables in a model.However, the Chi-square distribution shows highly significant at a 1% level of significance. Table 4.6; shows the results of Pooled OLS regression analysis when the dependent variable is asset utilization (AU) and independent variables such as Free Cash flows (FCF) with moderating effect of GD and ID (interaction term), DEBT, ROA, and frim sizeparticularly. The empirical findings show that there is a positive relationship between Free cash flow when gender diversity is interacted (FCF*GD) with firms' asset utilization. The slope coefficient of FCF*GD shows on average percent change in free cash flows with female directorship among all individual firms, leading to an increasing firm AU by 0.39% in a year. The slop coefficient is statistically significant as the t-statistics with its corresponding P-values found less than 1%. On the other hand, the relationship between free cash flows with independent direction (FCF*ID) shows a negative but insignificant relationship with asset utilization among the firms.

However, the slope coefficients of DEBT, ROA, and firm size found the same relationship as shown in table 4.3. This tells us that on average one percent increase in FCF*GD to asset leads to increases AU very high than FCF can cause particularly. Depending on how it is used, free cash flow may boost or diminish the value of a company. Effective use of assets would raise the firm's worth, whereas inefficient asset utilization would lower it. Out empirical results show that when the number of female directorsison board effectively uses free cash flows that are enticed by free cash flow to spend it on a variety of activities that may lead to an improvement in the firm's worth.

The controlled variables such as ROA, Firm size, and DEBT were found to be significant and consistent with the results reported in table 4.3.

In the next step, we performed fixed effect and random effect panel estimation to avoid the analysis being biased. The fixed effect shows the demeaned regression analysis to avoid regression bias because this is possible that firm-level characteristics may change due to latent factor which is not incorporated into the model. On the other hand,the random effect is an alternative way of panel regression analysis against the fixed effect that shows sophistic effect exist into firm’s individual’s characteristics. In panel analysis, the Hausman (1978) test can be used to distinguish between fixed and random effects models. In this situation, Random effects (RE) arefavored under the null hypothesis because it is more efficient, but fixed effects (FE) are at least as consistent and hence favored under the alternative hypothesis. Therefore, the statistical significance of the Hausman (1978) test is used to decide either fixed effect is appropriate or random effect panel analysis.

The findings from random effect are found similarly to pooled OLS regression model. Therefore, we relay outcomes based on Pooled OLS regression model if the Hausman (1978) test allows us to reject the null hypothesis that the Random effect is more appropriate than the fixed-effect model.

Table 4.3: Regression results (POOLED OLS)

Assetutilization	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
FCF	.071	.016	4.43	0	.04	.102	***

GD	.142	.098	1.45	.147	-.05	.333	
ID	-.001	0	-2.63	.009	-.001	0	***
Debt	.005	.01	0.47	.638	-.015	.025	
ROA	.096	.005	17.88	0	.086	.107	***
Firmsize	.067	.005	12.28	0	.056	.077	***
Constant	.326	.041	7.93	0	.245	.406	***

Mean dependent var	0.931	SD dependent var	0.628
Overall r-squared	0.215	Number of obs	2951
Chi-square	798.052	Prob > chi2	0.000
R-squared within	0.211	R-squared between	0.371

**** p<.01, ** p<.05, * p<.1*

4.3.2 Fixed Effect Model Analysis:

The above table shows the results of fixed-effect regression analysis when the dependent variable is asset utilization (AU) and independent variables such as Free Cash flows (FCF) with moderating effect of GD and ID (interaction term), DEBT, ROA, and firm sizeare the controlled variables explaining asset utilization of firms. The empirical findings using fixed-effect show that there is a positive relationship between Free cash flow when the gender diversity is interacted (FCF*GD) with firms' asset utilization. The slope coefficient of FCF*GD shows an average percent change in free cash flows with female directorship among all individual firms, leading to an increasing firm AU by 0.154% in a year. The slop coefficient is statistically significant as we found using Pooled OLS technique but slightly lesser. This shows that the impact of moderating role of female directors in board with FCF is overestimated when we used pooled OLS method. The t-statistics of FCF*GD with its corresponding P-values found less than 1% showing highly significance.

On the other hand, the relationship between free cash flows with independence direction (FCF*ID) shows negative but statistically insignificantly related with asset utilization among the firms.

However, the slope coefficients of DEBT, ROA, and firm size found the same relationship as shown in table 4.3. This tells us that on average one percent increase in FCF having GD(FCF*GD) leads to increases AU rather than FCF which is found to be negatively related to AU.

Depending on how FCF is used, the free cash flow FCF may boost or diminish the value of a company. Effective use of assets would raise the firm's worth, whereas inefficient asset utilization would lower it. Out empirical results show that when a number of the female director are on board effectively uses free cash flows that enticed by free cash flow to spend it on a variety of activities that may lead to an improvement in the firm's worth(Akram et al., 2021; Kartikasary et al., 2020).

Table 4.4: Fixed Effect Model

Assetutilization	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
FCF	.069	.016	4.30	0	.038	.1	***
GD	.154	.097	1.59	.113	-.036	.345	
ID	-.001	0	-2.68	.007	-.001	0	***
Debt	.002	.01	0.15	.882	-.018	.021	
ROA	.094	.005	17.50	0	.084	.105	***
Firmsize	.068	.005	12.55	0	.058	.079	***
Constant	.322	.04	8.02	0	.243	.4	***

Mean dependent var	0.931	SD dependent var	0.628
R-squared	0.211	Number of obs	2951
F-test	130.746	Prob > F	0.000
Akaike crit. (AIC)	4855.920	Bayesian crit. (BIC)	4897.850

**** p<.01, ** p<.05, * p<.1*

4.3.3 Random Effect Analysis:

Table 4.5: Hausman (1978) test

Hausman (1978) specification test

	Coef.
Chi-square test value	51.302
P-value	0

The outcome of a Hausman (1978) test is simple to interpret: if the p-value is modest (less than 0.05), the null hypothesis should be rejected. The issue stems from the fact that there are several variants of the test, each with a distinct hypothesis and possible outcomes.The preferred model is random effects, according to the null hypothesis; the alternative hypothesis is fixed effects, according to the alternate hypothesis. The tests try to check if there's a link between the unique error and the model's repressors(Ahmad et al., 2021; Anderson, 2008).

Table 4.5: Random Effect Model

Assetutilization	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
FCF	.071	.016	4.43	0	.04	.102	***
GD	.142	.098	1.45	.147	-.05	.333	
ID	-.001	0	-2.63	.009	-.001	0	***
Debt	.005	.01	0.47	.638	-.015	.025	
ROA	.096	.005	17.88	0	.086	.107	***
Firmsize	.067	.005	12.28	0	.056	.077	***
Constant	.326	.041	7.93	0	.245	.406	***

Mean dependent var	0.931	SD dependent var	0.628
Overall r-squared	0.215	Number of obs	2951
Chi-square	798.052	Prob > chi2	0.000
R-squared within	0.211	R-squared between	0.371

**** p<.01, ** p<.05, * p<.1*

4.4 SUMMARY

This chapter presents the results and descriptions for measuring the relationship between free cash flow with asset utilization and also measures the relationship with gender diversity and interdependence direction. Gender diversity, board independence,and free cash flow are independent variables, and asset utilization is a dependent variable. In this study we used two separate models; the first regression model shows an individual's variable's impact on Asset utilization and the second model is used to investigate the relationship between the interaction term of gender diversity and independence board with FCF on Asset utilization at the firm level. The debit, ROA, and firm's size are considered as control variables in this research study in both regression equations. The results are described with the help of descriptive statistics analysis,

correlation coefficient, regression analysis (pooled OLS, fixed effect, and random effect). Based on econometric functional forms, Hausman 1978, suggested using fixed-effect regression models. The overall results summarized that gender diversity shows a positive and significant impact on asset utilization. While the free cash flows are also negatively and significantly related to asset utilization. However, the Interdependence of a firm's characters is an independent impact on asset utilization. As the empirical findings fail to show any statistical significance.

On the other hand, allowing the moderating effect of GD and ID with FCF (interaction term), we found that free cash flow when the female is on the board of directors (FCF*GD) is positively and significantly related to AU. Therefore, we can conclude that when GD with FCF increases the AU of each firm on average increasesrather than FCF alone cannot effectively use the AU in a given year. This shows that the managerial factor when FCF with GD is highly effective and has greater importance to be encouraged in industries because it has good sign of performance toward the growth of individual firms.

Meanwhile, the relationship between FCF*ID and AU was found negative but insignificant. This implies that FCF with interacting ID is independent of AU.

The following table 6, summarized the study's hypotheses which were being tested and the conclusion either rejected or accepted the Null hypothesis.

CONCLUSION

5.1 CONCLUSIONS

More and more researchis pointing to contributing managerial factors that involve high FCF, resulting in ineffective use of assets.The purpose of this research is to investigate the relationship between asset utilization and FCF and to determine how gender diversity and board independence moderates this relationship of the firms listed on the Pakistan Stock Exchange. The data is Panel data consisting of non-financial firms (cross-sectional) andtaken from the annual reports of the PSX-100 listed firms over the period 2004-19. Descriptive

statistics, correlation analysis, pooled regression, and Panel fixed effect regression techniques are used to test the study hypothesis. The study found that gender diversity has a positive and significant impact on the asset utilizations, as their p-value at 5 percent level of significance is less than the 0.05 respectively. The results of this study are consistent with existing literature (Ahmed & Atif, 2021; Bananuka et al., 2022; Guizani & Abdalkrim, 2022; Oyotode-Adebile et al., 2022; Ye et al., 2019).However, the board independence was found to be insignificantly related to asset utilization. Moreover, all these variables were found to impact positively on asset utilization. The results are consistent with existing literature(Dewasiri et al., 2019; Guizani & Abdalkrim, 2022; Muchtar et al., 2021). The study found a positive but low relation between asset utilization and FCF. This suggests that free cash flow may be invested efficiently yet at a lower rate, adding to asset efficiency.This means our first hypothesis is supported(Guo et al., 2020; Jones et al., 2021; Martono et al., 2021).

On the other hand, if the board's independence is low, the effectiveness of monitoring the various levels of administrative ownership is not significant. As free cash flow increases, high board independence allows managers to less or efficiently use assets. However, board independence harms the relationship between asset utilization and board independence. The results are consistent with the literature (Dewasiri et al., 2019; Guizani & Abdalkrim, 2022; Kighir et al., 2015; Muchtar et al., 2021; Sanan, 2019) .So our second hypothesis has been rejected.

The results of this study show that the use of free cash flow reducesshareholder wealth, and maximizes the moderating roles of gender diversity in management decisions. The results show that in companies with high free cash flow, asset use can be ineffectively monitored, especially when the participating females in management levels are low or insufficient. This research contributes significantly to the gender and board independence-related variables in asset usage behavior of management, especially when FCFs exist. The current study empirically shows the effect of management control interactions on asset use when a business has FCFs. In the current study moderating variables (especially gender diversity but not board

independence)are effective controllers that prevent opportunistic behavior of management, such as asset retirement(Ahmed & Atif, 2021; Ayu et al., 2021; Chaudhary, 2021a).

It is also concluded that gender diversity moderates the relationship, and significantly concerning variables of 'asset utilization' and 'Free cash flow' as the value of probability is less than 0.01. According to the free cash flow concept, organizations with abundant cash have a lower degree of asset utilization effectiveness. The free cash flow theory explains the opportunistic behavior of managers of organizations with extra funds. Managements with substantial free cash flow may exhibit not just performance, but also free cash flow utilization. Our finding also shows the firms which higher gender diversity covering free cash flows positively impact asset utilization of firms. High free cash flow drives female managers to engage in more productive projects that may increase asset utilization, our finding is consistent with some existing research. Meanwhile, those firm which has lower gender diversification onboard frequently influence strong free cash flow to advantage themselves by foregoing principal payments. This study indicates that effectively tracking asset usage, especially when corporations have high FCFs with female directors or managers. If the level of female directors islow, it may not be able to effectively control the usage of the assets. The monitoring of the use of assets by investors depends on free cash flow and gender diversification especially the role of female directors in board members is important. The results show that with a high level of gender diversity (discouraging female directors into board members), it is less effective to monitor the use of a company's assets with higher FCF than to monitor the use of company assets. the result justifies our third hypothesis(Ibarra et al., 2021; Meryana & Setiany, 2021; Ozdemir et al., 2021; Quang Trinh et al., 2021; Shaw et al., 2021)

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