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DOES REALLY ECONOMIC FREEDOM MATTER FOR GROWTH IN SOUTH ASIA? EMPIRICAL EVIDENCES FROM PRE-ECONOMIC CRISES AND POST-ECONOMIC CRISES PERIOD

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ABSTRACT

The discussion about the relationship between economic freedom and economic growth is not new and has always been extensively discussed in economic literature. But the question in this area is the consideration of the effects of global financial crises of 2008. This study attempts to answer the question: How does economic crises effect freedom-growth nexus? This study analyses the relationship between economic freedom index (measured by Fraser Institute), individual components of economic freedom and GDP per capita growth of 5 South Asian countries over the period of 1990-2015. Fixed effects regression results reveals that GDP per capita growth is positively affected by economic freedom index and this relationship has weakened by the global economic crises of 2008. It does not mean that increasing economic freedom is good for economic growth since one of the components of economic freedom has negative effect on growth.

Contribution/ Originality: This study contributes in existing literature by checking the role of economic freedom and its individual components for economic growth of South Asia without considering the role of global economic crises of 2008 and then adds up the post crises period into analysis. The results of Fixed effects test on two different models shows that global economic crises severely deteriorates the impact of economic freedom and one of its components (monetary freedom) tends with negative impact on economic growth on selected countries.

1. INTRODUCTION

South Asia is the fastest growing region in the world with average GDP growth 5-7 percent since during last two decades and it is projected with 7.1 percent by 2018. After global financial crises of 2008 several decisions were made by South Asian Association for Regional Cooperation (SAARC) countries in its summit of 2010. Secretary General Fathimath Saeed stated that under the theme of "Building Bridges" and more liberalization among member countries would be source of closing of space between intent and implementation of regional policies. President Mohamed Nasheed, chairperson of 17th SAARC summit also addressed areas of cooperation in which there is need of intense progress should take place, such as trade liberalization, more economic integration and integrity within and among member states.

Taking consideration of the above facts, it is necessary for the member countries to restore economic liberalization and governments must be careful about economic freedom if they seeks strengthen and revival of their economies. As focus of current study is to check empirical relationship between economic freedom and economic growth is related to the literature as observed earlier, but our contribution to the literature is that this study is checking the impact of economic freedom index (EFI) and individual components of economic freedom index on growth for both pre-crises period and overall observed period for South Asian countries.

Since early 1990's, South Asian countries getting transformation from traditional economies to economically, politically and socially free economies (Khan, 2012). With this freedom, these countries get significant achievements with 5.5 percent overall economic growths during last two decades. The objective of South Asian countries is to attain consistency in economic growth. Different steps taken by these countries during 1990-2015 reflect that their concerns about economic liberalization are very serious.

The concept of economic freedom is not new and has been discussed by different economists in different ways since economic theory is properly documented from the period of Adam Smith (Corbi, 2007; Ismail, 2010). Economic freedom does not have definition but a subjective value judgment. So economic freedom is explained in different ways in literature, but this study used "Economic Freedom Index" defined by Fraser Institute (Gwartney *et al.*, 2015). Numerous studies conducted investigation to check possible linkages between economic freedom and economic growth, and most of the studies found that there is positive and significant impact of economic freedom on growth (Barro, 1996; De Haan and Siermann, 1998; Cebula and Ekstrom, 2009; Khan, 2012; Bujancă and Ulman, 2015; Acikgoz *et al.*, 2016). Rest of the roadmap of this study is based on literature review, data and methodology, results and discussion and conclusion.

2. LITERATURE REVIEW

The relationship between different individual measures of economic freedom and growth is not as clearer as different scholars suggested in different studies. It is concluded that there is strong correlation between various individual measures of economic freedom and growth across different selected nations (Spindler and Miyake, 1992; Vanssay and Spindler, 1994; Dawson, 1998). There are two major concerns related to economic freedom. First, if economic freedom is normal good, then an increase in income/wealth may increase its demand, in this case government is bound to provide more freedom on demand by individuals, it makes sense that increase in economic growth causes a higher degree of economic freedom when measured in a single index and vice versa is typical as discussed in most of the literature.

Second concern is related to its different measures and their implications across developed and developing nations. Typically most of the literature focused on first concern and second concern is more interested and is a comprehensive measure of different economic policies, especially for rapid growing countries (Bangladesh, India, Nepal, Pakistan and Sri Lanka). Empirically the coefficient of correlation found robust by different weighting methods of components of economic freedom and can create biasness if wrong weighting is used (Hanke and Walters, 1997).

Economic freedom can be used to explain cross-country differences in their economic performance. Although many of the studies used different economic freedom indexes but most of them concluded that there is significant positive impact of economic freedom on growth while taking a measure of overall index of economic freedom (De Haan and Siermann, 1998; Heckelman, 2000; Ali and Crain, 2001; Gwartney *et al.*, 2006; Cebula and Clark, 2012). Contrary to the previous studies, there are some studies who found that there is no positive relationship between economic freedom and growth. Five out of 14 measures of economic freedom indexes measured by Fraser Institute effect growth adversely over the period of 1980-1992 (Heckelman and Stroup, 2005). Carlsson and Lundström (2002) concluded that some components of economic freedom are insignificant with growth; some of them are negatively related with growth in 75 selected countries for the period of 25 years.

3. DATA AND METHODOLOGY

Sample of our study comprises 5 South Asian countries for the period of 1990-2015 and data is taken from the Penn World Table v9.0, World Development Indicators (WDI) and datasets for the economic freedom is retrieved from the Fraser Institute1 (Gwartney *et al.*, 2015).

The core of economic freedom concept is "personal choice, property rights protection and freedom of exchange" (Gwartney, 1970). The economic freedom index is made up with five components namely size of government (SG), legal system and security of property rights (PR), Sound money (MF), freedom to trade internationally (TF) and regulation (REGU) which all together have further 24 sub-indicators. Each sub-indicator is rated between 0 and 10 and the rating of each component is based on the average of its sub-indicators and overall economic freedom index score is the average of the five components. Detailed description of the individual components of economic freedom is given in following table.

Table-1. Detailed Description of Component of Economic Freedom

Components of Economic Freedom Index	Variables
1) Size of Government (SG)	i) Government spending ii) Transfer and subsidies iii) Government investment and enterprises iv) Top marginal tax rate
2) Proper Rights Security and Legal System (PR)	i) Judicial independence ii) Impartial courts iii) Protection of property rights iv) Military interference in rule of law and the political process v) Integrity of legal system vi) Legal enforcement of contracts vii) Regulatory restriction on the sale of real property
3) Monetary Freedom (MF)	i) Money growth ii) Standard Deviation of inflation iii) Inflation: most recent year iv) Freedom to own foreign currency bank account
4) Trade Freedom (TF)	i) Taxes on international trade ii) Regulatory trade barriers iii) Size of the trade sector relative to expected iv) Black market exchange rate v) International capital market controls
5) Regulations (REGU)	i) Credit market regulations ii) Labor market regulations iii) Business regulations

Source: Fraser Institute

GPD per capita (constant 2010 US$) is used as a proxy of growth following (De Haan and Sturm, 2000; Adkins *et al.*, 2002; Gwartney *et al.*, 2006) for selected country in this study. Data on foreign direct investment (FDI) is taken in net inflows at current US$, Household final consumption expenditure is taken at constant 2010 US$ to control the demand side effects and "K" is gross fixed capital formation at constant 2010 US$, are taken from World Development Indicators (WDI). Data on human capital index (HC) is taken from Penn World Table v9.0 and this index is based on average years of schooling and return to education following the studies of Psacharopoulos (1994) and Barro and Lee (2013).

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[1]We noted the availability of alternative data sources for economic freedom index such as Heritage Foundation and ICRG's protection index against risk of expropriation but due to long time period and large sample size of the countries, we find it suitable to use the data set of Fraser Institute for our analysis. For more explanation and comparison between Fraser Institute and Heritage Foundation, see De Haan and Sturm (2000).

This study uses panel data over the period of 1990-2015 for 5 South Asian countries and we tried our best to take all of the countries of the region to avoid the problem of country selection bias but the data for Afghanistan, Bhutan and Maldives was not available at given sources. Following Panahi *et al.* (2014) measures of individual indicators of economic freedom and their importance are considered for the aggregated rating of the selected countries.

3.1. Model Specification and Estimation Method

Following the existing literature on economic freedom-growth relationship in selecting variables[2], our model specification is as follows:

$$dlogy_{it} = \beta_0 + \beta_1 EFI_{i,t-1} + \beta_2 \Omega_{it-1} + \varepsilon_{it} \qquad (1)$$

Where y_{it}, is GDP per capita, EFI_{it-1} is economic freedom index, Ω_{it-1} denotes the set of macro control variables such as human capital (HC), household final consumption (HFC), foreign direct investment (FDI) and gross fixed capital formation (K) and ε_{it} is the standard error term that augment the baseline of model specification. The explanatory variables are lagged by one year to avoid the problem of simultaneity. In extension of the above model we now turn to the model 2 with five categories of the economic freedom index following the analysis of Carlsson and Lundström (2002) and estimated model is as follows:

$$dlogy_{it} = \beta_0 + \beta_1 SG_{it-1} + \beta_2 PR_{it-1} + \beta_3 MF_{it-1} + \beta_4 TF_{it-1} + \beta_5 REGU_{it-1} + \varepsilon_{it} \qquad (2)$$

Where SG_{it} is size of government index, PR_{it} is property rights protection index, MF_{it} is monetary freedom index, TF_{it} is trade freedom index and $REGU_{it}$ is regulation index and ε_{it} is the standard error term.

Descriptive statistics is considered for all of the variables and given in table 2. This study uses linear panel data estimation to estimate model (1) and model (2) and during review of literature it is noted that Panel Least square (PLS), Fixed-effects model (FEM) and Random-effects model (REM) are used for such kind of linear panel data estimations.

Table-2. Descriptive Statistics

Variables	Obs.	Mean	Std. Dev.	Min	Max
LogGDPPC	130	6.753225	0.5670248	5.878314	8.200345
EF	130	5.910308	0.5142043	4.45	6.77
HC	130	1.880212	0.5015945	1.310034	2.899646
LogHFC	130	4.242077	0.1095800	4.019859	4.461738
LogFDI	130	19.64607	2.4557660	13.81062	24.51217
LogK	130	23.62673	1.613665	21.1077	27.31535
SG	130	7.218846	1.154571	4.88	9.26
PR	130	4.069154	1.019661	2.05	6.51
MF	130	6.601615	0.433242	5.5	8.1
TF	130	5.259462	1.497817	0.21	7.17
REGU	130	6.227692	0.390345	5.43	6.88

Source: Author's own calculations

According to Baltagi (2005) that panel data technique has some advantages that are why this study uses longitudal data technique. First, panel data can control the problem of heterogeneity, while time series and cross-

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[2] For example Gwartney, Holcombe and Lawson (2004); Panahi, Assadzadeh and Refaei (2014).

section cannot do this for different units. Second, panel data is more precise, having more variability, less chances of co-linearity between different variables with more degree of freedom and efficiency; third, panel data is more favorable with dynamic of adjustment and it is also suitable to study more complicated behavioral models.

Table-3. Correlation Matrix

	Log GDPPC	EF	HC	Log HFC	Log FDI	LogK	SG	PR	MF	TF	Regu
logGDPPC	1.0000										
EF	0.6179	1.0000									
HC	0.8913	0.5247	1.0000								
LogHFC	0.4210	0.4041	-0.2646	1.0000							
LogFDI	0.5193	0.5628	0.2581	-0.7200	1.0000						
LogK	0.2564	0.3480	0.0227	-0.8287	0.8549	1.0000					
SG	0.3172	0.5863	0.3187	0.1297	0.2722	0.1239	1.0000				
PR	0.4279	0.4542	0.3035	-0.7187	0.4485	0.5227	-0.2028	1.0000			
MF	-0.0622	-0.0555	-0.1748	-0.3015	0.1247	0.2677	-0.2371	0.0989	1.000		
TF	0.5169	0.8895	0.4576	-0.2518	0.4441	0.1591	0.4722	0.2084	0.1628	1.0000	
REGU	0.5556	0.7134	0.5583	-0.1448	0.3471	0.1013	0.5103	0.1446	-0.2531	0.6516	1.0000

Source: Author's own calculations

In order to examine the source of correlation, the results of correlation matrix are shown in table 3 and it is noted that capital stock and economic freedom index have notably high correlation of 0.89 and 0.61 respectively with GDP per capita. Apart from that some of the components of economic freedom have also relatively high correlation with GDP per capita such trade freedom (TF) and regulations (REGU) have at round 0.51 and 0.55 respectively and these coefficients of correlation affirms that some of the explanatory variables may be correlated. Moreover it is interesting that monetary freedom has negative correlation with GDP per capita with human capital (HC) and household final consumption expenditure (HFC).

Table-4. Country Ranking and Summary Index (1990 and 2015)

	1990		2015	
Countries	**Rank**	**Summary Index**	**Rank**	**Summary Index**
Bangladesh	93	4.45	117	6.32
India	83	4.79	95	6.63
Pakistan	81	4.81	127	5.93
Sri Lank	85	4.76	104	6.65
Nepal	60	5.37	107	6.49

Source: Fraser Institute

3.2. Methodology

As a first step of this study we checked cross-sectional dependency among series. For this purpose we follow the methodology of Pesaran (2004) which investigates the normal approximation, where it is assumed that mean variance of the indicator is approximated at T^{-1} and it is denoted by NLM. The mean and variance of Lagrange Multiplier (LM) test are provided to test the bias adjustments and proposed test affirmed the standard normal distribution for the fixed time series dimensions (T) when cross-section dimension (N) tend to infinity and bias NLM test is consistent even though Pesaran (2004) CD test is inconsistent. The results of bias-adjusted NLM test show that it controls the size successfully with maintaining satisfactory power in panel data with exogenous regressors and normal errors with mean of factor loading is close to zero.

Before proceeding to the final estimation technique it is necessary to control the order of integration of our series to get unbiased estimation results. As panel unit root testing is derived from time series unit root testing so this study needs to consider asymptotic trend of time series dimension T and cross-sectional dimension N (Nell and

Zimmermann, 2011). For our study we used the approach of Augmented Dicky Fuller Fisher, Phillips-Perron Fisher, Levin *et al.* (2002) and Im *et al.* (2003) as our panel unit root tests and denoted them as ADF-Fisher, IPS, LLC and PP-Fisher respectively.

It is noted from literature that panel data may have group effects or time effects or both of them and these effects can be either fixed-effects or random-effects. As it is the property of panel data that if panel is balanced with all existing cross-sections then we can expect that fixed effects model may work perfectly (Asteriou and Hall, 2007). So this study use Redundant Fixed Effects test to check whether Panel Least square or Fixed effects model will be appropriate for the analysis. A fixed-effect model works on assumption that there are differences among intercepts across group effects or time effects and explores the possible relationship between outcome and predictor variables within household, firms and countries. This study used fixed effects model on the bases of the results of Redundant fixed effects test and the results are presented in table 7.

In order to examine the real effects of global financial crises on the influence of economic freedom index (EFI) and its components on GDP per capita growth, panel data regression was estimated both for the period of pre-crises (1990-2008) and post crises (1990-2015).

4. RESULTS AND DISCUSSION

Table 5 show the results of CDLM test which control the size and power in panel data with exogenous variables and normality of errors when mean of cross-section factor loading is near to zero (Pesaran, 2006). In our results, t-statistics is not significant for both of the models, which means that our cross-section units are independent and we can use first generation panel unit root tests to check the order of integration for estimation of our models.

Table-5. Bias-Adjusted Test (CDLM Test)

Test	Model 1		Model 2	
	t-stat	p-value	t-stat	p-value
The NLM Test	-0.197	0.770	-0.216	0.570

Source: Author's own calculations

Table-6. Panel Unit Root Results

Variables	ADF-Fisher	IPS	LLS	PP-Fisher
dlogGDPPC	30.0781 (0.0008)	-3.17089 (0.0008)	-2.74133 (0.0031)	48.61340 (0.0000)
EF	22.9276 (0.0000)	-2.45246 (0.0071)	-4.62206 (0.0000)	84.61750 (0.0000)
DHC	31.29320 (0.0000)	(None) (------)	-4.84944 (0.0000)	57.3603 (0.0000)
dLogHFC	15.7692 (0.0308)	-1.84550 (0.0199)	-1.76786 (0.0385)	18.0787 (0.0000)
LogFDI	20.5556 (0.0244)	-2.21814 (0.0133)	-4.0034 (0.0000)	7.8561 (0.6429)
dLogK	47.5729 (0.0000)	-5.3977 (0.0000)	-4.6159 (0.0000)	61.5195 (0.0000)
SG	19.96412 (0.0044)	-2.4980 (0.0030)	-2.1503 (0.0158)	9.9641 (0.4436)
PR	26.3813 (0.0033)	-2.9837 (0.0014)	-2.4700 (0.0068)	24.5517 (0.0003)
MF	21.5596 (0.0000)	-2.4447 (0.0094)	-4.5881 (0.0000)	16.7368 (0.0000)
TF	16.9932 (0.0745)	-1.5932 (0.0556)	-3.2350 (0.0006)	29.2441 (0.0011)
REGU	16.3992 (0.0421)	-2.3639 (0.0031)	-2.6302 (0.0264)	5.0700 (0.8865)

Source: Author's own calculations

In table 6, one may see that panel unit root tests results show that log of GDP per capita and all the control variables are stationary at their first difference and economic freedom index (EFI) and its individual components are stationary at their level form. Results show that null hypothesis of unit root for log of GDP per capita and all control variables can be rejected at 5% level of significance after taking their first difference.

4.1. Redundant Fixed Effects Test

Redundant fixed effects test is applied to make a choice between Panel Least Square Model and Fixed Effects Model. It tests the hypothesis given below:

Ho: = Panel Least Square Model is appropriate.

H1: = Fixed Effects Model is appropriate.

If the value of F-statistics is greater than probability value then we reject the null hypothesis that Least Square Model is appropriate, thus it is in favor of Fixed Effects Model.

Table-7. Redundant Fixed Effects Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	99.077232	(4,87)	0.0000

Note: Author's own calculations

The results of Redundant Fixed Effects test show that F-statistics value is highly significant. So our null hypothesis is rejected at 5 percent level of significance as 99.077232 > 0.0000. It strongly rejects the null hypothesis that Least Square Model is appropriate, thus the results are in support of Fixed Effects Model. It indicates the presence of strong individual effects (country-specific effects).

The results of the model 1 and model 2 after model adjustment to avoid the problem of multicollinearity are shown in table 8 and table 9.

Table-8. Fixed Effects Model Results (Dependent Variable: dlogGDPPC)

Variables	Pre-crises Effects (1990-2008)		Observed Period Effects (1990-2015)	
	Coefficients	p-values	Coefficients	p-values
Constant	4.8901 (27.20)***	0.000	3.1734 (1.16)	0.247
EF	0.4164 (10.03)***	0.000	0.3864 (6.18)***	0.000
dHC	0.3570 (6.50)**	0.000	0.1276 (9.87)***	0.000
dlogHFC	-0.9059 (-2.60)	0.011	-0.034 (-0.08)	0.936
LogFDI	0.3340 (2.85)**	0.006	0.202 (2.01)**	0.031
dlogK	0.1013 (2.53)**	0.013	0.1384 (2.37)**	0.019
R^2	0.6488		0.5498	
F-statistic	29.19		28.09	
P-value	0.0000		(0.000)	
No of Obs.	130	130	130	130

***, **, *statistically significant at 1%, 5% and 10% level respectively. t-statistics are in parenthesis
Source: Author's own calculation

The results obtained from the fixed effects shows that coefficient of economic freedom (EF) is positively significant in both pre-crises period (1990-2008) and overall observed period (1990-2015). It indicates that in pre-crises period, one unit increase in economic freedom index would increase economic growth by 0.41 percentage point. But the results after inclusion of the global crises period in model show that it deteriorates the relationship

between economic freedom and growth. Similarly the relation between control variables and economic growth is also as our expectations as the coefficient of human capital (HC) indicates that one unit increase in human capital would raise the economic growth by 0.35 percentage point. The coefficient of household final consumption expenditure (HFC) is negatively significant during both pre-crises period and post-crises period. It indicates that one percent increase in household final consumption would decrease the growth by 0.90 percentage point and 0.03 percentage point respectively. The coefficient of foreign direct investment (FDI) shows that one percent increase in foreign direct investment would raise economic growth by 0.33 percentage point and 0.20 percentage point respectively and the coefficient of gross fixed capital formation (K) is also significant and indicates that one percent increase in capital would increase economic growth by 0.10 and 0.13 percentage point respectively. Except gross fixed capital formation, the coefficients of all these variables have been significantly deteriorated after the inclusion of the global financial crises period into the model.

Table-9. Additional Fixed Effects Model Results (Dependent Variable: dlogGDPPC)

Variables	Pre-crises Effects (1990-2008)		Observed Period Effects (1990-2015)	
	Coefficients	p-values	Coefficients	p-values
Constant	4.4870 (9.10)***	0.000	4.3993 (8.80)***	0.000
SG	0.4986 (2.57)**	0.012	0.6065 (2.51)**	0.013
PR	0.4122 (2.50)**	0.014	0.6486 (2.55)**	0.012
MF	0.9308 (2.53)**	0.013	–0.2028 (3.45)***	0.000
TF	0.5331 (4.08)***	0.000	0.7591 (4.26)***	0.000
REGU	0.1233 (2.32)**	0.023	0.8016 (2.95)**	0.004
R^2	0.6922		0.5648	
F-statistic	24.40		28.09	
P-value	0.0000		0.0000	
No of Obs.	130	130	130	130

***, **, *statistically significant at 1%, 5% and10% level respectively. t-statistics are in parenthesis
Source: Author's own calculation

In Table 8, summary of the results for the individual indicators is presented which shows that size of government (SG) is positively significant both in pre-crises and with higher coefficient in post crises period which indicates that one percent increase in size of government (SG) would raise economic growth by 0.49 and 0.60 percentage point respectively. Property rights protection under a country's legal institutions is essential for economic growth (Kaur, 2006). The effect of the coefficient of property rights also shows the same trend as size of government (SG) in both periods that one unit increase in property rights index increases the economic growth by 0.41 percentage points and 0.64 percentage point after the inclusion of global crises period into regression. Relationship between property rights protection (PR) and GDP per capita growth is due to performance of property rights institutions at micro level which is increasing since late 1980's in Bangladesh, India, Pakistan and Sri Lanka (Fernandez and Kraay, 2005). The coefficient of monetary freedom (MF) reflecting the access to the sound money is statistically significant and its sign is positive in pre-crises period estimation results which indicates that an increase in the monetary freedom by one unit reduces the growth by 0.93 percentage point in pre-crises period and its effect deteriorates with the inclusion of the global crises period with negative coefficient which means that one percent increase in monetary freedom would decrease the growth by 0.20 percentage point. An increase in trade freedom by one unit leads toward economic growth by 0.53 percentage point in pre-crises period and it increase to 0.75 percentage point in overall observed period analysis. These finding are in line with the study

of Ivanović and Stanišić (2017) which found a positive and robust relationship between trade freedom (TF) and economic growth in both pre-crises period and observed period for new European Union member states. And finally the coefficient of regulations (REGU) is positively significant which means that one unit increases in regulation (REGU) index raises the economic growth by 0.12 percentage point in pre-crises period and 0.80 percentage point in overall observed period. However, four of the components of economic freedom (SG, PR, TF, REGU) are positively significant, coefficient of monetary freedom (MF) is negatively significant in post-crises period and with inclusion of crises period into the model 2, increases the value of the coefficients of other four components.

Apart from the significance of the coefficients of explanatory variables, value of R^2 also deteriorates i.e. it is high (0.6488) in pre-crises period (1990-2008) and decreases to (0.5498) in post-crises period (1990-2015) in model 1 and model 2 also show the same results such as the value of R^2 in pre-crises period (19990-2008) was high (0.6922) and decreases to (0.5648) in post-crises period. It shows that global financial crises of 2008 severely blurred the link between economic freedom and growth in South Asia. Most of the studies in previous literature about economic freedom-growth nexus show positive and robust relationship which is not endorsed by the empirical results of our study and to check the pre-crises effects and observed period effects of economic freedom index and its components with all these control variables on economic growth is purely our contribution to the literature.

Table-10. Result Summary of the Effects of Economic Freedom Components on Economic Growth

Economic Freedom Indicators	Sign of the effects
Size of Government (SG)	Positive (+)
Property Rights Protection (PR)	Positive (+)
Monetary Freedom (MF)	Positive, Negative (+,-)
Trade Freedom (TF)	Positive (+)
Regulations (REGU)	Positive (+)

Source: Author's own calculations

5. CONCLUSION

This study examines the relationship between economic freedom and growth in 5 South Asian countries. The real contribution of this study stems from the fact that very number of previous studies explored this relationship for South Asia. The primary focus of previous studies was to check the impact of economic freedom index and growth performance in South Asia. Adding to the literature, this study test the relationship between economic freedom index (EFI), its components and economic growth for the period of 1990-2015 covering the pre-crises and post-crises to evaluate the impact of economic crises of 2008 on freedom-growth relationship.

The first hypothesis of this study was that economic freedom has positive relationship with economic growth and empirical findings supports this hypothesis over the period of 1990-2015. These results are compatible with variety of previous studies. The second hypothesis of our study was that individual components of economic freedom are positively correlated with growth and empirical findings does not support for all of the components such as monetary freedom (MF) is negatively correlated with GDP per capita growth in post-crises period. These findings are not compatible with prior studies for South Asian countries. The third hypothesis of our study was that global economic crises of 2008 blurred the relationship between economic freedom, its components and economic growth. The empirical findings of model 1 suggest that relationship between explanatory variables and GDP per capita growth is considerably deteriorated after inclusion the period of economic crises in to the model and model 2 suggest that one of the components of economic freedom index such monetary freedom changed its contribution toward growth in post-crises period. The findings suggest that South Asian countries were not maintaining the level of economic freedom and its financial system to face the global financial recession. This implies that relative

focus of further research is moved toward the structural parameters of growth equation to absorb sudden economic shocks in these economies. Further research on economic freedom-growth nexus could be on the identification of those factors which influence the relationship between components of economic freedom and growth in South Asia.

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APPENDEX 1

Variables	Data Description	Source
GDP Growth	GDP per capita at constant 2010 in US$	World Development Indicators 2015
Economic Freedom (EF)	Economic freedom of the World is compiled by the Fraser Institute	Fraser Institute 2015
Human Capital (HC)	Human capital index, based on years of schooling and returns to education	Penn World Table v9.0 www.ggdc.net/pwt
Household Final Consumption (HFC)	Household final consumption expenditure is taken at constant 2010 US$	World Development Indicators 2015
Foreign Direct Investment (FDI)	Foreign direct investment, net inflows at current US$	World Development Indicators 2015
Gross Fixed Capital Formation (GFC)	Gross fixed capital formation is taken at constant 2010 US$	World Development Indicators 2015
Size of Government (SG)	(See Table 1)	Fraser Institute 2015
Proper Rights Security and Legal System (PR)	(See Table 1)	Fraser Institute 2015
Monetary Freedom (MF)	(See Table 1)	Fraser Institute 2015
Trade Freedom (TF)	(See Table 1)	Fraser Institute 2015
Regulations (REGU)	(See Table 1)	Fraser Institute 2015