

DEMOCRACY AND ECONOMIC FREEDOM: A STATIC PANEL DATA ANALYSIS OF SOUTH ASIA

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Abstract

Economic freedom leads to and maintains democracy – this hypothesis popularly known as Hayek-Lipset-Friedman hypothesis has been examined empirically in this study for South Asian region. Using data on economic freedom and political freedom (democracy) for a panel of five South Asian countries over the period 1995-2008, the Granger-causality test confirms that democratic society must be economically free, it does not happen other way round. Applying static panel data estimation technique this study also finds significant positive relationship between democracy and economic freedom and the degree of responsiveness of economic freedom on democracy is found less proportionate in South Asian countries. It is also found that economic prosperity fosters democracy in this region, whereas government spending does not have significant impact on the level of democracy in South Asian countries.

Keywords: economic freedom, democracy, panel data, South Asia.

1. Introduction

Since the work of Friedrich A. Hayek, *The Road to Serfdom*, both political scientists and economists have been puzzled about the link between democracy and economic freedom. It is important to understand the association between democracy and economic freedom because democracy is a multifaceted and complex system that is not simply a political system – it is an economic system too¹. Hayek wrote, "If 'Capitalism' means here a competitive system based on free disposable over private property, it is far more important to realize that only within this system is democracy possible. When it becomes dominated by a collectivist creed, democracy will inevitably destroy itself."² Hayek, in the jacket notes of the first edition of his book, expressed his belief that economic freedom is the prerequisite of any other freedom, including political freedom or social freedom. Lipset³ in his seminal work has the view that democracy depends on the level of economic development of a particular society: the more developed a society is

1 Morgan Shields, *Political Freedom and Economic Freedom: How Political Rights and Civil Liberties Affect Open Markets* (Washington: George Mason University, 2009) [database online]; available at: www.lagrange.edu/resources/pdf.

2 Friedrich A. Hayek, *The Road to Serfdom* (Chicago: University of Chicago Press, 1944 [1976]), 69-70.

3 Seymour M. Lipset, "Some Social Requisites of Democracy," *American Political Science Review* 53 (1959), 69-105.

economically, the greater will be its chance of sustaining democracy. In explaining Lipset, Bilson⁴ argues that economic development enables the dynamic elements of the society to become independent of the government both economically and in terms of social status, thus promoting democracy.

In *Capitalism and Freedom*, Milton Friedman⁵ echoed Hayek and Lipset. He believes that economic freedom is an indispensable means towards the achievement of political freedom (democracy). Economic freedom is important for democracy because "Viewed as a means to the end of political freedom, economic arrangements are important because of their effect on the concentration or dispersion of power".⁶

The purpose of this paper is to examine empirically the "Hayek-Lipset-Friedman Hypothesis" that economic freedom is necessary for democracy to emerge. The Hayek-Lipset-Friedman Hypothesis says that politically free (democratic) societies must be economically free; it does not say that economically free societies must be politically free. Indeed examples of this latter combination come readily to mind in places such as Singapore, Hong Kong, and selected oil-rich nations in the Middle-East. This paper aims to offer evidence concerning the direction of causation between measures of economic freedom and democracy, and then examine that relationship between these two, using panel data set of five South Asian countries (Bangladesh, India, Nepal, Pakistan and Sri Lanka) over the period 1995-2008.

South Asia, a region with about 23 percent of the global population, one-third of whom live below the poverty line, having only 2 percent of global income, finds itself in the midst of significant economic, political and social transformation since early 1990s. With this transformation toward more freedom South Asia has made considerable achievements in terms of overall economic growth with a rate about 5.5 percent for the last two decades, which has been much higher compared to the previous two decades.

Far-reaching economic reforms geared toward more economic freedom in the region have created impulses for growth which have the capacity to unleash the potential that has remained untapped in the region. Though there appears to be a consensus on economic reform, political realities have often resulted in instability and conflict that have acted as negative influences. States spend enormous time and resources in conflict resolution and countering instability that deviates from its

4 John F. O. Bilson, "Civil Liberty: An Econometric Investigation," *Kyklos* 35 (1982), 94-114.

5 Milton Friedman, *Capitalism and Freedom* (Chicago: Chicago University Press, 1962 [2002]), 9.

6 Milton Friedman, "Preface" in James Gwartney and Robert Lawson, *Economic Freedom of the World: 2002 Annual Report* (Vancouver: Fraser Institute, 2002), xvii-xxi.

essential function of providing an enabling environment where basic freedoms, civil and political freedom, are guaranteed.

South Asia has had mixed experiences with political institutions whereby states have followed both democratic and authoritarian policies. There is political deprivation and a marked lack of ability demonstrated by the people participating in the decisions making processes that directly affect them. At one level this leads to a detachment by policy makers from the concerns of the people. This also results in a lack of accountability and transparency in governance that further alienates the people from the institutions of governance. Such governance often leads to corruption, political patronage, low observance of the rule of law and distorted delivery of public goods and services. During the 1990s some SAARC countries have had experience in formal democratization via institutions, but the essence of democracy, in terms of the freedoms of the people, has not yet borne fruit. To realize the potential of South Asia, the achievement of economic freedom has to be a central concern on which democracy and people's right depends, just as Hayek, Lipset and Friedman assert. This paper aims to examine the Hayek-Lipset-Friedman hypothesis in South Asian context.

The paper is structured as follows: Section 2 provides a brief review of the key theoretical arguments behind a democracy-economic freedom association, Section 3 discusses the methodological issues and the data, Section 4 is the heart of the paper, presenting the causality and results of the regression analysis, and the paper is concluded in section 5.

2. Association between Democracy and Economic Freedom

Democracy, as a system of national policies, gained wide acceptance in the past half century because democratic systems of administration benefit countries in numerous ways.⁷ Researchers have advanced various definitions of democracy and there are two major schools of thought about the meaning and about what constitutes democracy. The first major school of thought, known as the 'procedural view', believes that democracy is a form of government that emphasizes the procedures that enable the people to govern or how decisions are made. A typical perspective might be that "the central procedure of democracy is the selection of leaders through competitive elections by the people they govern."⁸ Schumpeter⁹, who has promulgated the idea of procedural democracy, assumed that the electoral process is at the core of the authority placed in elected officials and ensures that all

7 Khalid Mahmood, Toseef Azid and Masood M. Siddiqui, "Democracy and Economic Growth in Pakistan," *Research Journal of International Studies* 15 (2010), 77-86.

8 Samuel P. Huntington, *The Third Wave. Democratization in the Late Twentieth Century* (Norman, University of Oklahoma Press, 1993), 6.

9 Joseph A. Schumpeter, *Capitalism, Socialism, and Democracy* (New York: Harper, 1947).

election procedures are duly complied with. This view of democracy prescribes a set of normative principles for democratic decision making: universal participation, political equality, majority rule and responsiveness.¹⁰

The second major school of thought, the 'substantive view', sees democracy in the substance of government policies, in freedom of religion and the provision for human needs or, more broadly, in what government does. According to this school of thought democracy is embodied in the substance of government policies rather than in the policymaking procedures. Most substantive theorists require that government policies should guarantee civil liberties and civil rights. In addition social and economic rights are also added to the substantive outcomes that a true democracy insures.

The determinants of democracy are disputed due to the problem of conceptualization, measurement and aggregation.¹¹ Whitehead¹² and Drake¹³ identified international factors such as diffusion of democratic ideas and global markets as important determinants of democracy. Schmitter¹⁴ finds the impact of the international context upon regime change, whereas Pridham¹⁵ did not. Barro¹⁶ identified economic variables like real per capita GDP, education, urbanization as measures of democracy. No single measure offers a satisfactory response to all the three problems above. Combining components of both procedural and substantive school of thought democracy would be defined as an "umbrella concept", according

10 Universal participation principle says that everyone in a democratic society should participate in governmental decision-making. The principle of political equality establishes equality in political decision-making providing for one vote per person, with all votes counted equally. The decision of a group must reflect the preference of more than half of those participating; a simple majority, known as majority rule. Responsiveness states that elected representatives should respond to public opinion. (Berry Janda and Jerry Goldman, 2008)

11 Gerardo L. Munck and Jay Verkuilen, "Conceptualizing and Measuring Democracy: Evaluating Alternative Indices," *Comparative Political Studies* 35(5) (2002), 5-34.

12 Laurence Whitehead, "Three International Dimensions of Democratization", in L. Whitehead, ed. *The International Dimensions of Democratization* (Oxford: Oxford University Press, 1996), 3-24.

13 Paul W. Drake, "The International Causes of Democratization, 1974-1990," in *The Origins of Liberty: Political and Economic Liberalization in the Modern World*, ed. Paul W. Drake and Mathew D. McCubbins (Princeton: Princeton University Press, 1998), 70-91.

14 Philippe C. Schmitter, "The Influence of the International Context upon the Choice of National Institutions and Policies in Neo-Democracies", in *The International Dimensions of Democratization: Europe and the Americas* ed. L. Whitehead (Oxford: Oxford University Press, 1996), 27.

15 Geoffrey Pridham, "Encouraging Democracy," footnote 1, in *The International Dimension of Democratization in Eastern Europe* ed. G. Pridham, E. Herring and G. Sanford. (New York: St. Martin, 1994).

16 Robert J. Barro, "Democracy and Growth," *Journal of Economic Growth* 1 (March 1996), 1-27.

to Jackman¹⁷. A number of researchers like Bollen¹⁸ and Inkels¹⁹ provide an overview of measurement issues on democracy. Dahl's²⁰ measures of democracy are by far the most accepted and the widely-used *Gastil Index* of democracy or *Freedom House Indicators* are built around them²¹. Following a number of previous work²² this study uses the Freedom House Indicators to present democracy index in its empirical study. The Freedom House index of democracy is not above criticism, just like any other index of democracy available. But still it is widely used as a measure in empirical studies, since it has the longest historical data and is comprehensive.

Economic freedom refers to the quality of a free private market in which individuals voluntarily carry out exchanges in their own interests. Economic freedom, as discussed by Friedman²³, has three components: first and most important, is the rule of law, which extends to the protection of property rights; secondly, wide-spread private ownership of the means of production; thirdly, freedom to enter or to leave industries, freedom to engage in competition and freedom to trade. This economic freedom provides minimal government influence over private economic activity, and provides for the rule of law rather than statutory regulations to attenuate economic externalities.

17 Robert W. Jackman, "Cross-National Statistical Research and the Study of Comparative Politics," *American Journal of Political Science* 29(1), (1985), 161-182.

18 Kenneth Bollen, "Political Democracy: Conceptual and Measurement Traps," *Studies in Comparative International Development* 25 (1990), 7-24.

19 Alex Inkels, *On Measuring Democracy* (New Brunswick NJ, Transaction Publishers, 1991).

20 Robert Dahl, *Polyarchy: Participation and Opposition* (New Haven: Yale University Press, 1971).

21. Dahl proposes eight requirements for democracy: a. freedom to join and form organizations, b. freedom of expression, c. right to vote, d. eligibility for public office, e. right of political leaders to compete for support and votes, f. alternative sources of information, g. free and fair elections, and h. government policies depend on votes and other expressions of preference.

22 Michael A. Nelson and Ram D. Singh, "Democracy, Economic Freedom, Fiscal Policy, and Growth in LDCs: A Fresh Look," *Economic Development and Cultural Change* 46(4), (1998), 677-696; Alberto Ades and Rafael Di Tella, "The New Economics of Corruption: A Survey and Some New Results," *Political Studies* 45 (Special Issue, 1997), 496-515; Wayne Sandholtz and William Koetzle, "Accounting for Corruption: Economic Structure, Democracy, and Trade," *International Studies Quarterly* 44(1), (2000), 31-50; Rukmani Gounder, "Political and Economic Freedom, Fiscal Policy, and Growth Nexus: Some Empirical Results for Fiji," *Contemporary Economic Policy* 20(3), (2002), 234-245; Abdiweli M. Ali and Hodan Said Isse, "Determinants of Economic Corruption: A Cross-Country Comparison," *Cato Journal* 22(3) (2003), 449-466.

23 Milton Friedman, "Preface" in *Economic Freedom of the World: 2002 Annual Report*.

The association of democracy and economic freedom is important to understand from both a business and economic perspective, but also from a political perspective. Corporations looking for an external market, if the association is correlated strongly enough, should be able to look at the democratic country and automatically assume that if the level of democracy in that country is high, the economic freedom in that country is also high.²⁴ The political perspective of this association is revealed from the Lipset's view. Building democracy in a country must also build enough economic freedom to maintain that democracy.²⁵

The association between economic freedom and political freedom (democracy) has long been theorized. However, perhaps due to the tendency to lump the two concepts together, limited empirical evidence exists to support any possible interrelationship. Farr, Lord and Wolfenbarger²⁶ find no evidence of a causal relationship between economic freedom and democracy, using pooled cross-sectional time-series data and employing Granger-causality methodology. Vega-Gordillo and Alvarez-Arce²⁷ - using Granger-causality analysis - find that economic freedom enhances democracy and at the same time more democratic institution provide for greater economic freedom. Kirmanoglu²⁸ using same methodology for 19 countries finds no relationship between economic freedom and democracy for 14 countries.

No studies, except Lawson and Clark²⁹, have tested the direction of the causal relationship between economic freedom and political freedom. Using panel data of 123 countries over the period 1970-2005 with five year interval demonstrated few instance of societies achieving relatively high political freedom without relatively high levels of economic freedom. Their study justifies the Hayek-Friedman hypothesis. The objective of this present study is to examine the Hayek-Lipset-Friedman hypothesis for South Asian countries. The country set is selected based on the availability of required data.

24 Daniel T. Griswold, "Trading Tyranny for Freedom: How Open Markets Till the Soil for Democracy," *Cato Daily Briefing* 26 (January 2004).

25 Shields, *Political Freedom and Economic Freedom*.

26 W. Ken Farr, Richard A. Lord, and J. Larry Wolfenbarger, "Economic Freedom, Political Freedom and Economic Well-Being: A Causality Analysis," *Cato Journal* 18(2) (Fall 1998), 247-262.

27 Manuel Vega-Gordillo and José L. Álvarez-Arce, "Economic Growth and Freedom: A Causality Study," *Cato Journal* 23 (2003), 199-215.

28 Hasan Kirmanoğlu, *Political Freedom and Economic Well-being: A Causal Analysis* (Istanbul: Faculty of Economics, Istanbul Bilgi University, 2000): 1-9, [database on-line] available at: www.iibuprita.suatuhanri.com/political-freedom-and-economic-well-being-a-causality-analysis.

29 Robert A. Lawson and J. R. Clark, "Examining the Hayek-Friedman Hypothesis on Economic and Political Freedom," *Journal of Economic Behavior & Organization* 74(3) (2010), 230-239.

3. Data and Methodology

The two variables used in this study are the index of economic freedom and the index of political freedom (democracy index). The measure of Economic Freedom index is proposed jointly by The Heritage Foundation and the Wall Street Journal which have tracked the march of economic freedom around the world. Data on this index is available since 1970 in five-year intervals until 1995, with annual data available for the 1996-2008 period. The index of economic freedom of each country is the average of ten components of economic freedom, with a grade assigned in each on a 0-100 scale with higher values indicative of higher levels of economic freedom. This paper uses the chain-linked version of the index as it is the most consistent series over time. Since this index has the most complete and largest annual longitudinal database available, the study uses the index over the 1995-2008 period for each country.

Freedom House has produced indexes of both political rights and of civil liberties annually since 1972. For the measure of political freedom or democracy this study follows common practice and used averages of the two indexes. The Freedom House index is measured on a 1-7 scale with lower values indicative of higher levels of democracy. The Freedom House index is criticized for its subjective nature, but is still widely used for empirical studies. Other measures of democracy exist, but the Freedom House indexes have the advantage of going back in time far enough to match up with the index of economic freedom.

The data set used in this study is the Index of Economic Freedom and the Freedom House scores for 1995-2008 period for South Asian Association for Regional Cooperation (SAARC) member countries. Data on these two indexes are not available for two SAARC countries – Bhutan and Maldives. Hence the empirical study has been done on the remaining five countries- Bangladesh, India, Nepal, Pakistan and Sri Lanka.

Since the purpose of this study is to offer evidence concerning the direction of causation between measures of economic freedom and democracy to examine the Hayek-Lipset-Freidman Hypothesis, the study first tests for the causality. The issue of causality is at the foundation of any study that examines an economic relationship.

A methodology that has been used extensively to provide sufficient explanation of the possible connections among variables is the Granger causality test. The Granger-causality tests methodology is employed here to test for the relationship between economic freedom and democracy. The study allows for tests to determine if economic freedom (EF) Granger-causes democracy (DEMO) and/or inversely democracy (DEMO) Granger-causes economic freedom (EF).

A formal test for Granger-causality running from EF to DEMO is:

$$DEMO_t = a_1 + \sum_{j=1}^t b_j DEMO_{t-j} + \sum_{k=1}^t c_k EF_{t-k} + v_t \quad (1)$$

A formal test for Granger-causality running from DEMO to EF performed using a symmetrical test is as:

$$EF_t = a_2 + \sum_{l=1}^t e_l EF_{t-l} + \sum_{m=1}^t c_m DEMO_{t-m} + \theta_t \quad (2)$$

A finding that only one of these two relationships is true provides support for a unilateral line of causation. However, if both are found to be true, support for a bilateral (or jointly determined) relationship is provided. If neither relationship is found to exist, the assumption is made that the two variables are unrelated and no empirical relationship can be justified.

The results from Granger-causality tests should only be interpreted as showing that prior changes in one variable add (or do not add) significantly to the explanation of the future value of another variable.³⁰ However, these Granger results do provide valuable information that can aid in the development of new theories or in the refinement of existing theories. Based on the results provided by the Granger-causality tests, this study draws an empirical relationship between the variables concerned.

In running empirical relationship tests between democracy and economic freedom, two control variables are included: per capita real gross domestic product (*PRGDP*) and the government's share to gross domestic product (*GE*). By controlling for *PRGDP*, the study can find how much the wealth of nation actually affects the relationship between democracy and economic freedom and *GE* will help to control for the government's level of consumption and spending as it pertains to the total wealth of the country. These variables have been chosen as they influence the relationship between democracy and economic freedom and are used by previous studies.³¹ Data on per capital real GDP for each country is available from

30 Farr, Lord, and Wolfenbarger, "Economic Freedom, Political Freedom and Economic Well-Being".

31 Jain-Gaung Shen, "Democratic Transformation and Economic Growth: An Empirical Alternative Approach," (Helsinki: College of William and Mary, 2002), (www.suomenpankki.fi/bofit_en/tutkimus/dp1302.pdf); Jenny A. Minier, "Democracy and

International Financial Statistics 2009 CD-ROM of IMF. The study has taken the per capita GDP real in PPP term. Government's share on GDP is collected from World Development Indicators 2009 CD-ROM of the World Bank. For this study each of the data series are taken in natural logarithmic form.

The empirical model will be estimated using panel data econometric techniques as suggested by the relevant tests. Recently panel data econometric techniques have gained popularity in analyzing the relationship between variables. Use of panel data in estimating common relationships across countries is particularly appropriate because it allows the identification of country-specific effects that control for missing or unobserved variables.³²

This study has applied the static panel data analysis technique to check the validity of the model of interest. The static model of panel data analysis is a general model like equation (3) below:

$$\ln(X_{it}) = a_0 + \alpha_t + \alpha_{ij} + \beta'_{it} Z_{ijt} + u_{it} \quad (3)$$

Where X_{it} is value of the explained variable(s) (*DEMO* and/or *EA*) of country- i in year $t = 1, 2, \dots, T$, and $Z_{ijt} = [z_{it}, z_{jt}, \dots]$ is the $1 \times k$ vector of the explanatory variables of the model. The intercept has three parts: one common to all years and country pairs, a_0 ; one specific to year- t and common to all pairs, α_t ; and one specific to the country pairs and common to all years, α_{ij} . The third intercept term α_{ij} is referred to as the country-specific unobserved effect. There is heterogeneity between countries with respect to their characteristics, which has an effect on the explained variable X_{it} . The unobserved characteristics these heterogeneous countries of study constitute an important issue that need to be addressed. The disturbance term u_{it} is assumed to satisfy the usual regression model conditions.

For estimation, restrictions are imposed on the parameters of the model. The standard single-year cross-section model imposes the restrictions that the slopes and intercepts are the same across country pairs, that is, $\alpha_{ij} = 0$ and $\beta_{ijt} = \beta_t$; and where a_0 and α_t cannot be separated

$$\ln(X_{ijt}) = a_{0t} + \beta'_{it} Z_{ijt} + u_{it} \quad (4)$$

Assuming that all the classical disturbance-term assumptions hold, the cross-section model is estimated by ordinary least square (OLS) for each year. The restrictions that

Growth: Alternative Approaches," *Journal of Economic Growth* 3 (1998), 241-66; Robert J. Barro, "Democracy and Growth," *Journal of Economic Growth* 1 (March 1996), 1-27.

32 Ruth A. Judson and Ann L. Owen, "Estimating Dynamic Panel Data Models: A Practical Guide for Macroeconomists," *Economic Letters*, 65 (1999), 9-15.

the cross-section methods impose yield biased results, because they do not control for heterogeneity between countries. The time-series analysis imposes analogous assumptions about the comparability of different observations in time and also yield biased results. The panel data methods explicitly take unobserved heterogeneity into account.

There are several types of panel analytic models - Pooled Ordinary Least Squares (POLS), fixed effects models (FEM), and random effects models (REM). To select the right estimator for the model various tests has been performed to check whether classical OLS assumptions hold for the model and remedies are suggested. Then the model has been estimated using appropriate method(s).

4. Empirical Results

4.1 Granger Causality Tests

The results of the Granger-causality tests of the relationship between democracy (DEMO) and economic freedom (EF) in both directions is presented in Table 1. The value of the F-statistics reject the null hypothesis of 'ln_EF does not Granger Cause ln_DEMO' at 10% level (here, $P=0.08$), but does not reject the null hypothesis of 'ln_DEMO does not Granger Cause ln_EF'. It means that there is unilateral Granger-causality between economic freedom and democracy. Economic freedom Granger-cause democracy, but democracy does not Granger-cause economic freedom in case of South Asian countries.

Table 1: Granger Causality Tests between Democracy and Economic Freedom

Pairwise Granger Causality Tests			
Null Hypothesis:	Obs	F-Statistic	Prob.
LN_DEMO does not Granger Cause LN_EF	50	0.987	0.425
LN_EF does not Granger Cause LN_DEMO		2.249	0.080

4.2 Economic Model of Democracy and Result of the Panel Data Analysis

The unilateral causal relationship between democracy and economic freedom established can be modeled for empirical estimation. Since economic freedom unilaterally Granger-cause democracy, an 'Economic Model of Democracy' can be built to investigate the pattern of the relationship and to test the 'Hayek-Lipset-Friedman Hypothesis'. Following a number of papers³³ economic variables like per

33 Ross E. Burkhardt and Michael Lewis-Beck, "Comparative Democracy: The Economic Development Thesis," *American Political Science Review* 88 (1994), 903-910; Muller, Edward N. "Economic Determinants of Democracy," *American Sociological Review*, 60 (1995), 966-982; John B. Londregan and Keith T. Poole, "Does High Income Promote Democracy?" *World*

capital real GDP (PRGDP) and government expenditure (GE) are incorporated as control variable in the basic regression model which is presented as follows:

$$DEMO_i = \alpha + \beta_1 EF_i + \beta_2 PRGDP_i + \beta_3 GE_i \quad (5)$$

where, *DEMO* = Democracy expressed in Index, *EF* = Economic Freedom expressed in Index, *RRGDP* = Per Capital Real GDP and *GE* = Government Expenditure.

In order to estimate equation (5), it can be presented in popular log-linear form. The attractive feature of the log-linear model is that the slope coefficient measures the elasticity of the dependent variable with respect to independent variable, that is, the percentage change in the dependent variable for a given percentage changes in the independent variable. Taking logarithms and adding time subscripts (*t*) and an error term (*u_{it}*) in equation (5) yields the estimating equation of Democracy:

$$\ln(DEMO)_{it} = \alpha_{it} + \beta_1 \ln(EF)_{it} + \beta_2 \ln(PRGDP)_{it} + \beta_3 \ln(GE)_{it} + u_{it} \quad (6)$$

This is the empirical model of this study. The model in equation (6) is the generalization of different types of specification to be used in the empirical analysis based on different estimation techniques of static panel data econometrics.

4.2.1 Test for Individual Effects

Before carrying out panel data estimations, it is required to choose the appropriate estimation techniques of the model and test for the characteristics of specification. The likelihood ratio tests for individual effects are performed to decide whether individual effects are treated as cross-section or period specific.

To test the presence of the individual effects the unrestricted specification of the model in equation (6) must be estimated first which is a two-way fixed effects estimator. The joint significance of all of the effects, as well as the joint significance of the cross-section effects (here, the country-specific effects) and the period effects, are tested separately. Three restricted specifications have been estimated: one with period fixed effects only, one with cross-section fixed effects only, and one with only a common intercept. All three sets of tests results are presented in Table 2.

Politics, 49 (1996), 1-30; Yi Feng and Paul J. Zak, "The Determinants of Democratic Transitions," *Journal of Conflict Resolution* 43 (1999), 162-177; Daniel Treisman, "The Causes of Corruption: A Cross-National Study", *Journal of Public Economics*, 76(3), (2000), 399-457; Griswold, "Trading Tyranny for Freedom"; Shields, *Political Freedom and Economic Freedom*. Ades and Tella, "The New Economics of Corruption," 496-515; Vega-Gordillo and Alvarez-Arce, "Economic Growth and Freedom," 199-215.

Table 2: Test of Individual Effect

Effects Test	Statistic	d.f.	Prob.
Cross-section F	48.37	(4,49)	0.00
Cross-section Chi-square	111.94	4	0.00
Period F	3.22	(13,49)	0.00
Period Chi-square	43.23	13	0.00
Cross-Section/Period F	14.06	(17,49)	0.00
Cross-Section/Period Chi-square	123.99	17	0.00

Results show that the joint significance of all these test using sums-of-squares (F -test) and the likelihood function (Chi-square test). The two statistic values and the associated p -values strongly reject the null that the effects are redundant. It indicates the presence of strong individual effects (country-specific effects) in the first case, period effects in the second case and joint significance of all of the effects in the third case.

4.2.2 Fixed Effects versus Random Effects – The Hausman Test

In the estimation, unbalanced panel data has been used, and individual effects are included in the regressions. So it has to be decided whether they are treated as fixed or as random. A central assumption in random effects estimation is that the random effects are uncorrelated with the explanatory variables. One common method for testing this assumption is to employ the Hausman³⁴ test to compare the fixed and random effects estimates of coefficients. The Hausman test indicates whether the specific effects are correlated or not with the explanatory variables.

To perform the Hausman test, first a model with random effects specification has to be estimated. The high value of Hausman Chi-square statistics (that is, low p -value) favours Fixed Effects Modelling and low value of Hausman Chi-square statistics (that is, high p -value) favour Random Effects Modelling. The result of Hausman Test statistics of Table 3 suggests that Random Effects Model (REM) is the appropriate panel data estimator for this study, since the Chi-square statistic ($\chi^2 = 0.00$) provides very high evidence in favour of the null hypothesis that there is no misspecification of the model with random effects.

34 Jerry A. Hausman, "Specification Tests in Econometrics," *Econometrica* 46 (1978), 1251–1272.

Table 3: Correlated Random Effects - Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	P-value
Cross-section random	0.000	3	1.000
Period random	0.000	3	1.000
Cross-section and period random	0.000	3	1.000

* Cross-section test variance is invalid. Hausman statistic set to zero.

* Period test variance is invalid. Hausman statistic set to zero.

4.2.3 Results of the Random Effects Estimation

The results of individual effect test (likelihood ratio) suggest use of Random Effects estimation techniques both in the cross-section and period specific. In the model of equation (6) the intercept terms α_{it} is considered to be joint country-specific and period-specific unobserved effects and β_{it} are the slope coefficients which are considered to be the same for all countries. Assuming that all the classical disturbance-term assumptions hold, the model is estimated by panel least squares. The estimated result is present in Table 4.

Table 4: The Random Effect Model

Dependent Variable: LN_DEMO				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LN_EF	-0.895	0.199	-4.490	0.000
LN_PGDP	-0.486	0.203	-2.388	0.021
LN_GE	-0.012	0.104	-0.120	0.905
C	8.504	1.829	4.648	0.000
Effects Specification			S.D.	Rho
Cross-section random			0.377	0.915
Idiosyncratic random			0.115	0.085
Weighted Statistics				
R-squared	0.379	Mean dependent var		1.312
Adjusted R-squared	0.192	S.D. dependent var		0.131
S.E. of regression	0.117	Sum squared resid		0.734
F-statistic	2.029	Durbin-Watson stat		0.638
Prob (F-statistic)	0.027			

Results show that the coefficient of the economic freedom \ln_EF is negative and highly significant ($p = 0.00$). Since the higher democracy index represents lower level of democracy in a country, the negative value of the coefficient of the economic freedom index implies that the democracy in the South Asian zone improves with more economic freedom. This result based on the South Asian region is consistent with the Hayek-

Lipset-Friedman Hypothesis that a relatively high level of democracy cannot exist without a relatively high level of economic freedom. The value of the coefficient represents elasticity or the degree of responsiveness of the economic freedom on democracy in the South Asian region is less than one (0.896), meaning that democracy improves in this region less proportionately to economic freedom.

The expansion of economic freedom will bring, in turn, greater democracy. The more a country advances economic freedom, the more support there will be and the more pressure there will be for a considerable degree of democracy.³⁵ The factor that contributes to development of democracy in South Asian region is the gradual advance towards more economic freedom, and case proves the 'Hayek-Lipset-Friedman hypothesis' that economic freedom is the necessary condition for democracy.

With respect to control variables, while there is some change in the strength of the relationships, all relationships remain generally strong and act in same (hypothesized) direction.³⁶ Thus in this study the wealth of the nation presented by per capital real GDP (*PRGDP*) and the governments level of consumption (*GE*) do have effects on democracy.

The negative and highly significant ($p=0.02$) coefficient of the per capita real GDP variable \ln_PRGDP implies that with the increase in real income a country moves toward democracy. It means that economic prosperity leads to democratization of politics³⁷ and also proves to be significant that higher growth rates foster political freedom³⁸. The income elasticity of democracy in South Asian region is less than one (0.487) implying that with the economic prosperity democracy responses less than proportionately.

The sign of the coefficient of another control variable \ln_GE is negative (as expected) meaning that the size of the government measured by government spending to GDP ratio improves democracy of a country. The high p -value (0.904) of the coefficient of \ln_GE implies that like many other countries (Hong Kong, Taiwan, Israel and China) the level of government spending does not have any significant effect on the level of democracy in South Asian countries. It is might be the case that South Asian countries are long away from the ideal proportion of the government spending for true democracy, in other words, from the optimum size of the government.

35 Friedman, "Preface" in *Economic Freedom of the World: 2002 Annual Report*.
 36 Shields, *Political Freedom and Economic Freedom*.
 37 Jagdish Bhagwati, *In Defense Of Globalization* (New York: Oxford University Press, 2007).
 38 Lipset, "Some Social Requisites of Democracy".

5. Conclusions

Democracy or political freedom means freedom from coercions by arbitrary power including the power exercised by the government. The question asked in this study was whether the economic freedom helps to explain the level of democracy or democracy explains the economic freedom. The empirical result shows that Hayek-Lipset-Friedman hypothesis stands up fairly well and finds no instance of combining high level of democracy without high levels of economic freedom in the South Asian region. South Asian economic freedom is proved as a necessary condition for democracy but clearly it is not a sufficient condition.³⁹

Economic prosperity fosters democracy in this region but less proportionately. With the increase in income, people's access to social and power structures also increases in South Asia. So to ensure the 'government of the people, by the people and for the people' economic emancipation of the people of the South Asian countries is required first. Economic solvency of the people in this region allows them better access to education and knowledge and hence political consciousness and the chance to pressure for even more democracy. Like many other studies on other countries, government spending is not found to have significant impact on the level of democracy in South Asian countries. It means public fund does not flow to those institutions that would promote democracy in this region.

The unavailability of annual data for a longer period of time determined the use of a panel data set of five SAARC countries over a period of only 14 years for this study. Further studies would address the issue of time span exploring changes in the relationship between democracy and economic freedom. The use of indexes constructed based on a broader range of indicators, both qualitative and quantitative, for many countries would provide some new dimension of the relationship between democracy and economic freedom.

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39 Friedman, *Capitalism and Freedom*.

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