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Corporate governance and economic growth

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Abstract

We estimated the impact of the performance of corporate governance on economic growth in a cross-country framework in two specifications. For analysis we have employed log liner model. We found that performance of corporate governance is significantly negatively related to the economic growth in both specification and in all models and hence it matters not only for the current year but it continues to persistent in future also. Addition to it, we found that role played by human capital is insignificant but physical capital and government final consumption expenditure plays significantly positive role in the economic growth of cross-section of countries. We also find that impact of life expectancy and fertility rate is negative and positive on economic growth respectively. We found that trade does not has significant impact on the economic growth in cross-section of countries.

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1. Introduction

Corporate governance is more encompassing than legal infrastructure *per se*. Weimer and Pape (1999) defines corporate governance as a 'country specific framework of legal, institutional and cultural factors, shaping the patterns of influence that stakeholders exert on managerial decision-making'. Charreaux (1997) defines corporate governance as "…all the organisational mechanisms which have the effect of bounding the powers and of influencing the decisions of the managers, in other words, the mechanisms which 'govern' their behaviour and define their discretionary space". Pass (2004) argues that corporate governance deals with the 'duties and responsibilities of a company's board of directors in managing the company and their relationships with the shareholders of the company and the stakeholder groups'.

With the integration of the world economy economic forces/factors compels each other to functionally harmonize the activities of legal amalgamation, liquidation and other corporate governance systems. For well functioning of the business operations (like corporations, partnership, joint ventures etc.) and/or activities (like contracting and in the case of default remedy of default) the necessary infrastructure is provided by the law. And a system which does not have a law which talks about the rights of investors, motivation among the investor either domestic or foreign will be almost negligible and once national laws are harmonized growth and development of the business activities will prosper and thereby economic growth and development of the nation in question. Corporate governance systems play a central role in economic performance because they provide mechanisms affecting the returns on investment by suppliers of external finance to firms. They should also provide a set of institutional and market mechanisms that allow managers and board members to maximize the value of the residual cash flows of the organization to the shareholders or members. It is well established fact that if all domestic markets (like labour, goods, money and capital markets) of the economy are working efficiently, maximum possible growth rate can be achieved as efficient functioning also implies efficient utilization of resources. Addition to that achieving of the maximum possible growth is not the ultimate goal the important thing is to maintain that growth over a period of time in other words target is sustainable growth which can be accomplished through sound legal system, effective regulations and last but not least transparent legal system and these factors emphasize on effective disclosure that is elementary to well-functioning markets. Further, there are some other variable which are also important in sustainable development like sound social frameworks; attention to the long-term impacts of investment decisions and business processes on the economic growth, society and last but not least the environment; timely and accurate information which assists shareholders in exercising control and investors in allocating funds to their most productive uses; role of governmental authorities in monitoring markets and in identifying vulnerabilities and efforts in trying to solve those vulnerabilities; and last but not least trust and confidence of the domestic as well as foreign investors- that is also a key ingredients of a well-functioning market economy. Therefore, in nut shell we can say that for sustainable and sound economic growth increased integrity, transparency, discloser, market discipline, effective rule of laws, and corporate social responsibility of the corporate sector are the major factors which should be encouraged.

Trust and confidence are key ingredients of a well-functioning market economy. Restoring investor confidence through sound corporate governance, as well as corporate structures and market intermediaries that are more accountable, is indispensable to promoting development in economies. Corporate integrity, strengthened market discipline, increased transparency through improved disclosure; effective regulation and corporate social responsibility are common principles that are the foundations for sound macro-economic growth. Andrade and Rossetti (2004) have identified three factors that are important for the leverage of the growth of the economies. These factors are trustworthy and stimulant institutions, good macroeconomic fundamentals and availability of competitive resources. Further, Andrade and Rossetti, (2004) argues that "one of the most important complements of this economic trilogy is a healthful business climate, generated by good practices of corporate governance". Babic (2003) adds that the significance of the corporate governance in emerging countries can be explained by the following influence. The first one is the creation of key institutions that direct the success of the economy transformation based on the market, second is the efficient allocation of the capital and the development of the financial market, third is the attraction of foreign investments and fourth is the contribution for the process of national development. De Paula (2003) has identified two main mechanisms by which the corporate governance can enhance the growth and development of a country. First, corporate governance is directly associated with financing and investment (through the capacity of attraction of new shareholders and financial leverage which is closely associated with the structure and the practices of corporate governance). Second, through the impacts of the corporate governance on the efficiency of the economic system (for example, when pressuring the managers to be more disciplined, the corporate governance mechanisms encourage to a more efficient allocation of resources). Monforte (2004) accentuate that a good governance system helps to strengthen the companies, reinforces competences to face new levels of complexity, extends the strategical bases of value creation, is a factor of harmonization of interests and, contribute less volatile corporate outcome, it increases the confidence of the investors, strengthens the stock market and is a supporting factor of the economic growth.

Further, as an enterprise of any country plays a fundamental role in determining the sources of income, employment etc. and thereby growth of a country in question therefore, this study attempts to measure the impact of corporate governance on economic growth of the country. Interestingly, we find that corporate governance affects positively the economic growth of the countries not only the instant year but its significantly positive impact continues to prevail for next four years also.

Rest of the paper is organized as follows. Section 2nd presents review of literature followed by discussion on data source, variables definition and methodology adopted for empirical analysis in section 3rd. In section 4th results of data analysis have been presented followed by conclusions drawn from the empirical analysis in section 5th.

2. Literature review

Since the seminal work of Jensen and Meckling (1976), who applied 'agency' theory to the modern corporation in the theory of the firm, research on corporate governance took its cue. Agency theory, which was developed by Harris and Raviv (1978), Holmstrom (1979) and Shavell (1979), is based on the basic presupposition of the maximisation of utility by the agents and principals/shareholders. An agent is one who executes duties and responsibilities in the

company on behalf of the principal/shareholders. The agent tries to maximize his utility under the given conditions of the agreement with the principal. The principals, who hold claims over the net income of the company's business (whether it is positive or negative) tries to maximise his utility by manipulating the contractual provisions. This is done under the restriction of guaranteeing to the agent his/her 'reservation utility', i.e., the utility the agent can achieve if he/she does not enter into the contract (Otsuka and Hayami 1988). In this type of principal-agent relationship, there is always the 'inherent potential for conflicts within a firm because the economic incentives faced by the agents are often unlike from those faced by the principals' (ISDA 2002). Jensen and Meckling (1976) have outlined three potential sources of conflict that lead to agency problem are (a) managers' and boards' desire to remain in power (b) managerial risk aversion and (c) free cash flow.

There are few studies which have investigated the relationship between corporate governance and financial success of the enterprises. For example, Gompers *et al.* (2003) find that firms with strong shareholder rights have superior valuation, better profits, and better sales growth. Brown and Caylor (2004) have recognized a relationship between size and corporate governance. Claessens (2003) demonstrates a relationship between corporate governance and improved performance of enterprise. Claessens (2003) found that the relationship between corporate governance to improved performance of the enterprises is not from better corporate governance to improved performance; rather it is either the other way around or due to some other factors that drives both better corporate governance and better financial performance.

3. Objectives, Data source, Methodology and variables description

This study attempts to estimate the impact of corporate governance and its various ingredients on the economic growth in a cross-country framework. To the best of our knowledge there is no such study which has made an attempt in this direction. Therefore, objective of the study is justified. Further, motivation behind this objective is the important role played by the corporate sector in the economic performance of different countries and recent subprime crises is best example of it.

In the study, data has been obtained from the official website of World Bank and was assessed on May 20, 2010 and October 14, 2010. We employ the cross-country analysis due to unavailability of the data over a period of time. For the analysis we have used Ordinary Least Square (OLS) method of estimation in a log linear transform of the model. Further, in the analysis we have used one variable which measures corporate governance and four its constituents has also been used to go in the deep analysis of it. Additionally, we have used seven control variables by following Barrow (1991) namely total trade (as percentage of Gross Domestic Product (GDP)), labour force with primary education as percentage of total, labour force with secondary education as percentage of total, Gross Fixed Capital Formation (GFCF) (at constant prices of 2000 US$), Fertility Rate (FR) (births per woman), General Government Final Consumption Expenditure (GGFCE) (at constant prices of 2000 US$) and Life Expectancy (LF) at birth (years). Total trade has been measured by merchandise trade as a percentage of gross domestic products. As for as expected sign is concerned we anticipate that corporate governance and its constituents have positive impact (and therefore, positive sign for corporate governance and of all variants of it) on the economic growth since high score implies higher ethical standards

achieved by enterprise sector. Labour force with primary and secondary education, GFCF, GGFCE, LF and FR is expected to have positive impact on economic growth. Trade is expected to have positive/negative impact on the economic growth (and therefore, positive or negative sign), since if proportion of exports is high in overall trade it will not only bring income but also create employment opportunities and vice-versa. Further, for the analysis we have adopted two approaches. In first case, we have done analysis for the year 2004 as data on corporate governance is available only for the year 2004 of all countries. In the next case we have estimated the impact of corporate governance on the economic growth of the year 2008 in order to see how much the impact corporate governance prevails after four years. This has more advantage to the policy makers as it gives the evidence of the dynamic role played by performance of corporate governance on the economic performance of countries of the world. So, our model to be estimated in first case is

$Y_{it}= \alpha+\beta X_{it}+\lambda' Z_{it}+\varepsilon_{it}$-------(1)

where i represents country, t represents time (in this case t = 2004), Y_{it} is measure of economic growth rate (measured by log of the PPP-adjusted real GDP (at constant 2005 international dollar) X_{it} measures the performance of countries on corporate governance, Z_{it} is vector of control variables (all variables are measured in million), a_0 is an overall constant, and e_{it} represents the net effect of omitted variables which may affect the economic performance of countries and assumed to be white noise.

However, in the second case, ceteris paribus, t=2008 for all variables except for variables measuring corporate governance and labour force with primary and secondary education. Further, while carrying out the analysis problem of severe multicollinearity was found therefore, all control variables have not been incorporated simultaneously but in different specifications and different variants of corporate governance has been incorporated separately in the analysis. Finally, Breusch-Pagan test was performed to test for heteroskedasticity and Ramsey RESET test has been performed in all models of both cases in order to check for linearity assumption and also to test weather our model suffers from omitted variables problems or not.

4. Data analysis and results interpretation

In the first case we have presented the results obtained from the analysis of first specification. Results are presented in table 1.

Table 1: Results of first specification

Independent variables	Coefficients	T-value	VIF	Adj R^2 (S.E.)	F-statistics	Breusch-Pagan	Ramsey RESET test
Model1							
Constant	8.492866 **	2.39		0.9693 (0.28698)	F(6, 28) = 179.97***	chi2(1) = 3.36 Prob > chi2 = 0.0667	F(3, 25) = 0.48 Prob > F = 0.6998
Trade	-.0082974	-0.07	1.69				
CICIC	-.5350491***	-4.49	1.63				
LFPE	-.0422262	-0.69	1.25				
GFCF	.9906077***	26.58	1.80				

FR	.1464314	0.85	2.19				
LE	-.9015085	-1.04	2.35				
Model 2							
Constant	10.93733**	2.29		0.9446 (0.3856)	F(6, 28) = 97.60***	chi2(1) = 0.70 Prob > chi2 = 0.4025	F(3, 25) = 0.45 Prob > F = 0.7218
Trade	-.0123162	-0.07	1.70				
CICIC	-.8707591***	-5.30	1.73				
LFPE	0213486	0.26	1.24				
GGFCE	.9112351***	19.46	1.97				
FR	.052408	0.23	2.17				
LE	-.6659923	-0.57	2.34				
Model 3							
Constant	9.921316	2.57		0.9698 (0.28489)	F(6, 28) = 182.69***	chi2(1) = 1.81 Prob > chi2 = 0.1790	F(3, 25) = 1.49 Prob > F = 0.2422
Trade	-.0450046	-0.37	1.58				
CICIC	-.5159927***	-4.37	1.63				
LFSE	-.1153679	-0.95	2.16				
GFCF	.9802383***	26.41	1.82				
FR	-.038191	-0.17	3.61				
LE	-1.062587	-1.20	2.47				
Model 4							
Constant	10.62318	2.03		0.9445 (0.38588)	F(6, 28) = 97.45***	chi2(1) = 0.49 Prob > chi2 = 0.4832	F(3, 25) = 0.41 Prob > F = 0.7473
Trade	.0029968	0.02	1.61				
CICIC	-.8788488***	-5.33	1.73				
LFSE	.027378	0.16	2.20				
GGFCE	.9145002***	19.17	2.04				
FR	.1073009	0.36	3.68				
LE	-.6346364	-0.53	2.45				
Model 5							
Constant	12.56899**	3.33		0.9671 (0.32729)	F(6, 28) = 137.29***	chi2(1) = 0.90 Prob > chi2 = 0.3419	F(3, 25) = 1.77 Prob > F = 0.1779
Trade	-.0695984	-0.49	1.65				
CLCIC	-.3390596***	-3.01	1.37				
LFPE	-.0382353	-0.55	1.25				
GFCF	0.9844173***	23.09	1.81				
FR	.021592	0.11	2.10				
LE	-1.956082**	-2.14	1.98				
Model 6							
Constant	17.14066***	3.31		0.9250 (.44848)	F(6, 28) = 70.94***	chi2(1) = 1.48 Prob > chi2 = 0.2234	F(3, 25) = 0.08 Prob > F = 0.9686
Trade	-.1207205	-0.62	1.65				
CLCIC	-.5804158***	-3.66	1.45				
LFPE	.0263188	0.28	1.24				
GGFCE	.897123***	16.46	1.97				
FR	-.1541965	-0.59	2.07				
LE	-2.22936	-1.77	2.01				
Model 7							
Constant	14.5585	3.66		0.9621	F(6,	chi2(1) =	F(3, 25) =

Trade	-.1079531	-0.80	1.54	(0.31887)	28) = 144.89***	0.31 Prob > chi2 = 0.5791	3.66 Prob > F = 0.0258
CLCIC	-.3381245***	-3.10	1.36				
LFSE	-.183363	-1.35	2.15				
GFCF	.9720902***	23.45	1.81				
FR	-.2373	-0.98	3.48				
LE	-2.147797**	-2.38	2.01				
Model 8							
Constant	18.28002***	3.28		0.9255 (0.44707)	F(6, 28) = 71.41***	chi2(1) = 1.58 Prob > chi2 = 0.2090	F(3, 25) = 0.07 Prob > F = 0.9769
Trade	-.1171568	-0.62	1.56				
CLCIC	-.587194***	-3.75	1.43				
LFSE	-.0966374	-0.50	2.17				
GGFCE	.8939835***	16.31	2.01				
FR	-.2477304	-0.73	3.49				
LE	-2.3619	-1.86	2.07				
Model 9							
Constant	10.08323***	2.78		0.9661 (0.30152)	F(6, 28) = 162.60***	chi2(1) = 1.93 Prob > chi2 = 0.1648	F(3, 25) = 0.90 Prob > F = 0.4535
Trade	-.0312021	-0.24	1.67				
CEI	-.4831094***	-3.96	1.55				
LFPE	-.044756	-0.69	1.25				
GFCF	.9915662***	25.20	1.82				
FR	.096926	0.54	2.15				
LE	-1.316011	-1.49	2.19				
Model 10							
Constant	13.2118	2.73		0.9398 (0.40194)	F(6, 28) = 89.46***	chi2(1) = 0.66 Prob > chi2 = 0.4157	F(3, 25) = 0.10 Prob > F = 0.9609
Trade	-.0469952	-0.27	1.68				
CEI	-.8147095***	-4.86	1.65				
LFPE	.0157693	0.18	1.24				
GGFCE	.9137664***	18.58	2.00				
FR	-.023205	-0.10	2.12				
LE	-1.250931	-1.06	2.19				
Model 11							
Constant	11.80536***	3.04		0.9671 (0.29693)	F(6, 28) = 167.81***	chi2(1) = 0.79 Prob > chi2 = 0.3741	F(3, 25) = 2.25 Prob > F = 0.1073
Trade	-.0713364	-0.57	1.56				
CEI	-.4679117***	-3.92	1.53				
LFSE	-.1482672	-1.17	2.14				
GFCF	.9794731***	25.27	1.82				
FR	-.1278925	-0.56	3.52				
LE	-1.496392	-1.69	2.28				
Model 12							
Constant	13.58046**	2.59		0.9398 (0.40198)	F(6, 28) = 89.44***	chi2(1) = 0.70 Prob > chi2 = 0.4037	F(3, 25) = 0.08 Prob > F = 0.9680
Trade	-.041775	-0.24	1.58				
CEI	-.8168789***	-4.90	1.63				
LFSE	-.0288828	-0.17	2.18				
GGFCE	.913236***	18.32	2.05				

FR	-.043689	-0.14	3.56				
LE	-1.2986	-1.08	2.27				
Model 13							
Constant	10.41765***	3.181		0.971088 (0.27854)	F(6, 28) = 191.33***	chi2(1) = 2.99 Prob > chi2 = 0.0835	F(3, 25) = 0.62 Prob > F = 0.6064
Trade	-0.029278	-0.239	1.67				
PSEI	-0.426679***	-4.813	1.60				
LFPE	-0.056137	-0.938	1.26				
GFCF	0.993293***	27.41	1.81				
FR	-0.029618	-0.180	2.10				
LE	-1.431790	-1.807	2.07				
Model 14							
Constant	14.20597***	3.215		0.947561 (0.37513)	F(6, 28) = 103.39***	chi2(1) = 1.12 Prob > chi2 = 0.2899	F(3, 25) = 0.42 Prob > F = 0.7412
Trade	-0.046678	-0.283	1.67				
PSEI	-0.686400***	-5.587	1.69				
LFPE	-0.000321	-0.0041	1.25				
GGFCE	0.915361***	20.042	1.98				
FR	-0.233601	-1.0669	2.06				
LE	-1.566052	-1.4627	2.08				
Model 15							
Constant	12.06618***	3.4119		0.971681 (0.27567)	F(6, 28) = 195.43***	chi2(1) = 1.36 Prob > chi2 = 0.2439	F(3, 25) = 1.97 Prob > F = 0.1444
Trade	-0.075396	-0.6446	1.55				
PSEI	-0.410129***	-4.7242	1.57				
LFSE	-0.143438	-1.2187	2.14				
GFCF	0.980203***	27.336	1.81				
FR	-0.254528	-1.2160	3.18				
LE	-1.596634	-1.9944	2.15				
Model 16							
Constant	14.45021***	3.0066		0.947592 (0.3750)	F(6, 28) = 103.46***	chi2(1) = 1.29 Prob > chi2 = 0.2556	F(3, 25) = 0.46 Prob > F = 0.7153
Trade	-0.049288	-0.3077	1.58				
PSEI	-0.685240***	-5.6336	1.66				
LFSE	-0.020808	-0.1289	2.18				
GGFCE	0.914097***	19.772	2.03				
FR	-0.259125	-0.9092	3.49				
LE	-1.593326	-1.4614	2.16				
Model 17							
Constant	10.34064***	3.3406		0.973948 (0.2644)	F(6, 28) = 212.84***	chi2(1) = 1.73 Prob > chi2 = 0.1890	F(3, 25) = 0.21 Prob > F = 0.8882
Trade	0.034070	0.2885	1.72				
JLE	-0.374712***	-5.3645	1.39				
LFPE	-0.025150	-0.4476	1.24				
GFCF	0.996552***	28.933	1.81				
FR	0.030356	0.1947	2.10				
LE	-1.558564**	-2.1076	2.00				
Model 18							
Constant	14.92902***	3.1963		0.940976	F(6,	chi2(1) =	F(3, 25) =

Trade	0.018400	0.1033	1.73	(0.39798)	28) = 91.339***	0.37 Prob > chi2 = 0.5422	0.82 Prob > F = 0.4940
JLE	-0.532682***	-4.9604	1.45				
LFPE	0.052950	0.6297	1.22				
GGFCE	0.905901***	18.811	1.96				
FR	-0.152775	-0.6565	2.07				
LE	-1.911047	-1.7028	2.03				
Model 19							
Constant	11.51633***	3.4164		0.974482 (0.26167)	F(6, 28) = 217.40***	chi2(1) = 0.83 Prob > chi2 = 0.3629	F(3, 25) = 0.73 Prob > F = 0.5419
Trade	0.008130	0.0717	1.62				
JLE	-0.366677***	-5.2767	1.48				
LFSE	-0.099922	-0.8896	2.17				
GFCF	0.988680***	28.828	1.84				
FR	-0.115426	-0.5781	3.52				
LE	-1.681821***	-2.2452	2.09				
Model 20							
Constant	14.71802***	2.8573		0.940219 (0.40053)	F(6, 28) = 90.124***	chi2(1) = 0.19 Prob > chi2 = 0.6670	F(3, 25) = 0.72 Prob > F = 0.5498
Trade	0.051076	0.2912	1.66				
JLE	-0.538165***	-4.9367	1.48				
LFSE	0.033401	0.1925	2.21				
GGFCE	0.911179***	18.404	2.04				
FR	-0.063447	-0.2066	3.55				
LE	-1.922223	-1.6686	2.11				
Model 21							
Constant	9.471252***	3.2354		0.977184 (0.24743)	F(6, 28) = 243.70***	chi2(1) = 1.41 Prob > chi2 = 0.2357	F(3, 25) = 0.91 Prob > F = 0.4506
Trade	0.135619	1.1821	1.86				
CGI	-0.741167***	-6.069	1.90				
LFPE	-0.116554**	-2.1098	1.36				
GFCF	1.067339***	29.359	2.31				
FR	0.280933	1.8299	2.33				
LE	-1.469797**	-2.121	2.00				
Model 22							
Constant	14.82963***	3.0827		0.937893 (0.4082)	F(6, 28) = 86.574***	chi2(1) = 2.79 Prob > chi2 = 0.0946	F(3, 25) = 1.31 Prob > F = 0.2946
Trade	0.133516	0.6998	1.89				
CGI	-0.987724***	-4.6898	2.07				
LFPE	-0.060093	-0.6641	1.34				
GGFCE	0.985848***	17.29	2.60				
FR	0.158036	0.6278	2.30				
LE	-1.963098	-1.7059	2.03				
Model 23							
Constant	10.03360***	2.8298		0.973599 (0.26617)	F(6, 28) = 86.574***	chi2(1) = 0.35 Prob > chi2 = 0.5543	F(3, 25) = 3.29 Prob > F =
Trade	0.048811	0.4159	1.68				
CGI	-0.655185***	-5.0965	1.82				
LFSE	-0.024545	-0.2101	2.27				
GFCF	1.044413***	26.844	2.29				

FR	0.118775	0.5578	3.87				0.0372
LE	-1.503714	-1.9389	2.17				
Model 24							
Constant	12.67019**	2.3547		0.938677 (0.4056)	F(6, 28) = 87.739***	chi2(1) = 2.27 Prob > chi2 = 0.1321	F(3, 25) = 1.33 Prob > F = 0.2884
Trade	0.123303	0.6762	1.74				
CGI	-0.997841***	-4.8014	2.05				
LFSE	0.162824	0.8969	2.36				
GGFCE	0.992932***	17.155	2.72				
FR	0.304623	0.9228	4.00				
LE	-1.680997	-1.4201	2.17				
Note: (1) * and **denotes significant at 1% and 5% level respectively.**							
Source: Authors calculation							

From table 1 it is evident that impact of corporate governance and all its ingredients on economic growth of cross-section countries[1] is significantly negative as was not expected. Impact of GFCF and GGFCE is positive on the economic growth of cross-section countries. Sign of the coefficient of labour force with primary and secondary education is found to be varying with the specification i.e., in some case impact is positive and in some case it is negative. Surprisingly, when we replace labour force with primary and secondly education by school enrollment as a measure of human capital by following Barro (1991) we found more or less same results.[2] Sign of the coefficient of trade is also found to be varying with specifications but insignificant in all cases. VIF value in all models is providing evidence of multicollinearity which shows that in some case model suffers from near multicollinearity. F-test shows that all models are significant indicating that model are significant. The value of coefficient of multiple correlation determination (in this case its value has been adjusted by degrees of freedom) is quite high in all models. Breusch-Pagan test for heteroskedasticity indicates that no model suffers from the problem of heteroskedasticity at 5% level of significance. Ramsey RESET test indicates that model 7 and 23 suffers from the problem of linearity assumption and omitted variables at 5% level of significance.

In the next step we have attempted to measure the impact of performance of corporate governance of the past year (that is 2004) on the current year (that is 2008).[3] Results of this analysis are presented in table 2.

[1] In this specification included countries are Algeria, Argentina, Australia, Austria, Bulgaria, Canada, Costa Rica, Cyprus, Czech Republic, Ecuador, Finland, Georgia, Germany, Guatemala, Hong Kong SAR, Hungary, Ireland, Israel, South Korea, Latvia, Lithuania, Mauritius, Mexico, Namibia, New Zealand, Pakistan, Peru, Philippines, Poland, Russia, Slovak Republic, Sweden, Turkey, United Kingdom, United States.

[2] Results with the incorporation of school enrollment with primary and secondary education has not been shown here for brevity of presentation but can be assessed by the author upon the request.

[3] In this specification included countries are Argentina, Australia, Austria, Bulgaria, Costa Rica, Cyprus, Czech Republic, Ecuador, Finland, Georgia, Germany, Guatemala, Hong Kong SAR, Hungary, Israel, South Korea, Latvia, Mexico, Namibia, Pakistan, Peru, Philippines, Poland, Russia, Slovak Republic, Sweden, Turkey, United Kingdom.

Table 2: Results of second specification

Independent variables	Coefficients	T-value	VIF	Adj R^2 (S.E.)	F-statistics	Breusch-Pagan	Ramsey RESET test
Model1							
Constant	7.597342	1.813344		0.973622 (0.23946)	F(6, 21) = 167.09***	chi2(1) = 0.77 Prob > chi2 = 0.3814	F(3, 18) = 1.52 Prob > F = 0.2423
Trade	0.225431	1.807418	1.83				
CICIC	-0.5053***	-4.25029	1.93				
LFPE	-0.043399	-0.58345	1.19				
GFCF	1.03461***	27.78660	1.58				
FR	0.395964	2.075283	2.27				
LE	-1.254059	-1.22336	2.48				
Model 2							
Constant	7.734701	1.115182		0.927712 (0.39642)	F(6, 21) = 58.751***	chi2(1) = 0.03 Prob > chi2 = 0.8519	F(3, 18) = 2.16 Prob > F = 0.1284
Trade	0.211345	1.020894	1.84				
CICIC	-1.00077***	-4.93251	2.05				
LFPE	0.132867	1.074581	1.20				
GGFCE	0.93146***	16.38302	1.67				
FR	-0.134427	-0.43519	2.17				
LE	-0.189399	-0.11248	2.44				
Model 3							
Constant	7.268951	1.682867		0.973223 (0.24127)	F(6, 21) = 164.55***	chi2(1) = 0.20 Prob > chi2 = 0.6585	F(3, 18) = 1.66 Prob > F = 0.2115
Trade	0.223043	1.770460	1.84				
CICIC	-0.51359***	-4.31727	1.91				
LFSE	0.016790	0.149815	2.36				
GFCF	1.03539***	27.38224	1.61				
FR	0.388297	1.559228	3.81				
LE	-1.216418	-1.17714	2.48				
Model 4							
Constant	9.042227	1.247141		0.924525 (0.40506)	F(6, 21) = 56.122***	chi2(1) = 0.12 Prob > chi2 = 0.7292	F(3, 18) = 2.07 Prob > F = 0.1403
Trade	0.207797	0.979570	1.85				
CICIC	-0.97243***	-4.74071	2.01				
LFSE	-0.087798	-0.46824	2.34				
GGFCE	0.92337***	15.88903	1.68				
FR	-0.169267	-0.41306	3.66				
LE	-0.296791	-0.17215	2.45				
Model 5							
Constant	13.3592***	3.411011		0.968972 (0.25971)	F(6, 21) = 141.53***	chi2(1) = 1.08 Prob > chi2 = 0.2981	F(3, 18) = 1.27 Prob > F = 0.3145
Trade	0.162730	1.224613	1.77				
CLCIC	-0.34583***	-3.49433	1.41				
LFPE	-0.082452	-1.03208	1.16				
GFCF	1.04738***	25.47021	1.64				
FR	0.269780	1.324722	2.20				

LE	-2.72885***	-2.87352	1.81				
Model 6							
Constant	19.0288***	2.887650		0.912612 (0.43586)	F(6, 21) = 58.751***	chi2(1) = 0.17 Prob > chi2 = 0.6773	F(3, 18) = 0.83 Prob > F = 0.4970
Trade	0.079641	0.358973	1.75				
CLCIC	-0.70512***	-4.06165	1.54				
LFPE	0.058667	0.436768	1.17				
GGFCE	0.95021***	14.72407	1.78				
FR	-0.404645	-1.21438	2.09				
LE	-3.020755	-1.88263	1.83				
Model 7							
Constant	13.3555***	3.205440		0.967398 (0.26622)	F(6, 21) = 134.53***	chi2(1) = 0.12 Prob > chi2 = 0.7252	F(3, 18) = 2.18 Prob > F = 0.1253
Trade	0.150930	1.107127	1.77				
CLCIC	-0.34766***	-3.3995	1.43				
LFSE	0.001386	0.011151	2.38				
GFCF	1.04704***	24.70347	1.66				
FR	0.202894	0.742081	3.77				
LE	-2.76274***	-2.83069	1.82				
Model 8							
Constant	20.1446***	2.963965		0.913478 (0.43369)	F(6, 21) = 48.509***	chi2(1) = 0.29 Prob > chi2 = 0.5913	F(3, 18) = 0.88 Prob > F = 0.4708
Trade	0.074195	0.335611	1.75				
CLCIC	-0.71524***	-4.11382	1.56				
LFSE	-0.128069	-0.63469	2.37				
GGFCE	0.94583***	14.72628	1.79				
FR	-0.548815	-1.26127	3.60				
LE	-3.072211	-1.91957	1.84				
Model 9							
Constant	10.05514**	2.491260		0.971959 (0.2469)	F(6, 21) = 156.98***	chi2(1) = 0.75 Prob > chi2 = 0.3859	F(3, 18) = 1.44 Prob > F = 0.2647
Trade	0.201357	1.577988	1.80				
CEI	-0.45003***	-3.96839	1.68				
LFPE	-0.063675	-0.83590	1.17				
GFCF	1.04253***	26.92686	1.61				
FR	0.345726	1.772837	2.23				
LE	-1.891124	-1.92534	2.14				
Model 10							
Constant	12.33840	1.860733		0.924338 (0.40557)	F(6, 21) = 55.975***	chi2(1) = 0.00 Prob > chi2 = 0.9796	F(3, 18) = 1.54 Prob > F = 0.2379
Trade	0.166379	0.793603	1.80				
CEI	-0.91565***	-4.72314	1.82				
LFPE	0.096159	0.766007	1.18				
GGFCE	0.94652***	15.98424	1.74				
FR	-0.239831	-0.76718	2.13				
LE	-1.368745	-0.85129	2.13				
Model 11							
Constant	9.882907**	2.341394		0.971032 (0.25095)	F(6, 21) =	chi2(1) = 0.05	F(3, 18) = 2.01
Trade	0.194256	1.495738	1.81				

CEI	-0.45683***	-3.95478	1.69		151.84***	Prob > chi2 = 0.8201	Prob > F = 0.1486
LFSE	0.007571	0.064810	2.37				
GFCF	1.04284***	26.32143	1.63				
FR	0.305675	1.187294	3.77				
LE	-1.885888	-1.88548	2.15				
Model 12							
Constant	13.43106	1.958581		0.923464 (0.4079)	F(6, 21) = 55.296***	chi2(1) = 0.02 Prob > chi2 = 0.8840	F(3, 18) = 1.50 Prob > F = 0.2483
Trade	0.163483	0.773757	1.81				
CEI	-0.91107***	-4.67672	1.81				
LFSE	-0.110391	-0.58342	2.35				
GGFCE	0.94011***	15.78532	1.74				
FR	-0.328921	-0.80368	3.60				
LE	-1.414248	-0.87243	2.14				
Model 13							
Constant	10.20265**	2.517056		0.971584 (0.2485)	F(6, 21) = 154.86***	chi2(1) = 2.26 Prob > chi2 = 0.1326	F(3, 18) = 0.67 Prob > F = 0.5798
Trade	0.185647	1.452407	1.78				
PSEI	-0.35883***	-3.90681	1.85				
LFPE	-0.076929	-1.00576	1.16				
GFCF	1.03586***	26.75483	1.59				
FR	0.204998	1.050394	2.21				
LE	-1.924093	-1.94984	2.13				
Model 14							
Constant	11.93777	1.880387		0.930354 (0.3891)	F(6, 21) = 61.113***	chi2(1) = 0.02 Prob > chi2 = 0.8958	F(3, 18) = 2.65 Prob > F = 0.0802
Trade	0.148357	0.741975	1.78				
PSEI	-0.76108***	-5.10386	1.99				
LFPE	0.069126	0.576117	1.17				
GGFCE	0.94040***	16.72219	1.78				
FR	-0.519232	-1.74285	2.11				
LE	-1.305489	-0.84921	2.10				
Model 15							
Constant	10.23751**	2.406265		0.970224 (0.2544)	F(6, 21) = 147.63***	chi2(1) = 0.54 Prob > chi2 = 0.4610	F(3, 18) = 1.53 Prob > F = 0.242
Trade	0.174014	1.329346	1.79				
PSEI	-0.36329***	-3.82710	1.89				
LFSE	-0.009544	-0.08019	2.39				
GFCF	1.03514***	25.94213	1.61				
FR	0.125430	0.476587	3.83				
LE	-1.947853	-1.92697	2.13				
Model 16							
Constant	13.14841	2.037586		0.931520 (0.38584)	F(6, 21) = 62.213***	chi2(1) = 0.18 Prob > chi2 = 0.6748	F(3, 18) = 3.00 Prob > F = 0.0578
Trade	0.142845	0.719701	1.79				
PSEI	-0.77263***	-5.18799	2.02				
LFSE	-0.149865	-0.83375	2.37				
GGFCE	0.93495***	16.75585	1.70				
FR	-0.689237	-1.77029	3.64				

LE	-1.341991	-0.87965	2.11				
Model 17							
Constant	11.13348**	2.584601		0.967606 (0.26537)	F(6, 21) = 135.41***	chi2(1) = 0.41 Prob > chi2 = 0.5200	F(3, 18) = 1.08 Prob > F = 0.3843
Trade	0.195799	1.424999					
JLE	-0.27834***	-3.28786					
LFPE	-0.034640	-0.41634					
GFCF	1.02334***	24.94380					
FR	0.205497	0.985810					
LE	-2.171325	-2.07643					
Model 18							
Constant	12.51839	1.934572		0.927035 (0.39827)	F(6, 21) = 58.173***	chi2(1) = 0.59 Prob > chi2 = 0.4435	F(3, 18) = 1.12 Prob > F = 0.3687
Trade	0.188348	0.910800	1.82				
JLE	-0.63710***	-4.88969	1.86				
LFPE	0.164659	1.312617	1.22				
GGFCE	0.91885***	16.26527	1.64				
FR	-0.509088	-1.67000	2.10				
LE	-1.522977	-0.97613	2.08				
Model 19							
Constant	10.84644**	2.441401		0.967361 (0.26637)	F(6, 21) = 134.37***	chi2(1) = 0.13 Prob > chi2 = 0.7193	F(3, 18) = 1.20 Prob > F = 0.3391
Trade	0.194458	1.405981	1.82				
JLE	-0.28423***	-3.39407	1.71				
LFSE	0.014946	0.120612	2.37				
GFCF	1.02396***	24.65380	1.59				
FR	0.199329	0.728446	3.78				
LE	-2.138266	-2.03565	2.10				
Model 20							
Constant	14.05730	2.044893		0.922038 (0.41168)	F(6, 21) = 54.221***	chi2(1) = 0.15 Prob > chi2 = 0.7033	F(3, 18) = 1.21 Prob > F = 0.3335
Trade	0.182259	0.850227	1.83				
JLE	-0.60658***	-4.59214	1.79				
LFSE	-0.098509	-0.51641	2.35				
GGFCE	0.90887***	15.5646	1.64				
FR	-0.524890	-1.27182	3.60				
LE	-1.642886	-1.01571	2.09				
Model 21							
Constant	11.3058***	2.852959		0.971109 (0.25061)	F(6, 21) = 152.26***	chi2(1) = 1.09 Prob > chi2 = 0.2972	F(3, 18) = 1.77 Prob > F = 0.1894
Trade	0.247359	1.868919	1.88				
CGI	-0.50938***	-3.82983	1.74				
LFPE	-0.110765	-1.43282	1.17				
GFCF	1.07834***	25.65127	1.84				
FR	0.446679**	2.200244	2.35				
LE	-2.328742**	-2.45300	1.94				
Model 22							
Constant	15.5316**	2.304619		0.915959 (0.42743)	F(6, 21) =	chi2(1) = 1.58	F(3, 18) = 0.97
Trade	0.248881	1.094524	1.91				

CGI	-1.0385***	-4.24150	2.03		50.045***	Prob > chi2 = 0.2089	Prob > F = 0.4270
LFPE	0.009235	0.070096	1.17				
GGFCE	1.00914***	14.57447	2.14				
FR	-0.081897	-0.24309	2.22				
LE	-2.330504	-1.43778	1.94				
Model 23							
Constant	10.46034**	2.418368		0.969164 (0.2589)	F(6, 21) = 142.43***	chi2(1) = 0.17 Prob > chi2 = 0.6795	F(3, 18) = 2.43 Prob > F = 0.0991
Trade	0.240757	1.756016	1.89				
CGI	-0.50373***	-3.66348	1.75				
LFSE	0.093096	0.773688	2.36				
GFCF	1.08111***	24.60314	1.88				
FR	0.494385	1.811703	3.97				
LE	-2.31024**	-2.33392	1.98				
Model 24							
Constant	14.84833**	2.092768		0.916281 (0.4266)	F(6, 21) = 50.251***	chi2(1) = 1.23 Prob > chi2 = 0.2669	F(3, 18) = 0.62 Prob > F = 0.6139
Trade	0.258679	1.133863	1.93				
CGI	-1.04662***	-4.26537	2.05				
LFSE	0.058006	0.292896	2.36				
GGFCE	1.01214***	14.48070	2.18				
FR	0.015251	0.034615	3.82				
LE	-2.247448	-1.37748	1.98				
Note: (1) * and **denotes significant at 1% and 5% level respectively.**							
Source: Authors calculation							

From table 2 it is evident that impact of corporate governance and all its ingredients on economic growth of cross-section countries is significantly negative in this case also. Impact of GFCF and GGFCE is positive on the economic growth of cross-section countries. Sign of the coefficient of labour force with primary and secondary education is found to be varying with the specification i.e., in some case impact is positive and in some case it is negative but in none of the case it is significant. Surprisingly, when we replace labour force with primary and secondly education by school enrollment as a measure of human capital by following Barro (1991) we found more or less same results in this case also.[4] Sign of the coefficient of trade is also found to be varying with specifications but insignificant in all models in this case also. In this case we find that impact of fertility rate is positive and significant (in model 21) and impact of life expectancy is negative and significant (for example model 5, 7, 21 and 23). VIF values in all models indicate that there is problem of near multicollinearity. F-test shows that all models have good fit and adjusted R^2 (i.e., value of coefficient of multiple correlation determination adjusted by degrees of freedom) in all models is quite high indicating that explanatory power of the variables included in the analysis is considerably high. However, Ramsey RESET test indicates that no model suffers from the problem omitted variables and linearity assumption of the OLS at 5% level of

[4] Results with the incorporation of school enrollment with primary and secondary education have not been shown here in order to save space but can be assessed by the author upon the request.

significance. Breusch-Pagan test for heteroskedasticity indicates that no model suffers from the problem of heteroskedasticity at 5% level of significance.

5. Conclusions

In this study we analyzed the impact of corporate governance on the economic growth in cross-section of countries in two different specifications with various models by using different control variables. In first specification we measured static impact of corporate governance in cross-section of countries[5] and in second specification we estimated dynamic impact of corporate governance on the economic growth of cross-section of countries. For analysis we have employed log liner model. We found that performance of corporate governance is significantly negatively related to the economic growth in both specification and in all models and hence it matters not only for the current year but it continues to persistent in future also. Addition to it, we found that role played by human capital is insignificant but physical capital and government final consumption expenditure plays significantly positive role in the economic growth of cross-section of countries. We also find that impact of life expectancy and fertility rate is negative and positive on economic growth respectively. We found that trade do not has significant impact on the economic growth in cross-section of countries.

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[5] Data on corporate governance is available for 104 countries for the year 2004 however, due lack of availability of data for other variables number of sample size has got reduced.

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Appendix

The name of the countries for which data of corporate governance is available for the year 2004 in the World Bank official website is shown as follows.

Algeria	Brazil	Estonia	Jordan	Nicaragua	Singapore	United Arab Emirates
Angola	Bulgaria	Ethiopia	Kenya	Lithuania	Slovak Republic	United Kingdom
Argentina	Canada	Finland	Korea, south	Luxembourg	Slovenia	United States
Australia	Chad	France	Latvia	Macedonia	South Africa	Uruguay
Austria	Chile	Guatemala	Madagascar	Nigeria	Spain	Venezuela
Bahrain	China	Honduras	Malawi	Norway	Sri Lanka	Vietnam
Bangladesh	Colombia	Hong Kong	Malaysia	Pakistan	Sweden	Zambia
Belgium	Costa Rica	Hungary	Mali	Panama	Switzerland	Zimbabwe
Gambia	Croatia	Iceland	Malta	Paraguay	Taiwan	
Georgia	Cyprus	India	Mauritius	Peru	Tanzania	
Germany	Czech Republic	Indonesia	Mexico	Philippines	Thailand	
Ghana	Denmark	Ireland	Morocco	Poland	Trinidad and Tobago	
Greece	Dominican Republic	Israel	Mozambique	Portugal	Tunisia	
Bolivia	Ecuador	Italy	Namibia	Romania	Turkey	
Bosnia-Herzegovina	Egypt	Jamaica	Netherlands	Russia	Uganda	
Botswana	El Salvador	Japan	New Zealand	Serbia	Ukraine	