

An Examination of the Foundations of Economic Freedom:  
Cluster-Segmentation Analysis of the Judeo-Christian Socio-  
Economic Model

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It has been proffered in The Heritage Foundation's *2002 Index of Economic Freedom* (Index) that the degree of economic freedom that is present within any given country's socio-economic policies and activities will directly affect the standard of living of that country's citizens. In that regard, it has been asserted that "most of the world's economically free countries are those with a rule of law and system of economic liberty inherited or adopted from the Anglo-Saxon capitalist model" (Feulner, 2002, p. xiii). The recent trends reported in the Index support this assertion: "North America and Europe remain the world's most economically free [region], containing six of the top ten freest countries....On net, the region shows a gain in economic freedom by four" (O'Driscoll, Jr., Holmes, and O'Grady, 2002, p. 3). We propose that a more accurate assertion would be that the foundations of economic freedom can be better explained as a product of "a rule of law and system of economic liberty inherited or adopted from the..." Judeo-Christian socio-economic model. This study examines this assertion with the use of cluster analysis using the following variables: Country Economic Freedom Index Rating, Country GDP Per Capita, Country Life Expectancy, and Country Predominant Religion.

*Literature Review*

This literature review focuses upon the relationship among the study variables in light of: a) the structure of the *Index of Economic Freedom*, b) the foundational criteria used to score each country's individual rating, c) the socio-economic theory that under girds the Index, d) the Judeo-Christian socio-economic worldview, and e) how these elements are explained and predicted by the socio-economic philosophy contained within a Judeo-Christian socio-economic worldview.

*Index of Economic Freedom.* The Heritage Foundation *Index of Economic Freedom* has, as its stated objective, the goal to produce “a systematic, empirical measurement of economic freedom throughout the world” (O’Driscoll, et al. 2002, p. 1). Beach and O’Driscoll, Jr. (2002) define economic freedom as “the absence of government coercion or constraint on the production, distribution, or consumption of goods and services beyond the extent necessary for citizens to protect and maintain liberty itself” (p. 60). Thus, the primary focus of the Index’s rankings is on the level of “government interference in the economy” that “influence[s] the institutional setting of economic growth” (O’Driscoll et al. p. 1) as a product of 10 critical foundational criteria that, when viewed comprehensively, provide “an empirical photograph of a country’s economic freedom” (p. 1) leading to better living standards for its citizens. The Index recognizes that governments intervene through the creation of socio-economic political-legal structures that can either assist free market competitiveness or can impose conditions of central control that detract from free-market activity and interfere with the use and transferability of private property. While the Index admits some level of governmental intervention is necessary “in order for the citizens of a community or nation to defend themselves, promote the evolution of civil society, and enjoy the fruits of their labor” (Beach and O’Driscoll, p. 60); it favorably recognizes (with ratings of “free” or “mostly free”) those governments that sufficiently limit

their interventions to frameworks and processes that assist free market competitiveness and it unfavorably labels (with ratings of “mostly unfree” or “repressed”) those governments that overly intervene through central control mechanisms and policies detracting from free market competitiveness.

*Foundational criteria of the Index of Economic Freedom.* The 10 critical foundational criteria upon which the Index bases its ratings are: “Trade Policy, Fiscal Burden of Government, Government Intervention in the Economy, Monetary Policy, Capital Flows and Foreign Investment, Banking and Finance, Wages and Prices, Property Rights, Regulation, and Black Market” (O’Driscoll et al. 2002, p. 1). In the 2002 Index, it has been proffered by Hoskins and Eiras (2002) that “Property rights” (understood from a broad socio-economic policy perspective) is the central element, or criterion, around which all of the other criteria revolve. They conclude that:

The extent to which governments carry out their responsibility to respect and protect property rights does much to determine the extent to which economic growth is possible and individuals can use freely what is theirs and enjoy the things that science, technology, and innovation can deliver to improve their lives. (p. 37)

All of the other criteria are focused on regulations and activities (both governmental interventions and individual responses) that revolve around and affect the ability of individuals to “make the most efficient use of what they own, which in turn promotes economic growth and prosperity for all” (Hoskins and Eiras, p. 37). This proposition is supported by Beach and O’Driscoll (2002) who state, “One overriding reality characterizes the world: To varying degrees, governments realign through coercion the choices that ordinary people make with respect to their persons and property” (p. 60). Therefore, it can be concluded that the other nine

criteria, in summary, affect the individual use and transferability of property resources, which is the primary measurement of socio-economic freedom as a predictor of economic growth and prosperity.

*Underlying socio-economic philosophy of the Index of Economic Freedom.* The “free” and “mostly free” designations of the *2002 Index of Economic Freedom* rest heavily upon a socio-economic philosophy that emphasizes the role of the individual operating in a free-market competitive environment. This underlying philosophy is explained well by Adam Smith’s model of individual self-interest and Hayek’s (1994) conceptualization of “competitive individualism.”

Smith’s model rests in viewing individual self-interest as the catalyst that drives a nation toward socio-economic competition whereby the systematic laws of the market (demand, supply, and pricing) will naturally counter-balance self-interests, creating alignment and an outcome “which is most agreeable to the interests of the whole society” (Smith, as cited by Heilbroner, 1999, p. 54).

Hayek (1994) identifies competitive individualism as a system in which, “the forces of competition, as a means of coordinating [individual] human efforts.... Is the most efficient method known” (p. 41) to create, sustain, and grow socio-economic productivity. According to this model, “the holder of coercive power...confines himself in general to creating conditions under which the knowledge and initiative of individuals are given the best scope so that *they* can plan most successfully” (p. 40); the authority’s role is to guide, not control, individual action. Hayek does recognize the vital and required role of “a carefully thought-out legal framework” and a socio-economic structure that admits of the benefit of coercive interventions through government action “which may very considerably assist its [competition’s] work” (p. 42). However, it must be stressed that the governing authority’s primary role is to create an objective

political-legal structure [“without reference to time and place or particular people” (p. 83)] and that governmental intervention must be limited to those instances where “it is impossible to create the conditions necessary to make competition effective” (p. 41) through the free market system. The Heritage Foundation Index rankings of “free” and “mostly free” are solidly based upon these foundational philosophical emphases on governmental restraint, individual self-interest, and free market competitive individualism.

In contrast, the “mostly unfree” and “repressed” designations of the *2002 Index of Economic Freedom* rest heavily upon a philosophy that emphasizes imposition of governmental socio-economic intervention and restraint of the role of the individual and free-market competition. This socio-economic philosophy is explained well by Hayek’s (1994) commentary on “socialist collectivism.”

Hayek (1994) identifies socialist collectivism in action as “the abolition of private enterprise, of private ownership of the means of production, and the creation of a system of ‘planned economy’ in which the entrepreneur working for profit is replaced by a central planning body” (p. 37). According to this view, the actions of unrestrained and uncoordinated individuals are insufficient to create, maintain, and grow an efficient and effective socio-economic system. This view stresses that, “a rational utilization of resources requires *central* direction and organization of all our activities according to some consciously constructed ‘blueprint’” that flows out of a “single plan, laying down how the resources of society should be...directed to serve particular ends in a definite way” (pp. 40, 41). The Heritage Foundation Index rankings of “mostly unfree” and “repressed” are grounded upon these foundational philosophical emphases on the restraint of individual socio-economic competitive action through the imposition of governmental interventions and central planning and control.

*Summary of the Judeo-Christian socio-economic model.* Socio-economics viewed from the Judeo-Christian model perspective is practiced with an attitude of acknowledgement that God is, that He has placed into effect observable standards/principles of socio-economic interaction that are designed to encourage activity toward the common good, and that individual's endeavors in the socio-economic realm should reflect His presence by practicing and applying these standards/principles.

Human beings were made in the image of God, to reflect His character; therefore, we are called to reflect His creative activity through our own creativity—by cultivating the world, drawing out its potential, and giving it shape and form. All work has dignity as an expression of the divine image. (Colson and Pearcey, 1999, p. 384)

As a result, this open system model provides that economics should be practiced with a view toward the stewardship responsibilities of man to God and in turn to fellow-mankind that encourage economic growth and prosperity through an absolute morality-based socio-economic philosophy.

Scripture provides support for the Judeo/Christian worldview approach to business and economics that emphasizes the intentional restraining of self-interest with the specific aim of working toward the common good. “Let him labor, working with his hands what is good, that he may have something to give him who has need” (Ephesians 4:28). Acts 20:35 reads, “I have shown you in every way, by laboring like this, that you must support the weak. And remember the words of the Lord Jesus, that He said, ‘It is more blessed to give than to receive;’” and Luke 3:9-11 adds,

And even now the axe is laid to the root of the trees. Therefore every tree which does not bear good fruit is cut down and thrown into the fire.’ So the people asked him, saying,

‘What shall we do then?’ He answered and said to them, ‘He who has two tunics, let him give to him who has none; and he who has food, let him do likewise.

*The connection between the Index of Economic Freedom and the Judeo-Christian socio-economic model.* As stated previously, Hoskins and Eiras, (2002) proffer that “Property rights” (understood from a broad socio-economic policy perspective) is the central element, or criterion, around which all of the other criteria revolve in the *Index of Economic Freedom*; and that all of the other criteria in the *Index* are focused on regulations and activities (both governmental interventions and individual responses) that revolve around and affect the ability of individuals to “make the most efficient use of what they own, which in turn promotes economic growth and prosperity for all” (Hoskins and Eiras, p. 37). This clearly demonstrates that the functional role that private property/capital plays in any given socio-economic system is the key variable that determines economic freedom and prosperity. This assertion is essentially Judeo-Christian in its foundations.

The political-legal, socio-economic foundations of the economic freedom model outlined in the *Index* are consistent with Biblical Judeo-Christian teachings that espouse the Ten Commandments as the informational centerpiece of political-legal, socio-economic activity. The Ten Commandments (Exodus 20:1-17) present a governing framework guiding individual activity that has a three-fold focus: a) the relationship of individuals to God (vs. 1-11), b) the relationship of individuals to property - private property is sanctioned by God (vs. 15, 17), and c) the relationship of individuals to each other (vs. 12, 13, 14, 16, and 17). Exodus 22:1-15 expounds upon the concept of private property and provides (within a Judeo-Christian framework) for a political-legal, socio-economic system that “respects and protects property rights;” and, which in turn “does much to determine the extent to which economic growth is

possible and individuals can use freely what is theirs and enjoy the things that science, technology, and innovation can deliver to improve their lives” (Hoskins and Eiras, 2002, p. 37).

In summary, the criteria items contained in the Heritage Foundation’s *2002 Index of Economic Freedom* rankings, for the most part, are produced out of a Judeo-Christian model philosophy that encourages a Lockean approach to government restraint and protection of individuals’ inherent rights and freedoms, including those related to the use, possession and enjoyment by individuals of private property (Hoskins and Eiras, 2002). As other countries around the world (that do not come out of the Judeo-Christian socio-economic tradition) adopt this socio-economic model, the result will be greater and greater socio-economic freedom, growth, and prosperity as indicated by the recent global trend toward economic freedom documented in The Heritage Foundation’s *2002 Index of Economic Freedom*.

### *Methodology*

Cluster analysis (also called classification analysis, Q analysis, or numerical taxonomy) is a family of multivariate techniques used to group objects possessing similar characteristics (Churchill and Iacobucci, 2002; Hair, Anderson, Tatham and Black, 1998; Malhotra, 1999). The object is to classify objects into relatively homogeneous clusters. A variety of algorithms exist to accomplish the task. All of the algorithms attempt to minimize the distance between observations within individual clusters (striving for relative homogeneity) while maximizing the distance between clusters (striving for relative heterogeneity). Cluster analysis has been used to segment markets, perform new product analysis, analyze market structure, determine which markets to use as test markets, and for customer relationship management.

This study utilizes SPSS’s TwoStep™ Cluster routine. The routine was chosen for its ability to develop clusters using both nominal and metric level data and to automatically

determine the appropriate number of clusters. A likelihood distance measure is used.

Assumptions for the procedure include: the variables are independent, the metric variables have a normal (Gaussian) distribution, and the nominal variables have a multinomial distribution. The procedure has been shown to be robust, even when the assumptions are violated (Chiu, Chen, Wang, and Jeris, 2001). Schwarz's Bayesian Criterion (Schwarz, 1978) was used to determine the appropriate number of clusters because of consistency questions raised about the Akaike Information Criterion (Kashyap, 1980).

The CIA's fact book (Central Intelligence Agency, 2003) was used to collect economic, demographic, and religious data for each of the 156 countries included in the Heritage Foundation's Index of Economic Freedom (The Heritage Foundation, 2003). Specific data included predominant religion, gross domestic product per capita, and life expectancy. The data was then included with the Index of Economic Freedom to perform the cluster analysis.

### *Results*

Table 1 presents Schwarz's Bayesian Information Criteria (BIC), BIC change, ratio of BIC changes and ratio of distance measures for 1 to 15 clusters. BIC continued to decline from one through five cluster models. However, examination of the ratio of BIC changes and the ratio of distance measures indicates that the improvement from three to five cluster levels is not worth the additional complexity. Both ratios reached their respective maximums with two clusters. Hence, the most appropriate cluster level is two clusters.

Table 2 gives the cluster distributions and Table 3 gives the cluster centroids. Of the 156 countries, 55.8 % were grouped into Cluster 1, 42.9 % were grouped into Cluster 2, and 1.3 % were excluded. Of the 154 grouped countries, 56.5 % were in Cluster 1 and 43.5 % were in Cluster 2. Examination of the cluster centroids in Table 3 indicates that Cluster 1 countries enjoy

more economic freedom (index of economic freedom of 2.726 versus 3.359), have a higher standard of living (gross domestic product per capita of \$10,723 versus \$4,897), and a longer life expectancy (66.5 years versus 64.9 years).

Table 4 presents cluster frequencies and percentages by predominant religion. Cluster 1 contained 100 percent of the countries whose primary religions are Protestant, Catholic, Jewish, and Indigenous, and 30 % of the Buddhist countries. Cluster 2 contained 100 percent of the countries whose primary religions are Christian Orthodox, Muslim, Hindu, and Non-Religious, and 70 % of the Buddhist countries.

### *Analysis and Conclusions*

Some conclusions can be drawn from the analysis. A Judeo/Christian tradition was shown to be associated with greater economic freedom, higher per capita GDP, and longer life expectancy. Results which classify 100 % of the countries, whose predominant religion is Protestant, Catholic or Jewish, into the cluster associated with greater economic freedom, higher per capita GDP, and a higher life expectancy is unlikely to be a statistical abnormality. A similar conclusion can be drawn from the classification of 100 % of the countries whose predominant religion is Muslim, Hindu and Non-religious into the cluster associated with less economic freedom, lower per capita GDP, and a shorter life expectancy.

However, the analysis also raises many unanswered questions. For example, is the fact that two clusters ended up being the optimal number of clusters significant or is it a statistical abnormality? Why are 100 % of the countries whose predominant religion is indigenous and 30 % of the Buddhist countries grouped in Cluster 1 associated with more economic freedom, a higher standard of living, and a higher life expectancy? Could Hong Kong, whose predominant religion is indigenous, has the most economic freedom, and has one of the highest per capita

GDP's, be skewing the results? Could countries, whose predominant religion is Buddhist but still have a significant number of Christians, be biasing the results? Why are 100 % of the countries, whose predominant religion is Christian Orthodox, grouped in Cluster 2 associated with less economic freedom, a lower per capita GDP, and a lower life expectancy? Is the reason statistical, historical, political, or theological? The answers to these and many more questions must be left for further analysis.

#### *Weaknesses and Suggestions for Further Research*

Because the study was exploratory/descriptive in nature, it suffers from a number of weaknesses. First, using predominant religion has inherent weaknesses. In some instances, predominant religion is not the majority religion (for example, the predominant religion might include only 40 % of the population). In other instances, revealed religious preferences can differ significantly from preferences inferred from individual actions. Second, cluster analysis provides groupings but does not determine causality. And lastly, cross sectional data was used. Cross sectional time series data would be more robust. Future research needs to explore alternative measures of religious beliefs, especially those revealed by actions. Also, future researchers need to develop more sophisticated causal models, ideally using cross sectional time series data.

**Table 1: Schwarz's Bayesian Information Criteria (BIC), BIC Change, Ratio of BIC Changes, and Ratio of Distance Measures**

<b>Number of Clusters</b>	<b>Schwarz's Bayesian Criterion (BIC)</b>	<b>BIC Change<sup>a</sup></b>	<b>Ratio of BIC Change<sup>a</sup></b>	<b>Ratio of Distance Measures<sup>c</sup></b>
1	928.011			
2	782.626	-145.386	1.000	1.786
3	732.289	-50.337	0.346	1.340
4	712.638	-19.651	0.135	1.087
5	700.224	-12.414	0.085	1.507
6	715.704	15.481	-0.106	1.475
7	748.92	33.216	-0.228	1.094
8	785.341	36.421	-0.251	1.202
9	827.503	42.162	-0.290	1.379
10	877.454	49.952	-0.344	1.279
11	931.888	54.434	-0.374	1.025
12	986.71	54.822	-0.377	1.137
13	1043.425	56.714	-0.390	1.015
14	1100.347	56.923	-0.392	1.361
15	1160.876	60.529	-0.416	1.472

a. The changes are from the previous number of clusters in the table.

b. The ratios of changes are relative to the change for the two cluster solution.

c. The ratios of distance measures are based on the current number of clusters against the previous number of clusters.

**Table 2: Cluster Distribution**

<b>Cluster</b>	<b>N</b>	<b>% of Combined</b>	<b>% of Total</b>
Cluster 1	87	56.50%	55.80%
Cluster 2	67	43.50%	42.90%
Combined	154	100%	98.70%
Excluded Cases	2		1.30%
Total	156		100%

**Table 3: Cluster Centroids**

<b>Cluster</b>	<b>Index of Economic Freedom</b>		<b>Gross Domestic Product per Capita</b>		<b>Life Expectancy</b>	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
Cluster 1	2.7259	0.64825	10722.76	9582.824	66.5211	13.67071
2	3.359	0.58114	4897.46	4943.151	64.8790	9.27166
Combined	3.0013	0.69357	8188.38	8399.558	65.8067	11.9498

**Table 4: Cluster Frequencies and Percentages by Predominant Religion**

<b>Predominant Religion</b>	<b>Cluster 1</b>		<b>Cluster 2</b>	
	<b>Number of Observations</b>	<b>Percentage</b>	<b>Number of Observations</b>	<b>Percentage</b>
Protestant	30	100.0%	0	0.0%
Catholic	46	100.0%	0	0.0%
Christian Orthodox	0	0.0%	12	100.0%
Jewish	1	100.0%	0	0.0%
Muslim	0	0.0%	41	100.0%
Indigenous	7	100.0%	0	0.0%
Buddhist	3	30.0%	7	70.0%
Hindu	0	0.0%	5	100.0%
Non-religious	0	0.0%	2	100.0%

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