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Does economic freedom boost economic growth in Pakistan and India?

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Abstract

In the process of nations' well-being economic freedom is considered one of the prominent key factors that actively take part in economic progress. This study delves into a freedom-growth link for Pakistan and India by using the ARDL technique for the period of 1995-2015. For both countries, the results exhibit positive and statistically significant hookup in freedom-growth. The study has also suggested strategies to enhance growth via accelerating economic freedom in both countries.

Keywords: Economic Freedom; Economic Growth; ARDL
JEL Codes: O47, C01

1. Introduction

"Economic freedom is the fundamental right of every person to control his or her labor and property. In an economically free society, individuals are free to work, produce, consume, and invest in any way they please, with that freedom both protected by the state and unconstrained by the state" (Heritage Foundation, IEF Annual report 2016). Economic Freedom (EF) is the vital mandatory route to obtain grand innovation, greater opportunities, risk-taking, entrepreneurship and a healthy standard of living for all individuals in any economy. Economic Freedom gives the strength to all persons to pursue own choices and self-wants. In any economy where EF prevails, individuals are free to perform economic activities and do their business without government intervention. This results in a reduction in economic inequalities, raising the employment opportunities and enhancing the wide range of innovation and opportunities through growth channel.

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EF brings economic growth (EG) and EG translates in higher standards of living and much better opportunities for all (Mahmood, 2009). The concept of EG has always been at the top of any economic debate. Economic conditions of any economy depend on its institutional structure, good health of institutions that lead towards higher economic growth. An economy must have Economic Freedom (EF), Political Freedom (PF) and Civil Liberalization (CL) for economic growth.

Since Adam Smith's "An inquiry into the nature and causes of the wealth of nation (1776)" researchers put their efforts to find out the determinants of economic growth. Smith paid notable attention to gains from trade, economic policies, and economies of scale. The followers of the classical school of thought stress the importance of physical resources to boost economic growth. Neoclassical theory is based on the Solow Swan growth model (1956), which analyzed that labor; capital and technology are considered the main source of EG. Afterward, the modern endogenous theories of growth i.e. "on the mechanics of Economic Development"(Lucas,1988), "Endogenous Technological changes"(Romer,1990), "Economic growth in the cross-section of the countries" (Barro,1991), "Perspectives on growth theories" (Solow, 1994) and "Endogenous growth theory"(Aghion and Howitt 1998), etc., suggest that the role of endogenous factors viewed as keystones in the economic wellbeing of any nation. Exogenous variables consist of numerous physical resources & institutional variables that are endogenously determined. The central pivot of present studies is to identify the variables that determine the growth rate and these focus on how these factors put their influence on the speed of growth of any economy.

2. Review of Literature

Numerous studies assessed the link between economic freedom, economic growth and various macroeconomic variables in the literature. Different studies provide different results; few studies establish a robust connection and few studies build fragile relations between EF and EG, while some studies found no connection between them (See Table 1).

The general point of view about EF and EG is that there is a positive association between them. After the overall assessment of this section, it can be said that the connection between EF and EG is not as ordinary as it looks. Researchers who support the common view that EF is positively linked with economic well-being, believe that EF boosts EG by improving the standard of living through generating new

employment opportunities, better income distribution, reduction in inequalities, and refinement in human capital. Studies also reveal that robust EF fosters business progress, promotes competition that raises business revenues, so as a result, individuals put their efforts and resources inefficient economic activities.

Table 1
Selected Studies on Freedom and Growth

Reference(s)	Countries	Period	Main Results
The literature on Economic freedom-growth link			
Gwartney et al. (1999)	82	1975-1995	A robust and significant relationship between EF and EG.
Dawson (2003)	All countries	1970-2000	The overall level of EF was appearing to cause growth. Two components of the EF index i.e. free markets and property rights were positively related to growth.
Cole (2003)	106	1980-1999	EF was a significant key factor for EG.
Doucouliagos and Ulubasoglu (2004)	82	1970-1999	A direct positive and significant association between EF and EG and indirect positive association between EF and EG through its positive impact on physical investment formation.
Corbi (2007)	114 Nations	1970,1975,1980,1985,1990,1995, and 2000	EF enhances growth both through raising capital accumulation and enhancing total factor productivity.14 sub-components of EF were found statistically and significantly related to EG.
Faria and Montesions (2009)		1980,2000	EF has a positive and significant impact on the level of income and growth.
Azid and Mahmood (2009)	Pakistan	1970-2007	There was unidirectional relationship EF and EG in Pakistan
Hoover et al. (2011)	50 US states	1981-2004	A positive and significant relationship between EF and EG but these results do not hold for all parts of EF.
Borovic (2014)	Bosnia and Herzegovina	2000-2013	Two components of EF (rule of law and open market) were negatively correlated with GDP growth.
The literature on Economic and Political freedom-growth link			
Nelson and Singh (1998)	67 LDCs	1970-1989	Nations with strong PF and a higher level of civil liberties achieved incredible GDP growth rates than those nations having restricted environments. Heavy public sector consumption and EF were key elements for EG.
Farr et al. (1998)	20 industrial and 78 nonindustrial countries	1975,1980 1985,1990	Bilateral causality was found between EF and Economic wellbeing in industrial and nonindustrial countries and unilateral causality found between EG and PE.
Wu and Davis (1999)	100	1975-1992	With given economic freedom, there was no association between political freedom and economic growth.
Ali and Crain (2001)	119	1975-1989	Measures of EF provide a robust link with EG while civil liberty and political freedom were fragile to enhance growth.

Liebenberg (2013)	176	1995-2012	EG was positively correlated with EF, PF, and CL but the correlation was weak and additionally bi-directional causality was found between EF and EG.
Piaket et al. (2013)	25 transition economies	1990-2008	Economic freedom had the same positive effects on the economic growth in transition countries as it was in developed countries.
Haydaroglu (2016)	BRICS Countries	1995-2013	EF and FDI have a significant influence on EG. Only one component of EF as the size of government was negatively related to growth.

Source: Authors' compilation

Adverse relationship between EF and EG is also explored by some researchers. The economic environment of each country is different from others and each nation has its boundary limits of political and economic constraints so one can never judge the same results from various researches. Limited research work has been done on economic freedom in the South Asian region. Pakistan and India are two main countries of this region and no study has specifically been conducted for Pakistan and India at the same time, so it is a significant contribution of this study to add in the existing empirical literature by exploring the freedom-growth nexus in Pakistan and India.

3. Model, Data and Methodology

This study is based on two models to analyze the upshot of economic freedom on economic growth for Pakistan and Indian economies.

$$GNIGP = f(LFG, GFCF, SSE, EFI) \text{ (For Pakistan)}$$

$$GNIGI = f(LFG, GFCF, SSE, EFI) \text{ (For India)}$$

The following general form of the models can be written in an econometric form for the two countries.

$$GNIGP = \alpha + \beta_1 LFG + \beta_2 GFCF + \beta_3 SSE + \beta_4 EFIEF + \varepsilon$$

$$GNIGI = \alpha + \beta_1 LFG + \beta_2 GFCF + \beta_3 SSE + \beta_4 EFIEF + \varepsilon$$

Where:

GNIGP=Gross national income growth (annual %) of Pakistan
GNIGI=Gross national income growth (annual %) of India
LFG =Labor force growth (annual %)
GFCF=Gross fixed capital formation (% of GDP)

SSE= Secondary school enrollment ratio, both Sexes (%)
EFI=Economic Freedom Index

The period chosen for this work is 1995-2015. GNIG is used as a dependent variable as a proxy of EG. The core independent variable of this study is EFI which is developed by the Heritage Foundation while other explanatory variables used in this study are LFG, GFCF, and SSE. Data on GNI, LFG, GFCF, and SSE have been compiled from WDI, 2016. ARDL technique has been applied due to mixed ordering of integration of the variables.

4. Results and Discussions

Now we do the preliminary analysis of data along with an explanation of the econometric results. The descriptive statistics results of this analysis for Pakistan and India can be depicted as:

4.1 Descriptive Statistics

Table 2
Descriptive Statistics of Key Variables of Pakistan and India (1995-2015)

	Pakistan					India				
	GNIGP	**LFG**	**GFCF**	**EFI**	**SSE**	**GNIGI**	**LFG**	**GFCF**	**EFI**	**SSE**
Mean	4.25	0.03	15.38	55.63	29.77	6.95	57.99	28.69	51.89	55.20
Median	4.09	0.03	15.28	55.60	26.50	7.58	59.40	29.26	52.20	54.17
Maximum	7.62	0.05	17.73	58.40	43.83	9.72	60.80	35.57	55.70	70.14
Minimum	0.52	0.00	12.52	53.00	19.25	3.55	53.29	22.74	45.10	43.22
Std. Dev.	1.81	0.01	1.64	1.46	7.96	1.97	2.59	4.65	3.00	9.58
Skewness	0.03	-0.79	-0.09	0.01	0.23	-0.45	-0.65	0.06	-0.64	0.32
Kurtosis	2.62	4.38	1.79	2.55	1.61	1.94	1.78	1.40	2.38	1.58
Jarque-Bera	0.13	3.84	1.30	0.17	1.89	1.69	2.79	2.26	1.79	2.12
Probability	0.94	0.15	0.52	0.92	0.39	0.43	0.25	0.32	0.41	0.35
Observations	21	21	21	21	21	21	21	21	21	21

Source: Authors' calculations

Table 2 shows the descriptive statistics of the key variables of both countries. Firstly, we explain the values of Pakistan. The mean value of gross national income growth annual percentage is 4.25, the minimum value is 0.52 and the maximum value is 7.62. The mean value of LFG is 0.03, the maximum value is 0.05, similarly, the average value of GFCF is 15.38, the maximum value is 17.73 and the minimum value is 12.52.EFI mean value is 55.63, max-value is 58.40 and the

min-value is 53, likewise the average value of SSE is 29.77 max-value of SSE is 43.83 and min-value of SSE is 19.25. Moreover, the values of GNIGP, EFIEF, and SSE are positively skewed and values of LFG and GFCF are negatively skewed. The values of LFG are 4.38 that is greater than 3 called leptokurtic while values of kurtosis of remaining variables i.e. GNIGP, GFCF, SSE, EFI are less than three that called platykurtic.

Now we explain the values of India. The average value of GNIGP is 6.95, LFG is 57.99, GFCF is 28.69, EFI is 51.89 and SSE is 55.20.the maximum values of GNIGI, LFG, GFCF, EFI and SSE are 9.72, 60.80, 35.57, 55.70 and 70.14 respectively while minimum values of all such variables are 3.55, 53.29, 22.74, 45.10 and 43.22 correspondingly. Additionally, the values GFCF and SSE are positively skewed and the values of GNIGI, LFG, EFI are negatively skewed. Kurtosis statistics of all variables are below 3 which called platykurtic and represents as flat, low peaked or short-tailed. The results of the JB test express that the values of all variables in both countries are normally distributed.

4.2 Correlation Analysis

The estimated correlation results of time series data are demonstrated below.

Table 3
Correlation Matrix of Key Variables of Pakistan and India

(For Pakistan)					
	GNIGP	**LFG**	**GFCF**	**EFI**	**SSE**
GNIGP	1.00	0.14	0.04	0.05	0.07
LFG		1.00	0.15	-0.18	-0.16
GFCF			1.00	0.51	0.47
EFI				1.00	-0.05
SSE					1.00
(For India)					
	GNIGI	**LFG**	**GFCF**	**EFI**	**SSE**
GNIGI	1.00	0.01	0.30	0.22	0.16
LFG		1.00	-0.61	0.72	-0.91
GFCF			1.00	0.83	0.81
EFI				1.00	0.87
SSE					1.00

Source: Author's calculations

Table 3 represents the correlation matrix of the used variables of our model of Pakistan and India. Firstly, we explain the correlation

values of Pakistan. The results describe that there is a positive correlation between GNIGP with all other variables, but the correlation is not too much strong. The correlation between LFG and GFCF also positive while negative correlation exists between LFG with two other variables i.e. EFI and SSE.EFI is negatively correlated with SSE. Likewise, GFCF is positively correlated with EFI and SSE but this correlation is a weak positive correlation. Now we highlight the correlation analysis of key variables for India. The results indicate that there is a weak positive association between GNIGI with LGF, GFCF, EFI, and SSE.LFG is strongly negatively associated with SSE and GFCF and positively linked with EFI. Another positive interdependence has been found between GFCF with EFI and SSE. Similarly, a positive influence has been found between EFI and SSE.

4.3 Unit Root Analysis

Table 4
Results of ADF Test (on Level)

(For Pakistan)							
Variables	**β0, T=0**	**Lags**	**β0≠0**	**Lags**	**β0, T≠0**	**Lags**	**Conclusion**
GNIGP	0.1491	0	0.7382	0	-2.3119	0	1(1)
LFG	-0.5028	2	-3.3936	1	-3.6723	1	I(0)
GFCF	-0.7787	0	-1.6018	0	-1.7967	0	I(1)
SSE	4.4280	0	0.7248	0	-2.8141	1	I(1)
EFI	-0.32603	0	-3.41084	0	-3.2696	0	I(0)
(For India)							
GNIGI	1.9363	1	0.4048	1	-2.5324	1	I(1)
LFG	-0.4872	2	-2.2958	0	-3.5191	1	I(0)
GFCF	-1.0691	0	-0.1993	0	1.8149	1	I(1)
SSE	-2.5643	0	-6.2345	1	3.8506	1	I(0)
EFI	-1.43115	1	-2.35945	0	-3.6723	0	I(1)

Source: Authors' calculations

Table 4 depicts the ADF unit root test results on the level for Pakistan and India. The upper part of Table 4 represents the findings of the ADF test for Pakistan. Results show the combined trend of I(0) and I(1) at the level. LFG is stationary or integrated at the level I (0) while the GNIGP, GFCF and SSE non-stationary. The lower segment of the table expresses the same story for India showing the mixed order of integration.

4.4 Bounds Test Analysis

ARDL co-integration approach depends on computed values of F-statistic compared with critical F values. Table 5 depicts the Wald test results employed on models for Pakistan and India.

Table 5
Results of the Existence of Long-Run Relationship

Country		@5 %		@10%	
	F-Statistics	**Lower Bound**	**Upper Bound**	**Lower Bound**	**Upper Bound**
Pakistan	25.58	2.26	3.48	1.9	3.01
India	7.58	2.86	4.01	2.45	3.52

Source: Authors' calculation

To check whether the long-run relationship exists or not, calculated F values are compared with two critical levels. In Table 5, F-statistics of both countries i.e. for Pakistan F-value is 25.58 and for India, F-value is 7.58 exceeds the value of the upper bound demonstrating the long run connection for both the countries.

4.5 Long Run Analysis

Table 6 demonstrates the long run results. The first variable is labor force growth (LFG) and the coefficient of LFG is positively and significantly related to EG in Pakistan and India. When more labor force is engaged in the production process, productivity and economic growth will boost in the country. Our results are in line with Mujahid and Zafar, 2012; Shaid, 2014. The second variable is GFCF which turns out to be positive for both the countries. Capital is a contraption of growth and it surges the employment opportunities and the same has been observed in Pakistan and India. Our results are compatible with the results of the following studies Dritsakis et al., 2006, Gibscu 2010, Ali et al., 2012. The coefficient of secondary school enrolment appears with a positive sign in both the countries, but it is statistically significant only for Pakistan. Education improves the quality of life, boost civil society and support democracy in the country. It is considered a foundation of knowledge and production of skills. Such knowledge and skills increase labor productivity which translates into EG. Endogenous growth theories focus on human capital being the important ingredient of growth. In these models, Romer (1986), Lucas (1988) and Romer (1990) give a central role to education in the growth process. Our results support the findings of the studies by Afzal at al., 2010 and Ali et al., 2012.

Table 6

Long Run Findings of Freedom-Growth Models for Pakistan& India

Pakistan			
	ARDL (1, 1, 0, 2, 2)		
	DV: GNIGP		
Variable	**Coefficient**	**SE**	**t-Stat**
LFG	31.482758	8.272720	3.805612
GFCF	0.085269	0.026885	3.171585
SSE	0.072814	0.007997	9.105120
EFI	0.021623	0.010394	2.080403
C	0.003268	0.001556	2.100455
India			
	ARDL (1, 2, 2, 2, 1)		
	DV: GNIGI		
Variable	**Coefficient**	**SE**	**t-Stat**
LFG	0.026623	0.014242	1.869306
GFCF	0.011261	0.005692	1.978572
SSE	0.008266	0.004974	1.661766
EFI	0.040096	0.009438	4.248190
C	3.344486	0.923995	3.619594

Source: Authors' calculations

The focused variable in our study is economic freedom. We have used the Index of EF given by the Heritage Foundation. EFI is positive and significant in both countries. The positive association between EF and EG may be validated on the following grounds: First, EF supports free markets notion which allows individuals to perform progressively as one likes. Second, EF smoothens the business cycle (Lipford, 2007; Campbell and Snyder, 2012). Third, EF encourages the economic environment. Freedom of private property rights stimulates and incentivizes the protection of resources. According to Heritage foundation "nations with the greatest protection of property rights have the most favorable scores on environmental performance index". Fourth EF is the base of all freedom, there is no political freedom without EF. Studies by Hayek, 1960; Vukotic and bacovic, 2006; Zaman et al., 2011; Seputine & Skuncikiene, 2011; Cebula et al., 2012; Cebula and Clark, 2012; Lee et al., 2012; and Hussain & Haque, 2016 have found the positive link between economic freedom and growth.

4.6 Error Correction Analysis

Table 7
Error Correction Results of Freedom-Growth Models for Pakistan & India

Pakistan				
ARDL (1, 1, 0, 2, 2)				
DV: GNIGP				
Variable	**Coefficient**	**SE**	**t-Stat**	**Probability**
D(LFG)	-0.168803	0.282693	-0.597122	0.5651
D(GFCF)	0.005935	0.001194	4.969192	0.0008
D(EFI)	0.011376	0.001007	11.295667	0.0000
D(EFI(-1)	-0.005941	0.001263	-4.701938	0.0011
D(SSE)	-0.012909	0.002727	-4.733564	0.0011
D(SSE(-1)	-0.004513	0.000799	-5.647097	0.0003
CointEq(-1)	-0.069604	0.013893	-5.010089	0.0007
India				
ARDL (1, 2, 2, 2, 1)				
DV: GNIGI				
Variable	**Coefficient**	**SE**	**t-Stat**	**Probability**
D(LFG)	-0.004031	0.005928	-0.67993	0.5219
D(LFG(-1)	0.026174	0.010438	2.507580	0.0461
D(GFCF)	0.000966	0.003232	0.298875	0.7751
D(GFCF(-1)	-0.003268	0.001556	-2.10045	0.0804
D(EFI)	0.004360	0.002649	1.646137	0.1508
D(EFI(-1)	-0.008606	0.004158	-2.06964	0.0839
D(SSE)	0.004606	0.002202	2.092167	0.0814
CointEq(-1)	-0.394220	0.093972	-4.19507	0.0057

Source: Authors' calculations

In Table 7, results reveal that coefficients of ECM are negative in both models of Pakistan and India. The coefficient of ECM in Pakistan is -0.069604 and in India, it is equal to -0.394220. For the case of India, results indicate that due to error must be corrected by less than half a year approximately within four-month while in case of Pakistan, it can be corrected within one month.

5. Conclusion and Policy Recommendations

The main goal of this work is to provide empirical evidence on the freedom-growth link for Pakistan and India. This study has applied the ARDL technique for the period of 1995-2015. The findings demonstrate that the impact of economic freedom on economic growth is positive and statistically significant in both countries. The main reason for the positive link between freedom and growth is that with a higher extent of economic freedom, more peoples are engaged in entrepreneurial and economic activities that resultantly produce more employment opportunities and enhanced economic growth.

Pakistan and India are suggested to require more development expenditures to generate an educated environment which eventually boosts economic growth because of education, directly and indirectly, encourage the rule of law and factor productivity. Secondary school enrolment has shown a positive impact on economic growth in our study. Governments of both countries need to increase enrolment ratios as education encourages growth through internalities and externalities. The government may build numerous education and training institutes that produce skilled and trained labor force which is helpful to stimulate growth.

Economic freedom may be focused on by the policymakers to get economic growth in both the neighboring countries.

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