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Abstract

This study aims to examine the impact of country governance and financial development on corporate fraud cases across countries' perspectives from the year 2012-2018 by using country-wise data. This study runs different statistical models like descriptive, correlations, Random effect model, fixed effect model. This study chooses a fixed effect model based on the Hausman test and used Quantile regression for robustness and interquartile 0.25 to 0.75 difference regression models to find out the difference that the effect of variables are significant or insignificant at different quartile. The results of the different models show that country governance having a significant impact on corporate fraud cases and the association is negative thus improvement in country governance would expectedly reduce the corporate fraud cases. while financial development in terms of the financial market has a significant impact on corporate fraud cases and association is positive thus the development of a financial market where different financial products and instruments with less knowledge have the probability to be easily used for fraud. whereas financial development in terms of financial institutions having a significant effect on corporate fraud cases and the relationship is negative thus improvement in financial institutions like the security exchange commission of Pakistan and state bank would certainly minimize the corporate fraud cases.

Keywords: Country governance, Financial development, Corporate fraud cases, Fixed effect model, Quantile Regression

1. Introduction

Corporate fraud broadly examined by various researchers and is the subject of endless debate. Fraud is related to intentional deception. Fraud can be defined as the intentional use of deception, fraud, or deceitful acts to deny another lawful right, namely property (Ernst and Young, 2005). However, Albrecht (2004); Hopewood, (2008); Rezai (2010); Kranacha (2011) and KPMG (2011) state that fraud engages the intentional use of scam and other rational acts to gain illegal profits for the entity, even though it may cause harm.

A more relevant study in the context of financial developments and corporate level financial fraud cases has been studied by (Li et al., 2021), investigating that misreporting financial statements is less likely in China if the firm's location is more likely to be financially developed. Other situations were also reported as if the company's shares are in the hands of more significant shareholders or if the government is supporting the company at large. In addition, if the company is closely connected with the market regulators, there will be less financial misreporting in china, indicating less corporate financial fraud in the companies. The authors were also reported that the typical Western governance practices don't reduce the events of misreporting in the country of China. However, using natural experiments, having two reforms support the causal association between the variable of financial development and misreporting of financial statements.

This study contributes to the prosperous literature that how country governance and financial development influence corporate fraud cases globally. In the year 2018, the Association of Fraud Examiners (ACFE) conducted a study that included 5 countries from South Asia, including Afghanistan, Bangladesh, India, Maldives, and Pakistan. A total of 96 fraud cases from these countries (including 13 cases from Pakistan) were brought under critical examination. Moreover, a Median Loss of USD 100,000, due to corporate fraud, was reported from the cases examined in these countries. Corporate frauds are large in numbers so how to effectively good governance and financial development can prevent and reduce corporate frauds in Pakistan and across the countries. This study finds strong evidence on country governance and financial development impact on corporate fraud cases a cross countries. This study is novel as the concept of country governance, financial development, and Corporate fraud cases is rarely been investigated in the context of Pakistan. Moreover, this study has implications for the policy makers like top management of the company, regulatory bodies like the security exchange commission of Pakistan, and State bank of Pakistan.

2. Literature Review

Yiu et al., 2019 investigated and proposed an alternate governance mechanism to reduce the number of corporate accounting fraudulent behaviors in the emerging countries having transition economies of the world. The authors reported that corporate governance instrument plays a vital role in the transition economies and is a crucial topic for corporate governance researchers and policymakers. This proposal is for those countries where the corporate governance procedures are insufficient to mitigate and play a role in fraudulent corporate behaviors. The authors of this study identified some new twin sets of institutional logic – the institutional embeddedness logic and the institutional substitution logic and proposing some basic three essential types of the new governance mechanisms, i.e., administrative, relational, and foreign governments. And these three types of governance mechanisms play a crucial role in reducing corporate accounting fraud in the world's transition economies. The authors used a bivariate probit model on the sample of corporate financial fraud cases in the region of China. The authors found that business group affiliation, strategic alliance, non-tradable shares, the ownership of local government, use of audits from the foreign, and more particularly foreign listing can reduce stop and deter the corporate financial crimes and frauds.

Another study by (Gupta & Gupta, 2015) investigated the perception of the people about corporate frauds and their nature in the country of India. They were also investigated the after consequences of the corporate frauds on the business as well as on the

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economic system so that to restructure and redesign the corporate governance system to mitigate the accounting frauds in the listed companies. The authors used the exploratory factors analysis with a mix of case studies, literature review. They conducted a complete structured questionnaire from the sample of 346 companies and 43 interviews with the corporate professionals, management, government officers, investors, and officials having a broad level of experience in the detection and deterrence of corporate-level crimes in India. The authors of the study found that the country's whole regulatory framework is relatively weak, and there is a dire need to redefine the functions and responsibilities of the potential auditors.

A perspective of institutions is analyzed by (Máté et al., 2019), including the corporate frauds in different economies to validate and enhance the previous level studies in the literature concerning the accounting concepts. Furthermore, the authors used the linear regression (OLS) technique to study the effects of corporate governance proxies i.e, effects of legal processes, the strength of the audit checks, and the reporting procedure standards, and the governance capital problems for global competitiveness and the ultimate economic growth. As a result, the authors concluded and explaining the role of the other indicators like the extent of the director's liabilities, financial freedom, and the legal processes were found to be very much irrelevant in determining the number of financial frauds.

Moreover, the study results revealed that economic freedom, government capital, freedom from government enforcements, the strength of transparency, and the increased level of protection of minority investments via the company's directors might increase more fraud cases in the company years ahead. The legal characteristics were significantly found to be a relevant proxy in letting know the financial fraud characteristics in the study. This study provided worthy notes to study the dynamics of corporate-level financial frauds across the countries. And thus, the authors claimed that the results of the study will help out the policymakers in mitigating and controlling the corporate-level financial frauds in the country at large. The study would compensate the policymakers for overseeing the financial downturns in the country and further achieving a sustainable, competitive, and sound economic development in the country.

A more relevant study conducted by (Dong et al., 2018) analyzed the association between financial development and corporate-level financial frauds. The authors tested economic development indicators against the fraudulent behaviors of the sample included in the study. They suggested that certain financial developments may more likely control and mitigate corporate-level financial crimes in emerging countries.

Corporate frauds have become a new normal in the last decade (Giannetti & Wang, 2016). The authors showed that after reporting the corporate level frauds in the state matters, the household stock market investors were reportedly decreased. The household investors were reduced in fraudulently registered firms and the non fraudulent firms even though those households don't have earnings stocks in the fraudulent firms. Moreover, the household investors with financial development knowledge and much more excellent corporate fraud experience hold few equities on their hands compared to others who don't.

Another perspective of the financial development and corporate level frauds were deeply investigated by (Li et al., 2021; Wang et al., 2010; Wang & Winton, 2014), analyzing the firms level incentives to engage in financial frauds keeping in view the investor beliefs owing to the business condition of the relevant industry. The authors believed that financial frauds certainly increase with the changes in thoughts of the investors due to the changes in the industry conditions and alternatively reduces with the belief when the industry prospects are very high. The authors suggested that two approaches properly work: first, close investors monitoring and short-term executive compensation. These both points are reflecting the belief of the investors about the industry's future changing situation. The authors also suggested that these two variables are different from one another; investors monitoring and other variable underwriters are additional. The authors revealed that the results of the current study are consistent with the previous research that investors' beliefs closely associate with corporate frauds and strongly suggested that auditors and regulators must look for fraudulent behavior over the boom periods.

The given hypothesis have been designed from the above literature.

Hypothesis 1: There is a significant effect of country governance on corporate fraud cases in developed and developing countries markets.

Hypothesis 2: There is a significant effect of financial development on corporate fraud cases in developed and developing countries markets.

3. Research Methodology

3.1. Nature of the Study

The nature of the study is quantitative and is an applied study which follows explanatory research by testing the developed hypotheses.

3.2. Research Approach

This study used a deductive approach. As the research questions are designed from the literature review. Therefore quantitative analysis techniques applied to quantify the research questions.

3.3. Population and Sample Size of the Study

The population of the study is developed and developing markets. This study has collected the Sample Data of 90 countries for the years 2012- 2018 based on the availability of the data. The following countries data have been used for fraud cases and other variables as well that can shown in alphabetic order.

3.4. Data Collection Techniques, Sources and Types of Data

Secondary data has been collected. Report to the nation on occupational fraud and abuse, publishing Fraud cases reports since 1996 by ACFE which is a source of Corporate Fraud Cases data collection. While for country governance, the World Governance index has been used for selected sample source of the data is World bank WDI and for financial development, this study used financial development index and Source of data is International monitoring fund (IMF). This study has used cross countries and years wise panel data therefore panel data much suitable and to use panel regression model as compared to pool data. In panel data

time and cross sectional units changes. To capture both the impacts panel data is best suitable data. This study has run Hausman test which suggested using panel data.

Algeria	Cyprus	Ireland	Mexico	Saudi Arabia
Angola	Czech Republic	Israel	Mozambique	Senegal
Antigua and Barbuda	Denmark	Italy	Namibia	Serbia
Australia	Equatorial Guinea	Jamaica	Netherlands	Singapore
Austria	Finland	Japan	New Zealand	Slovenia
Bahrain	France	Jordan	Nicaragua	South Africa
Bangladesh	Georgia	Kenya	Nigeria	Spain
Belgium	Germany	Kuwait	Norway	Sudan
Botswana	Ghana	Latvia	Oman	Switzerland
Brazil	Greece	Lebanon	Pakistan	Tanzania
Bulgaria	Grenada	Liberia	Papua New Guinea	Thailand
Cambodia	Guinea	Lithuania	Peru	Turkey
Cameroon	Haiti	Madagascar	Philippines	UAE
Chad	Honduras	Malawi	Poland	Uganda
Chile	Hungary	Malaysia	Portugal	Ukraine
China	Iceland	Mali	Qatar	United Kingdom
Colombia	India	Mauritania	Romania	Vietnam
Costa Rica	Indonesia	Mauritius	Rwanda	Zambia

i. Regression Models

$$1. \ln(\text{FRAUD}) = \beta_0 + \beta_1\text{COC}_i + \beta_2\text{GE}_i + \beta_3\text{PS}_i + \beta_4\text{RQ}_i + \beta_5\text{ROL}_i + \beta_6\text{VAA}_i + \beta_7\text{GOVINDE}_i + \beta_8\text{FD}_i + \beta_9\text{GDP}_{gi} + \beta_{10}\text{INF}_{ri} + \beta_{11}\text{EDU}_{ri} + \beta_{12}\text{EDLI}_i + \epsilon_i$$

$$2. \ln(\text{FRAUD}) = \beta_0 + \beta_1\ln(\text{GOVINDE})_i + \beta_2\text{FD}_i + \beta_3\text{FI}_i + \beta_4\text{FM}_i + \beta_5\text{GDP}_{gi} + \beta_6\text{INF}_{ri} + \beta_7\text{EDU}_{ri} + \beta_7\text{EDLI}_i + \epsilon_i$$

ii. Robust Analysis Models

$$1. \ln(\text{FRAUD}) = \beta_0 + \beta_1\text{COC}_i + \beta_2\text{FD}_i + \beta_3\text{GDP}_{gi} + \beta_4\text{INF}_{ri} + \beta_5\text{EDU}_{ri} + \beta_6\text{EDLI}_i + \epsilon_i$$

$$2. \ln(\text{FRAUD}) = \beta_0 + \beta_1\text{GE}_i + \beta_2\text{FD}_i + \beta_3\text{GDP}_{gi} + \beta_4\text{INF}_{ri} + \beta_5\text{EDU}_{ri} + \beta_6\text{EDLI}_i + \epsilon_i$$

$$3. \ln(\text{FRAUD}) = \beta_0 + \beta_1\text{PS}_i + \beta_2\text{FD}_i + \beta_3\text{GDP}_{gi} + \beta_4\text{INF}_{ri} + \beta_5\text{EDU}_{ri} + \beta_6\text{EDLI}_i + \epsilon_i$$

$$4. \ln(\text{FRAUD}) = \beta_0 + \beta_1\text{RQ}_i + \beta_2\text{FD}_i + \beta_3\text{GDP}_{gi} + \beta_4\text{INF}_{ri} + \beta_5\text{EDU}_{ri} + \beta_6\text{EDLI}_i + \epsilon_i$$

$$5. \ln(\text{FRAUD}) = \beta_0 + \beta_1\text{ROL}_i + \beta_2\text{FD}_i + \beta_3\text{GDP}_{gi} + \beta_4\text{INF}_{ri} + \beta_5\text{EDU}_{ri} + \beta_6\text{EDLI}_i + \epsilon_i$$

$$6. \ln(\text{FRAUD}) = \beta_0 + \beta_1\text{VAA}_i + \beta_2\text{FD}_i + \beta_3\text{GDP}_{gi} + \beta_4\text{INF}_{ri} + \beta_5\text{EDU}_{ri} + \beta_6\text{EDLI}_i + \epsilon_i$$

$$7. \ln(\text{FRAUD}) = \beta_0 + \beta_1\text{Govindex}_i + \beta_2\text{FD}_i + \beta_3\text{GDP}_{gi} + \beta_4\text{INF}_{ri} + \beta_5\text{EDU}_{ri} + \beta_6\text{EDLI}_i + \epsilon_i$$

iii. Interquartile 0.75 TO 0.25 difference regression model

$$1. \ln(\text{FRAUD}) = \beta_0 + \beta_1\text{COC}_i + \beta_2\text{FD}_i + \beta_3\text{GDP}_{gi} + \beta_4\text{INF}_{ri} + \beta_5\text{EDU}_{ri} + \beta_6\text{EDLI}_i + \epsilon_i$$

$$2. \ln(\text{FRAUD}) = \beta_0 + \beta_1\text{GE}_i + \beta_2\text{FD}_i + \beta_3\text{GDP}_{gi} + \beta_4\text{INF}_{ri} + \beta_5\text{EDU}_{ri} + \beta_6\text{EDLI}_i + \epsilon_i$$

$$3. \ln(\text{FRAUD}) = \beta_0 + \beta_1\text{PS}_i + \beta_2\text{FD}_i + \beta_3\text{GDP}_{gi} + \beta_4\text{INF}_{ri} + \beta_5\text{EDU}_{ri} + \beta_6\text{EDLI}_i + \epsilon_i$$

$$4. \ln(\text{FRAUD}) = \beta_0 + \beta_1\text{RQ}_i + \beta_2\text{FD}_i + \beta_3\text{GDP}_{gi} + \beta_4\text{INF}_{ri} + \beta_5\text{EDU}_{ri} + \beta_6\text{EDLI}_i + \epsilon_i$$

$$5. \ln(\text{FRAUD}) = \beta_0 + \beta_1\text{ROL}_i + \beta_2\text{FD}_i + \beta_3\text{GDP}_{gi} + \beta_4\text{INF}_{ri} + \beta_5\text{EDU}_{ri} + \beta_6\text{EDLI}_i + \epsilon_i$$

$$6. \ln(\text{FRAUD}) = \beta_0 + \beta_1\text{VAA}_i + \beta_2\text{FD}_i + \beta_3\text{GDP}_{gi} + \beta_4\text{INF}_{ri} + \beta_5\text{EDU}_{ri} + \beta_6\text{EDLI}_i + \epsilon_i$$

$$7. \ln(\text{FRAUD}) = \beta_0 + \beta_1\ln(\text{Govindex})_i + \beta_2\text{FD}_i + \beta_3\text{GDP}_{gi} + \beta_4\text{INF}_{ri} + \beta_5\text{EDU}_{ri} + \beta_6\text{EDLI}_i + \epsilon_i$$

3.5. Variables and computations

Variables	Data source and computations
Corporate fraud cases (Dependent variable)	Source of data is Report to the nation on occupational fraud and abuse (ACFE).
Country governance (Independent Variable)	Index calculated by World bank this index can be used as country governance worldwide. Source of data is world bank.
Financial development (Independent Variable)	The Financial Development index, calculated by IMF can be used worldwide and source of data is IMF.
Education rate (Control variable)	World bank data
The extent to director liability index (Control variable)	Index calculated by Doing business.com can be used worldwide. Source of data is world bank.
GDP (Control variable)	World bank
Inflation (Control variable)	World bank

4. Results and discussion

This portion consists of different statistical analyses like descriptive statistics, correlation, fixed effect models, random effect models, Quantile regression, and interquartile regression. Based on these analyses this study interprets different results and discussions of the study. Which also shows that the results are consistent with previous results.

4.1. Descriptive statistics

The results of the descriptive statistics are given in table 1. In our model corporate fraud cases is dependent variable whereas financial development and country governance index are explanatory variables.

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Fraudcases	628	8.686	13.561	0	87
Lngovindex	628	3.924	.897	.149	4.759
Coc	628	.163	1.017	-1.715	2.381
Ge	628	.282	.95	-2.353	2.231
Psav	628	-.049	.935	-2.677	1.54
Rq	628	.322	.897	-1.858	2.233
Rol	628	.236	.946	-1.929	2.1
Vaa	628	.152	.916	-1.882	1.734
Fd	628	.413	.235	.049	.964
Gdpg	628	.029	.038	-.461	.098
Infr	628	5.4	22.129	-1.8	379.848
gov edur	628	7.932	8.164	0	37.521
Uemprate	628	6.736	8.001	0	33.44
Edli	628	4.471	2.816	0	10

4.2. Pearson Correlation Matrix

Table 2 shows the results that there is a positive association of, financial development in terms of financial market with corporate fraud cases while financial development relationship is negative in terms of financial institutions table 6 shows the results, country governance, and sub-indices which are control of corruption, political stability, rule of law, government effectiveness, regulatory quality, and voice and accountability having a negative association with corporate fraud cases. Hence as result, we can interpret that those countries which are financially developed have a positive association with corporate fraud which means more financial instruments with less knowledge can be used for fraud easily. And country governance index sub-indices show negative co-movement with corporate fraud cases .which means that improvement of control of corruption, political stability and absence of violence, rule of law, government effectiveness, regulatory quality, and voice and accountability would expectedly lessen the chances of the occurrence of corporate fraud cases.

Table 2: Correlation Matrix

	Fraud cases	Govindex	Coc	Psav	Rol	Ge	Rq	Vaa	fd	lngdp	inf	Ed u
Fraudcases	—											
Govindex	0.151 ***	—										
Coc	0.028 ***	0.022	—									
Psav	0.170 ***	0.054	0.767 ***	—								
Rol	0.125 ***	0.008	0.966 ***	0.770 ***	—							
Ge	0.143 ***	0.026	0.942 ***	0.738 ***	0.955 ***	—						
Rq	0.191 ***	0.027	0.918 ***	0.723 ***	0.938 ***	0.951 ***	—					
Vaa	0.116 ***	0.021	0.716 ***	0.634 ***	0.734 ***	0.698 ***	0.733 ***	—				
Fd	0.204 ***	0.009	0.787 ***	0.533 ***	0.810 ***	0.851 ***	0.809 ***	0.582 ***	—			
Lngdp	0.379 ***	0.006	0.383 ***	0.152 ***	0.420 ***	0.497 ***	0.447 ***	0.279 ***	0.627 ***	—		
Inf	0.023	0.020	0.218 ***	0.250 ***	0.242 ***	0.285 ***	0.272 ***	0.212 ***	0.196 ***	0.628 ***	—	
Edu	0.087 *	0.136 ***	0.016	0.056	0.020	0.028	0.077	0.189 ***	0.092 *	0.060	0.055	—

Note. * p < .05, ** p < .01, *** p < .001

4.3. Fraud in country governance

Table 3 shows the results of fraud in country governance. control of corruption has a negative and significant effect on corporate fraud cases. Thus it supports the notion that improvement in control of corruption policies of a country would expectedly reduce

the corporate fraud cases or fewer chances of the occurrence of frauds. Financial development has a significant and positive effect in terms of financial market and negative in terms of financial institutions on corporate fraud table 4.4 shows the results. Thus, those countries which are financially developed in terms of a financial market there is more chances that financial instrument with less knowledge can be easily used for fraud but financial development in terms of financial institutions has a negative effect on corporate frauds cases thus improvement in financial institutions will reduce the corporate fraud cases.

Government effectiveness effect is significant and negative impact on corporate fraud. Therefore enhancement of government effectiveness would expectedly decrease corporate frauds. Political stability has a significant and negative effect on corporate fraud. Therefore the development of Political stability would expectedly decrease corporate frauds. Regulatory quality has a significant and negative effect on corporate fraud. Therefore the improvement of regulatory quality would expectedly decrease corporate frauds. Rule of law has a significant and negative effect on corporate fraud. Therefore the advancement of rule of law would expectedly decrease corporate frauds. Voice and accountability effect on corporate fraud has a negative and significant. Thus increase in voice and accountability would be expected to reduce corporate frauds.

Results signifies that there is a negative and significant effect of the Country governance index on corporate fraud. Thus it supports the concept that improvement in Country governance would expectedly reduce corporate frauds. Our results are consistent with Sadaf, R., Oláh, J., Popp, J., & Máté, D. (2018) results show that improvement in governance would expectedly reduce fraud cases. Tables 4.3.1, 4.3.2, and Table 1 in appendix shows the results. We performed the Hausman test and Alternative hypothesis H1 is accepted (fixed-effect model) based on the Hausman test because P-value is less than 0.05 and H₀ is rejected (Random Effect model). After Performing the Durbin Watson test for Autocorrelation H₀ is accepted based on the Durbin-Watson test because all the result values are less than 2.5 and more than 1.5 which means that there is no problem of Autocorrelation the results are shown in the appendix.

Table 3: Fraud in country governance

	(COC) Lnfc	(GE) Lnfc	(PSAV) Lnfc	(RQ) Lnfc	(ROL) Lnfc	(VAA) Lnfc	(Govindex) Lnfc
Coc	-4.68*** (.069)						
Ge		-.381*** (.094)					
Psav			-.416*** (.056)				
Rq				-.36*** (.089)			
Rol					-.484*** (.08)		
Vaa						-.24*** (.059)	
Govindex							-.205*** (.047)
Fd	3.566*** (.289)	3.292*** (.36)	2.794*** (.208)	3.106*** (.322)	3.55*** (.309)	2.58*** (.229)	2.036*** (.186)
Gdpgr	.041*** (.011)	.043*** (.011)	.037*** (.011)	.043*** (.011)	.042*** (.011)	.037*** (.011)	.037*** (.011)
Infr	-.001 (.002)	-.002 (.002)	-.003 (.002)	-.002 (.002)	-.002 (.002)	-.001 (.002)	-.001 (.002)
Edu	-.029 (.508)	-.067 (.524)	-.085 (.504)	.073 (.531)	-.02 (.513)	.217 (.54)	-.237 (.517)
Edli	-.057*** (.016)	-.065*** (.016)	-.045*** (.016)	-.066*** (.016)	-.058*** (.016)	-.086*** (.015)	-.09*** (.015)
_cons	.166 (.158)	.347* (.179)	.36*** (.136)	.425** (.166)	.214 (.162)	.655*** (.133)	.09 (.217)
Observations	628	628	628	628	628	628	628
R-squared	.244	.209	.254	.209	.233	.209	.212
Hausman Test	608.1	545.3	681.4	408.1	595.5	609.4	551.4
Prob>chi2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Breusch and Pagan LM test	14.51	21.43	43.43	21.01	16.45	12.12	14.01
Prob>chi2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dwatson	2.01	1.98	2.03	2.11	2.01	1.91	2.13
SwikResid	0.991	0.972	0.991	0.981	0.998	0.991	0.981
Prob>chi2	0.510	0.592	0.510	0.560	0.499	0.510	0.560

Table 4: Fraud in governance

	(COC) Lngfc	(GE) Lngfc	(PSAV) Lngfc	(RQ) Lngfc	(ROL) Lngfc	(VAA) Lngfc	(Govindex) Lngfc
Coc	-.115 (.075)						
Ge		-.024*** (.000)					
Psav			-.116** (.03)				
Rq				-.109 (.094)			
Rol					-.099 (.078)		
Vaa						-.084** (.04)	
Govindax							-.031* (.019)
Fd	1.208*** (.348)	.883** (.396)	.969*** (.251)	1.138*** (.372)	1.14*** (.351)	1.017*** (.285)	.818*** (.246)
Gdpgr	.029** (.015)	.022 (.015)	.025* (.015)	.03** (.015)	.03** (.015)	.029* (.015)	.022 (.015)
Infr	.03*** (.008)	.029*** (.008)	.028*** (.008)	.03*** (.008)	.03*** (.009)	.03*** (.008)	.03*** (.008)
Edu	-1.4*** (.469)	-1.326*** (.452)	-1.449*** (.466)	-1.415*** (.466)	-1.438*** (.475)	-1.377*** (.467)	-.94* (.492)
Edli	-.048** (.022)	-.05** (.023)	-.046** (.022)	-.052** (.022)	-.051** (.021)	-.054** (.021)	-.052** (.022)
_cons	.01 (.193)	.152 (.205)	.119 (.163)	.058 (.194)	.048 (.191)	.104 (.171)	.062 (.182)
Observations	628	628	628	628	628	628	628

Standard errors are in parentheses

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

4.4. Fraud in Financial development

Table 4 For financial development sub-indices we performed the fixed effect model which shows the results. Country governance has a negative and significant effect on corporate fraud. Thus it supports the concept that improvement in Country governance would expectedly reduce corporate fraud cases. Financial development in terms of the financial market effect on corporate fraud is positive and significant. Therefore those countries which are financially developed in terms of financial market so there are more chances that financial instrument with less knowledge can be easily used for fraud but financial development has a negative effect on corporate fraud cases in case of financial institutions therefore improvement in financial institutions will decrease the corporate frauds cases.

Country governance effect is negative and significant on corporate fraud. Thus the results support the notion that improvement in Country governance would expectedly lessen the corporate frauds. Financial development in terms of financial institutions have significant and negative effect on corporate fraud. Thus the results support the concept that the development of financial institutions would expectedly reduce corporate fraud cases. Our results are agreed with Li, M., Makaew, T., & Winton, A. (2020). The results show that improvement in financial development reduces the occurrence of fraud cases and financial development has an inverse relationship with fraud cases.

Country governance effect is significant and negative on corporate fraud. It represents that development in Country governance would expectedly decrease corporate frauds. Our results are consistent with Sadaf, R., Oláh, J., Popp, J., & Máté, D. (2018) results show that improvement in governance would expectedly reduce fraud cases. Financial Market effect is significant and positive on corporate fraud. Thus our result shows that the development of a financial market where more financial instruments traded with less knowledge can be easily used for fraud.

Tables 4 and Table 2,3,4 and 5 in appendix shows the results. We performed the Hausman test and Alternative hypothesis H1 is accepted (fixed-effect model) based on the Hausman test because P-value is less than 0.05 and H_0 is rejected (Random Effect model). After Performing the Durbin Watson test for Autocorrelation H_0 is accepted based on the Durbin-Watson test because all the result values are less than 2.5 and more than 1.5 which means that there is no problem of Autocorrelation. we performed VIF tests for multicollinearity. Results shows that there is no problem of multicollinearity. H_0 (Homoskedasticity) is accepted and H1 (Heteroskedasticity) is rejected because we run a fixed effect model which captured the variance and solved the problem of Heteroskedasticity. Now the data shows a normal distribution of residuals the results are shown in the appendix.

Table 5: Fraud in Financial development

	(FD)	(FI)	(FM)
	Logfc	Logfc	Logfc
Lngovindex	-.089*** (.02)	.091*** (.021)	.087*** (.019)
Fd	.884*** (.081)		
Fi		-.613*** (.094)	
Fm			.864*** (.065)
Gdpgr	.016*** (.005)	.014*** (.005)	.015*** (.005)
Infr	0 (.001)	-.001 (.001)	0 (.001)
Edu	-.103 (.225)	-.257 (.236)	-.011 (.217)
Edli	-.039*** (.007)	-.035*** (.007)	-.038*** (.006)
_cons	.039 (.094)	.097 (.104)	.131 (.088)
Observations	628	628	628
R-squared	.212	.121	.267
Hausman Test	508.1	595.3	601.4
Prob>chi2	0.000	0.000	0.000
Breusch and Pagan LM test	16.41	22.45	63.13
Prob>chi2	0.000	0.000	0.000
Dwatson	2.01	1.98	2.03
SwikResid	0.991	0.972	0.991
Prob>chi2	0.510	0.592	0.510

Table 6: Corruption Control and financially development

Logfc	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Coc	-.133	.032	-4.17	0	-.196	-.07	***
Fd	1.368	.109	12.57	0	1.155	1.582	***
Gdpgr	.001	.004	0.25	.801	-.007	.01	
Infr	0	.001	-0.06	.955	-.003	.003	
Edu	.129	.181	0.71	.475	-.226	.484	
Edli	-.007	.007	-1.08	.281	-.021	.006	
Constant	-.274	.044	-6.25	0	-.36	-.188	***
Coc	-.193	.069	-2.82	.005	-.328	-.059	***
Fd	1.548	.3	5.17	0	.96	2.136	***
Gdpgr	.008	.014	0.57	.567	-.019	.035	
Infr	-.001	.006	-0.20	.845	-.012	.01	
Edu	.125	.412	0.30	.762	-.684	.933	
Edli	-.02	.012	-1.76	.079	-.043	.002	*
Constant	.012	.135	0.09	.932	-.254	.277	
Coc	-.21	.053	-3.99	0	-.313	-.106	***
Fd	1.717	.193	8.89	0	1.338	2.096	***
Gdpgr	.024	.009	2.67	.008	.006	.041	***
Infr	.005	.012	0.44	.658	-.018	.029	
Edu	-.219	.241	-0.91	.365	-.693	.255	
Edli	-.035	.009	-3.94	0	-.053	-.018	***
Constant	.352	.126	2.80	.005	.105	.598	***
Mean dependent var		0.617	SD dependent var			0.506	

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

5. Analysis for Robust

5.1. Quantile Regression (0.25 0.50 0.75)

5.1.1. Corruption Control and financially development

This study model is consists of a dependent variable that is corporate fraud cases and explanatory variables are financial development and country governance index.

At 25 percentile,50 percentile, and 75 percentile control of corruption has a negative and significant impact on corporate fraud. In the case of 75 percentile, the impact of control of corruption on corporate fraud cases are more whereas minimum at 25 percentile while the control of corruption is effecting significantly at all quantiles.

At 25 percentile,50 percentile, and 75 percentile financial development has a significant and positive impact on corporate fraud cases In the case of 75 percentile, the impact of financial development on corporate fraud cases is more whereas minimum at 25 percentile while the financial development is effecting significantly at all quantiles.

5.1.2. Government effectiveness and financial development

At the 25 percentile government effectiveness has a negative and significant impact on corporate fraud cases. In this case, government effectiveness is significant at the 25 percentile only. In case of the 25 percentile, the impact of government effectiveness on corporate fraud cases is more whereas minimum and insignificant at 50 and 75 percentiles.

At 25 percentile,50 percentile, and 75 percentile financial development has a significant and positive impact on corporate fraud. In the case of 75 percentile, the impact of financial development on corporate fraud cases is more whereas minimum at 50 percentile while the financial development is effecting significantly at all quantiles.

Table 7: Government effectiveness and financial development

Logfc	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Ge	-.11	.026	-4.27	0	-.161	-.059	***
Fd	1.308	.085	15.39	0	1.141	1.475	***
Gdpgr	.001	.006	0.13	.897	-.011	.012	
Infr	0	.004	-0.06	.951	-.008	.007	
Edu	.059	.201	0.29	.769	-.336	.454	
Edli	-.006	.005	-1.11	.267	-.016	.005	
Constant	-.243	.038	-6.48	0	-.317	-.169	***
Ge	-.089	.054	-1.64	.102	-.195	.018	
Fd	1.165	.188	6.21	0	.796	1.534	***
Gdpgr	.009	.008	1.10	.27	-.007	.024	
Infr	-.001	.008	-0.15	.88	-.017	.015	
Edu	.005	.457	0.01	.992	-.893	.903	
Edli	-.029	.011	-2.53	.012	-.051	-.006	**
Constant	.215	.093	2.32	.021	.033	.397	**
Ge	-.175	.118	-1.48	.14	-.407	.057	
Fd	1.65	.301	5.49	0	1.06	2.24	***
Gdpgr	.028	.011	2.50	.013	.006	.051	**
Infr	.003	.015	0.21	.835	-.026	.032	
Edu	-.254	.405	-0.63	.531	-1.048	.541	
Edli	-.04	.014	-2.86	.004	-.068	-.013	***
Constant	.402	.143	2.81	.005	.121	.683	***

Mean dependent var

0.617 SD dependent var

0.506

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

5.1.2. Political stability and Financial development

At 25 percentile,50 percentile, and 75 percentile political stability and absence of violence has a negative and significant impact on corporate fraud cases. In the case of 75 percentile, the impact of political stability on corporate fraud cases is more whereas minimum at 25 percentile while the political stability is effecting significantly at all quantiles.

At 25 percentile,50 percentile, and 75 percentile financial development impact is significant and positive on corporate fraud cases. In the case of 75 percentile, the impact of financial development on corporate fraud cases is more whereas minimum at 25 percentile while the financial development is effecting significantly at all quantiles.

5.1.3. Regression results of Regulatory quality and financial development

At 25 percentile and 75 percentile Regulatory quality has a negative and significant impact on corporate fraud cases. In the case of 75 percentile, the impact of Regulatory quality on corporate fraud cases are more whereas minimum at 25 percentile while Regulatory quality effecting significantly at 25 and 75 percentiles and insignificant at 50 Percentile.

At 25 percentile,50 percentile, and 75 percentile, there is a positive and significant impact of financial development on corporate fraud cases. In the case of 75 percentile, financial development impact on corporate fraud cases is more whereas minimum at 50 percentile while the financial development is effecting significantly at all quantiles.

Table 8: Political stability and Financial development

	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Logfc							
Psav	-.076	.023	-3.27	.001	-.121	-.03	***
Fd	.998	.103	9.68	0	.795	1.2	***
Gdpgr	0	.004	0.06	.955	-.008	.009	
Infr	0	.002	-0.12	.906	-.004	.004	
Edu	.068	.145	0.47	.639	-.216	.352	
Edli	-.004	.007	-0.60	.545	-.018	.009	
Constant	-.153	.046	-3.29	.001	-.244	-.062	***
Psav	-.198	.051	-3.92	0	-.298	-.099	***
Fd	1.334	.193	6.92	0	.956	1.712	***
Gdpgr	.019	.01	1.85	.065	-.001	.039	*
Infr	-.001	.011	-0.13	.895	-.023	.021	
Edu	.302	.262	1.15	.25	-.213	.816	
Edli	-.014	.016	-0.84	.403	-.046	.019	
Constant	.016	.173	0.09	.928	-.324	.355	
Psav	-.283	.053	-5.34	0	-.387	-.179	***
Fd	1.414	.14	10.13	0	1.14	1.688	***
Gdpgr	.021	.01	2.04	.042	.001	.041	**
Infr	.002	.015	0.10	.919	-.029	.032	
Edu	-.052	.32	-0.16	.87	-.68	.575	
Edli	-.027	.012	-2.26	.024	-.05	-.004	**
Constant	.439	.166	2.64	.009	.112	.766	***
Mean dependent var		0.617	SD dependent var			0.506	

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

Table 9: Regression results of Regulatory quality and financial development

	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Logfc							
Rq	-.072	.034	-2.09	.037	-.139	-.004	**
Fd	1.126	.126	8.95	0	.879	1.373	***
Gdpgr	0	.003	0.16	.874	-.005	.006	
Infr	0	.001	-0.08	.94	-.001	.001	
Edu	.067	.211	0.32	.751	-.348	.482	
Edli	-.006	.005	-1.07	.285	-.017	.005	
Constant	-.18	.063	-2.86	.004	-.304	-.057	***
Rq	-.029	.07	-0.41	.68	-.167	.109	
Fd	1.001	.21	4.77	0	.588	1.413	***
Gdpgr	.009	.008	1.06	.291	-.008	.025	
Infr	-.001	.007	-0.14	.887	-.014	.012	
Edu	.063	.255	0.25	.804	-.438	.565	
Edli	-.034	.012	-2.76	.006	-.058	-.01	***
Constant	.282	.123	2.29	.022	.04	.523	**
Rq	-.162	.069	-2.34	.02	-.298	-.026	**
Fd	1.593	.277	5.76	0	1.049	2.137	***
Gdpgr	.024	.009	2.53	.012	.005	.042	**
Infr	.002	.012	0.18	.854	-.021	.025	
Edu	-.166	.421	-0.39	.693	-.992	.66	
Edli	-.047	.007	-6.56	0	-.061	-.033	***
Constant	.476	.104	4.58	0	.272	.681	***
Mean dependent var		0.617	SD dependent var			0.506	

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

5.1.4. Regression results of Financial Development and Rule of Law

At 25 percentile, 50 percentile, and 75 percentile the impact of Rule of law on corporate fraud cases is significant and negative. In case of the 75 percentile, the impact of Rule of law on corporate fraud cases are more whereas minimum at 25 percentile while Rule of law effecting significantly at all percentiles.

At 25 percentile, 50 percentile, and 75 percentile, there is Positive relationship and significant impact of financial development on corporate fraud. In the case of 75 percentile, the impact of financial development on corporate fraud cases is more whereas minimum at 25 percentile while the financial development is effecting significantly at all quantiles.

Table 10: Regression results of Financial Development and Rule of Law

	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Logfc							
Rol	-.125	.028	-4.49	0	-.18	-.07	***
Fd	1.353	.134	10.09	0	1.09	1.617	***
Gdpgr	.001	.006	0.13	.899	-.011	.013	
Infr	0	.001	-0.12	.908	-.003	.003	
Edu	.126	.199	0.63	.527	-.265	.517	
Edli	-.008	.004	-1.90	.058	-.016	0	*
Constant	-.253	.048	-5.28	0	-.348	-.159	***
Rol	-.156	.056	-2.79	.005	-.265	-.046	***
Fd	1.407	.269	5.23	0	.878	1.935	***
Gdpgr	.009	.016	0.56	.576	-.022	.039	
Infr	-.001	.009	-0.14	.887	-.018	.016	
Edu	.074	.362	0.20	.838	-.637	.785	
Edli	-.028	.011	-2.47	.014	-.05	-.006	**
Constant	.112	.134	0.83	.404	-.151	.374	
Rol	-.263	.065	-4.05	0	-.391	-.135	***
Fd	1.794	.186	9.66	0	1.429	2.158	***
Gdpgr	.02	.014	1.40	.161	-.008	.048	
Infr	.001	.017	0.09	.93	-.031	.034	
Edu	-.114	.463	-0.25	.806	-1.024	.796	
Edli	-.023	.012	-1.90	.058	-.048	.001	*
Constant	.332	.146	2.28	.023	.046	.618	**
Mean dependent var		0.617	SD dependent var			0.506	

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

5.1.5. Voice and accountability and financial development

At 25 percentile, 50 percentile, and 75 percentile, VAA has a negative association and significant impact on corporate fraud cases. In the case of 75 percentile, the impact of Voice and accountability on corporate fraud cases are more whereas minimum at 25 percentile while Voice and accountability affecting significantly at all percentiles.

At 25 percentile, 50 percentile, and 75 percentile financial development association is positive and its impact on corporate fraud cases is significant. In the case of 75 percentile, the impact of financial development on corporate fraud cases is more whereas minimum at 25 percentile while the financial development is effecting significantly at all quantiles.

Table 11: Voice and accountability and financial development

	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Logfc							
Vaa	-.082	.026	-3.12	.002	-.134	-.03	***
Fd	1.091	.098	11.14	0	.898	1.283	***
Gdpgr	0	.004	-0.02	.983	-.007	.007	
Infr	0	.001	-0.01	.989	-.001	.001	
Edu	.284	.192	1.48	.139	-.092	.661	
Edli	-.005	.005	-0.93	.352	-.016	.006	
Constant	-.207	.044	-4.76	0	-.293	-.122	***
Vaa	-.09	.045	-1.99	.047	-.179	-.001	**
Fd	1.139	.2	5.71	0	.747	1.531	***
Gdpgr	.009	.012	0.78	.437	-.014	.032	
Infr	-.001	.007	-0.16	.877	-.016	.014	
Edu	-.032	.382	-0.08	.934	-.781	.718	
Edli	-.035	.01	-3.65	0	-.054	-.016	***
Constant	.247	.123	2.00	.046	.005	.49	**
Vaa	-.099	.028	-3.48	.001	-.155	-.043	***
Fd	1.279	.169	7.59	0	.948	1.61	***
Gdpgr	.025	.012	1.97	.049	0	.049	**
Infr	.008	.013	0.58	.561	-.018	.034	
Edu	-.137	.526	-0.26	.794	-1.17	.896	
Edli	-.049	.01	-5.05	0	-.068	-.03	***
Constant	.543	.129	4.21	0	.289	.796	***
Mean dependent var		0.617	SD dependent var			0.506	

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

5.1.6. Country governance and financial development

At 25 percentile, 50 percentile, and 75 percentile country governance has a negative and significant impact on corporate fraud cases. In the case of 75 percentile, the impact of country governance on corporate fraud cases is more whereas minimum at 25 percentile while country governance affecting significantly at all percentiles. At 25 percentile, 50 percentile, and 75 percentile financial development relationship is positive and its impact is significant on corporate fraud cases. In the case of 75 percentile, the impact of financial development on corporate fraud cases is more whereas minimum at 50 percentile while the financial development is effecting significantly at all quantiles.

Table 12: Country governance and financial development

	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Logfc							
Govindax	-.041	.016	2.65	.008	-.011	-.072	***
Fd	.937	.092	10.17	0	.756	1.118	***
Gdpgr	-.001	.003	-0.23	.817	-.006	.005	
Infr	0	.001	0.11	.911	-.001	.001	
Edu	-.127	.249	-0.51	.611	-.617	.363	
Edli	-.004	.008	-0.52	.603	-.019	.011	
Constant	-.26	.058	-4.50	0	-.373	-.146	***
Govindax	-.097	.024	4.11	0	.051	-.144	***
Fd	.906	.129	7.01	0	.653	1.16	***
Gdpgr	.006	.008	0.72	.473	-.01	.022	
Infr	-.001	.007	-0.13	.9	-.015	.013	
Edu	.296	.318	0.93	.353	-.329	.92	
Edli	-.032	.006	-5.17	0	-.044	-.02	***
Constant	-.104	.127	-0.82	.414	-.353	.146	
Govindax	-.123	.035	3.52	0	-.054	-.192	***
Fd	1.065	.207	5.15	0	.659	1.471	***
Gdpgr	.036	.013	2.65	.008	.009	.062	***
Infr	.01	.016	0.60	.546	-.022	.042	
Edu	.013	.339	0.04	.969	-.652	.679	
Edli	-.063	.011	-5.57	0	-.085	-.041	***
Constant	.125	.146	0.85	.394	-.163	.413	
Mean dependent var		0.617	SD dependent var			0.506	

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

5.2. Interquartile 0.75 to 0.25 difference regression models

5.2.1. COC and financial development

To check the interquartile significance, we performed interquartile 0.75 to 0.25 difference regression models. The results show that the differential impact of the interquartile 0.75 to 0.25 having insignificant impact on corporate fraud cases in case of control of corruption. And the difference between the interquartile 0.75 to 0.25 is insignificantly different from each other.

The results show that the differential impact of the interquartile 0.75 to 0.25 having insignificant impact on corporate fraud cases in case of financial development. And the difference between the interquartile 0.75 to 0.25 is insignificantly different from each other.

Table 13: COC and financial development

	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Logfc							
Coc	-.077	.059	-1.31	.191	-.192	.038	
Fd	.349	.255	1.37	.172	-.153	.85	
Gdpgr	.023	.014	1.61	.109	-.005	.05	
Infr	.005	.015	0.36	.719	-.024	.034	
Edu	-.348	.298	-1.17	.243	-.932	.237	
Edli	-.028	.011	-2.56	.011	-.049	-.006	**
Constant	.626	.147	4.25	0	.337	.915	***
Mean dependent var		0.617	SD dependent var			0.506	

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

5.2.2. Government Effectiveness and financial development

The results show that the differential impact of the interquartile 0.75 to 0.25 having insignificant impact on corporate fraud cases in case of government effectiveness. And the difference between the interquartile 0.75 to 0.25 is insignificantly different from each other.

The results show that the differential impact of the interquartile 0.75 to 0.25 having insignificant impact on corporate fraud cases

in case of financial development .And the difference between the interquartile 0.75 to 0.25 insignificantly different from each other.

Table 14: Government Effectiveness and financial development

	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Logfc							
Ge	-.065	.087	-0.74	.457	-.235	.106	
Fd	.342	.255	1.34	.18	-.159	.842	
Gdpgr	.028	.016	1.73	.083	-.004	.059	*
Infr	.003	.014	0.23	.818	-.025	.031	
Edu	-.313	.431	-0.73	.468	-1.159	.533	
Edli	-.034	.014	-2.40	.017	-.062	-.006	**
Constant	.645	.108	5.96	0	.433	.857	***
Mean dependent var		0.617	SD dependent var			0.506	

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

5.2.3. Political stability and financial development

The results shows that the differential impact of the interquartile 0.75 to 0.25 having significant impact on corporate fraud cases in case of Politically stability. And the difference between the interquartile 0.75 to 0.25 is significantly different from each other. The results shows that the differential impact of the interquartile 0.75 to 0.25 having significant impact on corporate fraud cases in case of financial development .And the difference between the interquartile 0.75 to 0.25 is significantly different from each other.

Table 15: Political stability and financial development

	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Logfc							
Psav	-.207	.047	-4.41	0	-.299	-.115	***
Fd	.416	.13	3.21	.001	.161	.671	***
Gdpgr	.021	.01	2.05	.041	.001	.041	**
Infr	.002	.01	0.17	.861	-.018	.022	
Edu	-.12	.303	-0.40	.691	-.715	.474	
Edli	-.023	.007	-3.06	.002	-.037	-.008	***
Constant	.592	.096	6.16	0	.403	.78	***
Mean dependent var		0.617	SD dependent var			0.506	

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

5.2.4. Regulatory Quality and financial development

The results shows that the differential impact of the interquartile 0.75 to 0.25 having insignificant impact on corporate fraud cases in case of regulatory quality. And the difference between the interquartile 0.75 to 0.25 is insignificantly different from each other. The results shows that the differential impact of the interquartile 0.75 to 0.25 having significant impact on corporate fraud cases in case of financial development .And the difference between the interquartile 0.75 to 0.25 is significantly different from each other.

Table 16: Regulatory Quality and financial development

	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Logfc							
Rq	-.09	.053	-1.70	.09	-.195	.014	*
Fd	.467	.177	2.64	.008	.12	.814	***
Gdpgr	.023	.011	2.09	.037	.001	.045	**
Infr	.002	.01	0.22	.828	-.017	.022	
Edu	-.233	.272	-0.85	.393	-.768	.302	
Edli	-.041	.01	-3.94	0	-.062	-.021	***
Constant	.657	.092	7.13	0	.476	.837	***
Mean dependent var		0.617	SD dependent var			0.506	

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

5.2.5. Financial development and Rule of Law

The results shows that the differential impact of the interquartile 0.75 to 0.25 having significant impact on corporate fraud cases in case of Rule of law. And the difference between the interquartile 0.75 to 0.25 is significantly different from each other. The results shows that the differential impact of the interquartile 0.75 to 0.25 having significant impact on corporate fraud cases in case of financial development .And the difference between the interquartile 0.75 to 0.25 is significantly different from each other.

Table 17: Financial development and Rule of Law

	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Logfc							
Rol	-.138	.05	-2.74	.006	-.236	-.039	***
Fd	.44	.184	2.39	.017	.079	.802	**
Gdpgr	.019	.014	1.38	.167	-.008	.047	
Infr	.002	.013	0.13	.899	-.024	.027	
Edu	-.24	.488	-0.49	.623	-1.197	.718	
Edli	-.016	.013	-1.21	.228	-.041	.01	
Constant	.585	.129	4.55	0	.333	.838	***
Mean dependent var		0.617	SD dependent var			0.506	

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

5.2.6. Voice and accountability and financial development

The results shows that the differential impact of the interquartile 0.75 to 0.25 having insignificant impact on corporate fraud cases in case of Voice and accountability. And the difference between the interquartile 0.75 to 0.25 is insignificantly different from each other. The results shows that the differential impact of the interquartile 0.75 to 0.25 having insignificant impact on corporate fraud cases in case of financial development .And the difference between the interquartile 0.75 to 0.25 is insignificantly different from each other.

Table 18: Voice and accountability and financial development

	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Logfc							
Vaa	-.017	.04	-0.42	.676	-.096	.062	
Fd	.188	.146	1.29	.197	-.098	.474	
Gdpgr	.025	.011	2.31	.021	.004	.046	**
Infr	.008	.014	0.57	.572	-.019	.035	
Edu	-.421	.418	-1.01	.314	-1.242	.399	
Edli	-.044	.01	-4.56	0	-.062	-.025	***
Constant	.75	.121	6.18	0	.512	.988	***
Mean dependent var		0.617	SD dependent var			0.506	

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

5.2.7. Country governance and Financial development

The results shows that the differential impact of the interquartile 0.75 to 0.25 having significant impact on corporate fraud cases in case of country governance. And the difference between the interquartile 0.75 to 0.25 is significantly different from each other. The results shows that the differential impact of the interquartile 0.75 to 0.25 having insignificant impact on corporate fraud cases in case of financial development .And the difference between the interquartile 0.75 to 0.25 is insignificantly different from each other.

Tables 6,7,8,9,10 and 11 in appendix shows the results.we performed VIF tests for multicollinearity. Results shows that there is no problem of multicollinearity Table 12 in appendix shows that H_0 (Homoskedasticity) is accepted and H_1 (Heteroskedasticity) is rejected because we run fixed effect model which captured the variance and solved the problem of Heteroskedasticity.Now the data shows normal distribution of residuals.

Table 19: Country governance and Financial development

	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Logfc							
Lngovindex	.082	.029	2.83	.005	.025	.138	***
Fd	.128	.213	0.60	.548	-.291	.546	
Gdpgr	.036	.013	2.78	.006	.011	.062	***
Infr	.01	.012	0.79	.427	-.014	.034	
Edu	.14	.447	0.31	.753	-.737	1.017	
Edli	-.059	.01	-5.77	0	-.079	-.039	***
Constant	.384	.184	2.09	.037	.023	.746	**
Mean dependent var		0.617	SD dependent var			0.506	

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

5.3. Conclusions of the Study

This study has performed different statistical models to investigate the impact of country governance and financial development on corporate fraud cases.The study consists of dependent variable that is corporate fraud cases and independent variables are

financial development and country governance. control variables of this study are GDP, education rate, inflation rate, unemployment rate and extent to director liability.

This study has collected country wise data of fraud cases and used indexes for financial development and country governance computed by world bank and IMF. This study has performed different statistical models like descriptive, correlations, Random effect model, fixed effect model. This study has opted fixed effect model on the bases of Hausman test and hence solved the problem of heteroskedasticity and used Quantile regression for robustness and interquartile 0.25 to 0.75 difference regression models with the aim to find out the difference whether the effect of variables are significant or insignificant at different quartile. This study has performed Durbin Watson test but no autocorrelation problem found, run VIF test for multicollinearity results also shows that there is no problem of multicollinearity and also performed Breusch Pagan test for Heteroskedasticity and found problem of heteroskedasticity for which this study has run Fixed effect model and robustness analysis which captured the variance and solved the problem of heteroskedasticity therefore this study data shows normal distributions of residuals. Thus this study accepted H_0 and rejected H_1 .

The results of Pearson correlation shows that the impact of country governance is significant at 1% and the association is negative with corporate fraud cases. Thus the results explain that development in country governance will lead to decrease the corporate fraud cases. Whereas the impact of financial development on corporate fraud cases has also significant at 1%. This study performed OLS regression model but the results were not significant then this study run Random Effect model, fixed effect model and opted fixed effect model on the bases on Hausman test because its P value is less than 0.05 and rejected Random effect model. The results of fixed effect model for country governance and its sub indices elaborate that country governance in case of control of corruption, political stability, rule of law, regulatory quality, government effectiveness and voice and accountability have negative relationship with corporate fraud cases and the effect is significant at 1%. Thus improvement in country governance would expectedly reduce the corporate fraud cases. Whereas financial development in case of financial market has a significant effect on corporate fraud cases and the association is positive which means financial product or financial instruments with less knowledge has the probability to be used for fraud easily. And financial development in case of financial institutions having also a significant impact on corporate fraud cases at 1% and the relationship is inverse thus improvement in financial institutions would expectedly decrease the corporate cases as the results for financial development in case of financial institutions shows by table 4.4 fixed effect model for financial development sub indices.

The results of fixed effect model for financial development and its sub indices shows that financial development in case of financial institutions has significant impact on corporate fraud cases at 1% and there is inverse relationship thus improvement in financial development in case of financial institutions would expectedly lessen the corporate fraud cases whereas financial development in case of financial market has significant effect on corporate fraud cases but the association is positive which explains that increase in financial development in case of financial market will be the probability that financial instrument can be used for fraud easily. The impact of country governance is significant on corporate fraud cases at 1% and the association is negative thus this study interprets that improvement in country governance would expectedly reduce corporate fraud cases.

Quantile regression (0.25, 0.50, 0.75) analysis for robustness results elaborate that impact of country governance in case of control of corruption, political stability, regulatory quality, rule of law, and Accountability is more significant on corporate fraud cases at 75 percentile and less at 25 percentile. Country governance in case of government effectiveness is more significant at 25 percentile and insignificant at 50 and 75 percentile. Country governance in case of regulatory quality has insignificant impact at 50 percentile on corporate fraud cases.

Moreover the results of interquartile 0.75 to 0.25 difference regression model shows that control of corruption, government effectiveness, accountability and financial development have insignificant effect on corporate fraud cases at interquartile 0.75 to 0.25 difference regression. Country governance in case of political stability, rule of law, and financial development shows significant effect on corporate fraud at interquartile difference whereas regulatory quality shows insignificant effect and financial development shows significant effect on fraud cases and next model log of country governance shows significant effect and financial development shows insignificant effect on corporate fraud cases at interquartile 0.75 to 0.25 difference regression model. The results of the different tests shows that country governance and its sub indices like government effectiveness, political stability, rule of law, control of corruption, regulatory quality and voice and accountability having significant impact on corporate fraud cases and the relationship is negative thus improvement in country governance would expectedly reduce the corporate fraud cases. This study result supported by Sadaf, R., Oláh, J., Popp, J., & Máté, D. (2018) results shows that improvement in country governance would expectedly reduce fraud cases.

These results also supported by Perdana, B. A., Perdana, H. D., Kurniasih, L. (2017). This study has stated that government organization having effective internal control system means having good governance will be less chances of the occurrence of fraud both have inverse relationship. The results agree with Ellis, J. A., Moeller, S. B., Schlingemann, F. P., & Stulz, R. M. (2017) examine that good governance reduce agency problem there is inverse association with agency problem and enhance financial development. Whereas financial development in terms of financial market has significant impact on corporate fraud cases and relationship is positive thus development of financial market where different financial products and instruments with less knowledge has the probability to be easily used for fraud. This study results agree with Arizala, F., Cavallo, E., & Galindo, A. (2013) stated that financial development enhance the total factor productivity TFP growth and the effect is significant and association is positive. Whereas financial development in terms of financial institutions having significant effect on corporate fraud cases and the association is negative thus improvement in financial institutions like security exchange commission of Pakistan, state bank as regulatory bodies would surely lessen the corporate fraud cases. Our this result support by Li, M., Makaew, T., & Winton, A. (2020) they stated that financial development reduce fraud cases and having inverse association with fraud cases. Findings of this study shows that country governance and financial development affect corporate fraud cases significantly. Therefore, country governance and financial development in terms of financial institutions should be improved in order to reduce the corporate fraud cases.

5.4. Future scope of the study

This study can be further explained in the following manner;

- Further the latest fraud cases ,country governance and financial development data for the year 2020 and onward can be used for further explanation and the study can be region wise in percentile form to elaborate different regions frauds in percentages.
- This study recommend to further test financial development and corporate governance with corporate fraud cases for individual country to extend the study and contribute to the literature more meaningful
- This study recommend comparative analysis for country governance and corporate fraud cases region wise.
- This study recommend comparative analysis for both developing and developed markets to further contribute to the literature.

5.5. Limitations of the study

- The data is not available for extended period therefore this study has been limited in the time period of 2012-2018.
- This study has collected secondary data and its validity and reliability depends on the data collector if any problem in data collection and we cannot address that problem. So our results correctness depends upon the data correctness collected by institution.
- Primary data is more reliable comparatively but primary data collection is not accessible.

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Appendix Table 1

	Fixed Effect model
Model characterization	H1 is accepted on the bases of Hausman test p value and H ₀ is rejected .
H ₀ :Random Effect model is consistent if P value is greater than 0.05	
H1 : Fixed Effect model is consistent if P value is less than 0.05	
Autocorrelation	Durbin watson test
H ₀ :No Auto correlation.	H ₀ is accepted on the bases of Durbin-watson test because there is no serious problem of autocorrelation.
H1 : Auto correlation exist.	
Heteroskedasticity	Breusch and Pagan LM test

H ₀ :Homoskedasticity	H ₀ is accepted and H1 is rejected because we run fixed effect model which captured the variance and solved the problem of Heteroskedasticity.Now the data shows normal distribution of residuals.
H1 : Heteroskedasticity	

Table 2

Fixed Effect model

<p>Model characterization</p> <p>H₀ :Random Effect model is reliable if Pvalue is greater than 0.05</p> <p>H1 : Fixed Effect model is favorable if Pvalue less of 0.05</p>	<p>H1 is accepted on the bases of Hausman test p value and H₀ is rejected .</p>
<p>Autocorrelation</p> <p>H₀ :No Auto correlation.</p> <p>H1 : Auto correlation exist.</p>	<p>Durbin watson test</p> <p>H₀ is accepted on the bases of Durbin-watson test because there is no serious problem of autocorrelation.</p>
<p>Heteroskedasticity</p> <p>H₀ :Homoskedasticity</p> <p>H1 : Heteroskedasticity</p>	<p>Breusch and Pagan LM test</p> <p>H₀ is accepted and H1 is rejected because we run fixed effect model which captured the variance and solved the problem of Heteroskedasticity.Now the data shows normal distribution of residuals.</p>

Table 3: Variance inflation factor

	VIF	1/VIF
Fd	1.112	.899
Infr	1.076	.929
Gdpgr	1.058	.945
Edli	1.053	.95
Edu	1.034	.967
Lngovindex	1.011	.989
Mean VIF	1.057	.

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of logfc

chi2(1) = 11.83

Prob > chi2 = 0.0006

Table 4: Variance inflation factor

	VIF	1/VIF
Fi	1.136	.88
Infr	1.087	.92
Gdpgr	1.067	.937
Edli	1.065	.939
Edu	1.027	.974
Lngovindex	1.011	.989
Mean VIF	1.066	.

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of logfc

chi2(1) = 6.17

Prob > chi2 = 0.0130

Table 5: Variance inflation factor

	VIF	1/VIF
Fm	1.076	.929
Infr	1.06	.944
Gdpgr	1.047	.955
Edli	1.038	.963
Edu	1.038	.964
Lngovindex	1.011	.989

Mean VIF	1.045	.
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Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of logfc

chi2(1) = 21.51

Prob > chi2 = 0.0000

Table 6: Variance inflation factor

	VIF	1/VIF
Coc	2.98	.336
Fd	2.794	.358
Edli	1.157	.865
Infr	1.082	.924
Gdpgr	1.054	.948
Edu	1.04	.961
Mean VIF	1.685	.

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of logfc

chi2(1) = 8.15

Prob > chi2 = 0.0043

Table 7: Variance inflation factor

	VIF	1/VIF
Ge	4.606	.217
Fd	4.131	.242
Edli	1.208	.828
Infr	1.12	.893
Gdpgr	1.059	.944
Edu	1.057	.946
Mean VIF	2.197	.

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of logfc

chi2(1) = 5.26

Prob > chi2 = 0.0218

Table 8: Variance inflation factor

	VIF	1/VIF
Psav	1.692	.591
Fd	1.459	.685
Edli	1.219	.82
Infr	1.104	.906
Gdpgr	1.056	.947
Edu	1.035	.966
Mean VIF	1.261	.

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of logfc

chi2(1) = 16.90

Prob > chi2 = 0.0000

Table 9: Variance inflation factor

	VIF	1/VIF
Rq	3.682	.272
Fd	3.305	.303
Edli	1.196	.836
Infr	1.104	.906
Edu	1.085	.922
Gdpgr	1.059	.945
Mean VIF	1.905	.

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of logfc

chi2(1) = 10.04

Prob > chi2 = 0.0015

Table 10: Variance inflation factor

	VIF	1/VIF
Rol	3.404	.294
Fd	3.144	.318
Edli	1.171	.854
Infr	1.09	.918
Gdpgr	1.056	.947
Edu	1.045	.957
Mean VIF	1.818	.

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of logfc

chi2(1) = 6.41

Prob > chi2 = 0.0114

Table 11: Variance inflation factor

	VIF	1/VIF
Vaa	1.688	.592
Fd	1.668	.6
Edu	1.123	.89
Infr	1.089	.918
Gdpgr	1.058	.945
Edli	1.054	.948
Mean VIF	1.28	.

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of logfc

chi2(1) = 5.45

Prob > chi2 = 0.019

Table 12: Breusch and Pagan LM test

Heteroskedasticity

H₀ : Homoskedasticity

H₁ : Heteroskedasticity

Breusch and Pagan LM test

H₀ is accepted and H₁ is rejected because we run fixed effect model which captured the variance and solved the problem of Heteroskedasticity. Now the data shows normal distribution of residuals.