

*Interdisciplinary Journal of
Research on Religion*

Volume 14

2018

Article 7

Economic and Religious Freedom:
One or Divisible?

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Abstract

Previous empirical work has shown that economic freedom increases standards of living, along with other positive aspects of life such as health and literacy. There has yet to be an extensive study, however, of any causal relationship between economic and religious freedom. The research presented here makes use of longitudinal and cross-sectional data on both economic and religious freedom to study the causal relationship. While no definitive causality is identified in these data, the results further the literature on economic freedom and suggest areas for further study of this and all personal liberties.

MOTIVATION

Researchers have long studied how economic freedom increases the standard of living for everyone and how a higher standard is correlated with other positive aspects of life such as health and literacy. Hall and Lawson (2013) reviewed empirical literature going back to 1996 and found hundreds of studies showing economic freedom corresponded to such positive outcomes. Economic freedom, however, may not be an end in itself but rather one part of multiple personal liberties: economic, political, and religious. The research presented here seeks to learn more about the relationship between economic and religious freedom. Are these freedoms one and the same or separable? Does economic freedom bring about religious freedom or depend upon it?

Rogge (1963: 4) argues that support for any freedom, and economic freedom in particular, should rely on moral principles. He writes, “The most important part of the case for economic freedom is not its vaunted efficiency as a system for organizing resources, not its dramatic success in promoting economic growth, but rather its consistency with certain fundamental moral principles of life itself.” If so, the study of economic freedom should not limit itself to outcomes but include analysis of its relationship with other personal rights or liberties.

Richards (2016: 74) argues that religious and economic freedom “should not be separated” and that a thorough empirical study of any causal relationship has not been completed. He writes, “I am unaware of a rigorous study tying religious and economic freedom together, but a preliminary comparison suggests that, with a few exceptions, such as Singapore, economic and religious freedom correlate at the extremes,” and that “the tight correlation at the extremes suggests that the two freedoms hang together.” Joseph Connor, in his interview by Ayers (2016), also argues that economic freedom should not be separated from religious or political freedom, stating “To really flourish you need all three.”

The research presented here makes use of longitudinal and cross-sectional data on both economic and religious freedom to explore the causal relationship between the two. Three statistical processes are used to examine the hypothesis that economic freedom is positively dependent on religious freedom. Only limited statistical support is found in these broad data sets of economic and religious freedom to support a hypothesis on the causal relationship between these two liberties. Specifically, there is no indication that a reduction in religious freedoms reduces or slows the rate of change in economic freedom, yet economic freedom is on the rise in countries that are also increasing religious freedoms.

The report is organized as follows. The next section considers some previous explanations for the relationship between economic and religious freedom, Section 2 describes the data and methodology used here, Section 3 presents the

results of the study, and Section 4 concludes with possibilities for further work and data collection.

1. PREVIOUS RESEARCH

As cited earlier, researchers have identified a correlation between economic and religious freedom, but a causal relationship has not been determined. The relationship between economic and political freedom is more firmly established. Friedman (1961) argued that economic freedom was necessary but not sufficient for political freedom. He claimed,

Historical evidence speaks with a single voice on the relation between political and economic freedom. I cannot think of a single example at any time or any place where there was a large measure of political freedom without there also being something comparable to a private enterprise market form of economic organization for the bulk of economic activity (21).

To this date measures of economic freedom include indicators of political freedom, such as judicial independence and the absence of military interference in rule of law and politics. The inclusion of these variables suggests political liberty brings about economic liberty. The data on economic freedom used for this study (described below) includes such indicators of political freedom but no similar measures of religious freedom.

Anecdotal evidence suggests that greater economic freedom may bring about religious freedom. Gregg (2016) uses China as an example of where economic freedom has increased dramatically and corresponded with a call for greater freedom to worship as one pleases. Gregg cites evidence that religious leaders are affecting government policy towards Christianity in the wealthy province of Zhejiang. He writes, “The fact that many evangelical preachers in this economically successful and increasingly Christian Chinese province are publicly telling the authorities to back off does tell us something. It tells us that once the freedom genie is out of the bottle, it is very hard to put it back in” (8). Such anecdotes suggest that where economic freedom is established, religious freedom will result.

In contrast, a theoretical body of work suggests that religious freedom is a necessary condition for economic freedom. That is, religious freedom causes economic freedom to grow and bring about the higher standard of living and other beneficial outcomes. Gill and Shah (2013) explore the question as to whether religious freedom is an independent variable or dependent variable in any model of “societal flourishing” but do not reach a definitive conclusion. They identify eight causal pathways from previous social theorists. Each pathway is as follows:

1. The Ideas Pathway: “Religious freedom makes it possible for religious ideas that promote economic development and political freedom to take hold and shape society for the better” (8).
2. The Skills Pathway: “Religious groups often promote organizational and other economically and politically useful human capital skills among their members” (12).
3. The Charity or NGO Pathway: Free, private religious charities and NGOs can mitigate inequities in society.
4. The Migration Pathway: Immigrants are attracted to areas with greater religious freedom and increase the level of human capital employed in a society.
5. The Bundled Flourishing Pathway: Religious activity is a form of economic activity, and thereby promotes economic productivity.
6. The Bundled Liberties Pathway: Advances in religious liberty “facilitate an environment of wider freedom that is crucial to economic growth and democratization” (24).
7. The Networks Pathway: “The freedom of religious groups encourages the formation of independent associations, networks, and social capital, which contributes to economic activity” (26).
8. The Stability Pathway: Religious freedom mitigates social strife which if present, retards economic development.

The first four of these eight “pathways” or relationships suggest that religious freedom leads to economic freedom, while the second four suggest that economic and religious liberty are not separable. Gill (2013) further reviews causal relationships between economic and religious liberty. The author specifically defines here a “religious economy model,” whereby religious practices themselves are economic activity. The author demonstrates that the economic activity of erecting religious buildings and hiring clergy increases the standard of living, concluding that “religious freedom does add directly to the overall economic well-being of a society” (9).

In neither the pathway relationships nor in the religious economy model is there a suggestion that increasing economic liberties will bring about religious freedom. All that is left, therefore, as a possible causal relationship is one where religious freedom is an independent variable in a model of “societal flourishing” that includes the positive outcomes of economic freedom. It remains a possibility that economic and religious freedoms are unrelated or both dependent on some other related causal factors. This third factor is unlikely to be measured in any empirical study, leading to spurious correlations. Additionally, there may be time lags in any causal relationship. The statistical methods employed in this study are designed to help identify these other possible relationships.

Previous empirical studies found that religious freedom was an additional explanatory factor with economic freedom in explaining a country's standard of living as measured by gross domestic product per capita. Using cross-sectional data for 123 countries, Alon and Chase (2005: 405) found that while "the impact of economic freedom on the level of individual income seems to trump that of religious and other social and political freedoms...it is in a nation's long-run economic interest to expand [both]." The authors demonstrate in the data strong collinearity between economic and religious freedom but use step-wise regressions to show increased explanatory power using both variables. It may still be the case, however, that both variables are not exogenous; that is, that one of these freedoms is determined by the other.

Using country-level, cross-sectional data from the 1990s, Hylton, Rodionova, and Deng (2011) studied the relationship between economic and religious freedom and found that laws and practices "burdening" religion enhance corruption and reduce economic growth. This finding is consistent with the Ideas, Bundled Liberties, and Stability pathways discussed above. The data do not, however, show whether changes in such liberties over time cause a change in one or the other. Grim, Clark, and Snyder (2014) find a causal relationship between religious freedom and economic development. Using data on religious restrictions, the authors find a negative relationship between such restrictions and growth in a country's gross domestic product. A further negative relationship is shown between governmental restrictions on religious activities and an index of a country's competitive position in the world economy. Some countries that limit both economic and religious freedom, however, may experience rapid economic growth and competitive factors such as advancements in technology. The research presented here uses the same data on religious restrictions to study the relationship further in the broader concept of economic freedom.

The above review of theoretical questions and empirical studies regarding the relationship between economic and religious freedom is inconclusive but suggestive that the relationship is similar to that between political and economic freedom. As noted, most measures of economic freedom include political liberties. Thus, a change in the economic freedom score of a given country will occur when there is a change in the political liberties of that country. The economic model tested here is therefore whether or not changes in religious freedom lead to changes in economic freedom. This hypothesis can be written as

$$\Delta \text{ economic freedom} = \beta(\Delta \text{ religious freedom}, \Delta X) \quad (1)$$

where the expected sign on the coefficient for the religious freedom variable is positive and X is a matrix of the many other factors affecting economic freedom,

including measures of political freedom. The next section reviews the data and statistical methods used to test this question modeled in Equation (1).

2. *ECONOMIC AND RELIGIOUS FREEDOM DATA*

The research presented here makes use of longitudinal and cross-sectional data on both economic and religious freedom to explore the causal relationship between the two. For religious freedom, the data come from the Pew Research Center's annual study of global restrictions on religion (Pew Research Center 2017). The Pew study produces a data set which includes Pew's Government Restrictions Index (GRI), a measure of "government laws, policies and actions that restrict religious beliefs and practices."

The latest Pew data has 20 indicators of government restrictions on religion from 2007 to 2015 for 198 countries. The indicators include government bans on particular faiths, prohibitions against conversion, or limits to preaching. Each indicator is added together to create the GRI score. A high GRI score indicates more restrictions and thus less religious freedom.

For economic freedom, this study makes use of the Economic Freedom of the World Report from the Fraser Institute (Gwartney, Lawson, and Hall 2016). This measurement of economic freedom has been used previously in hundreds of economic studies and includes observations based on the size of government in a particular country, the strength of property rights, and freedom to trade, among others. The current economic freedom scores seek to measure "the degree to which countries rely on voluntary exchange and market institutions to allocate resources." The data set goes back to 1980 and covers 159 countries in the most recently reported year of 2014.

Gwartney, Lawson, and Hall (2016) measure the degree of economic freedom across five areas: Size of Government, Legal System and Security of Property Rights, Sound Money, Freedom to Trade Internationally, and Regulation. Each of these five areas has 24 separate measures, some of which have sub-components, which are scored on a scale from 0 to 10 to "reflect the distribution of the underlying data." The five area ratings are then averaged to derive the summary economic freedom index (EFI), or rating, for each country in each year. A high EFI score indicates more economic freedom.

3. *RESULTS*

Given that the data sets on economic and religious freedom described above are ordered and not normally distributed, standard regression analysis cannot be used as a test of the relationship shown in Equation (1). The most immediate and simplest response to this type of data is to use transformations (Babones 2014).

Multiple statistical processes are used with the changes in the freedom scores described in Section 2 to examine Equation (1) and the hypothesis that economic freedom is positively dependent on religious freedom. Since correlation does not imply causation, it is necessary to study more than just representative scores on economic or religious freedom across countries at any one point in time. This study employs time series analysis to study trends in a country's score for both of the above studies, along with probit regression analysis. The latter approach looks at the probability of economic or religious freedom for a given indicator variable rather than just correlation.

a. Descriptive Statistics and Correlations

Table 1 provides descriptive statistics for EFI and GRI scores for 153 countries covered in both data sets between the year 2007 and 2014. Both the average EFI and GRI scores are rising over this sample period. During this period the average score for economic freedom rose from 6.83 to 6.87, while the average GRI score rose from 2.44 to 2.98. This increase indicates that countries are experiencing greater economic freedom while restrictions on religious practice are also on the rise, or that religious freedom is on the decline. Since the GRI score is additive, it may also be the case that the Pew researchers are identifying restrictions on a religious liberty faster than indicators of economic freedom are changing. As shown in Table 1, the average change in economic freedom (*Delta EFI*) was only 0.04, compared to 0.54 for the average change in religious freedom (*Delta GRI*).

Table 1: Descriptive Statistics for the Economic Freedom scores (EFI) and Government Restrictions index (GRI) in 153 countries between 2007–2014

	<i>EFI 2007</i>	<i>EFI 2014</i>	<i>GRI 2007</i>	<i>GRI 2014</i>	<i>Delta EFI</i>	<i>Delta GRI</i>
Mean	6.8285	6.8661	2.4346	2.9804	0.0376	0.5458
Standard Error	0.0749	0.0689	0.1602	0.1680	0.0337	0.0738
Median	6.96	7.01	1.7	2.6	0.04	0.6
Mode	7.59	7.98	0.3	0.8	0.08	0.5
Standard Deviation	0.9271	0.8518	1.9812	2.0783	0.4164	0.9123
Sample Variance	0.8595	0.7256	3.9252	4.3193	0.1734	0.8322
Range	5.86	5.74	8	8.6	3.44	5.7
Minimum	3.25	3.29	0	0	-1.41	-2.6
Maximum	9.11	9.03	8	8.6	2.03	3.1
Sum	1044.76	1050.52	372.5	456	5.76	83.5
Count	153	153	153	153	153	153

Table 2 provides Pearson correlation coefficients for each of the variables reported in Table 1. In 2007, the correlation between EFI and GRI scores was negative and significant at standard levels, indicating that more restrictions on religious freedom were associated with countries that have less economic freedom. The correlation is zero, however, and statistically insignificant at the end of this sample period, the year 2014. Further, there is no correlation between a change in a country's score in the economic freedom data and religious freedom over the period, as represented by *Delta EFI* and *Delta GRI*. This relationship was also studied using changes in the rank order of countries in each index for each year. The correlation between the change in a country's EFI and GRI rankings from 2007 to 2014 (not reported in Table 2) was -0.0825 with a p-value of 0.33, which is not statistically significant at standard levels.

Table 2: Correlation Coefficients for the Economic Freedom Scores (EFI) and Government Restrictions Index (GRI) in 153 countries between 2007–2014

	<i>EFI 2007</i>	<i>EFI 2014</i>	<i>GRI 2007</i>	<i>GRI 2014</i>	<i>Delta EFI</i>	<i>Delta GRI</i>
<i>EFI 2007</i>	1					
<i>EFI 2014</i>	0.8938	1				
<i>GRI 2007</i>	-0.1619	-0.1868	1			
<i>GRI 2014</i>	-0.0317	-0.0422	0.9001	1		
<i>Delta EFI</i>	-0.3980	0.0556	-0.0216	-0.0159	1	
<i>Delta GRI</i>	0.2796	0.3095	-0.1212	0.3234	0.0108	1

As referenced above, Richards (2016) noted that economic and religious freedoms are correlated at the extremes. This observation is true for the period studied here. The correlation between a change in a country's score in the economic freedom data and the religious freedom data over the period for just those countries with an EFI score less than 5 or greater than 6 is -0.105 (not reported), compared to 0.01 reported in Table 2. This correlation has the predicted sign but is not statistically significant at standard levels.

b. Probit Regressions

The decline noted above in the overall correlation suggests a changing trend. That is, those countries at the extreme are moving to the middle. The next statistical tests seek to identify if this trend is consistent with a causal relationship between economic and religious freedom. As described above, the EFI score is a scale variable based on the distributions in the data used to create it. The GRI score is a number assigned to a country of interest based on observation of certain laws and regulations in that country. Thus, both the EFI and GRI scores are

limited, or discrete, variables, and the assumptions of Ordinary Least Squares regression analysis are not valid (see Greene 2008, Chapter 23). To account for this limitation, another transformation of the data was performed, and a probit regression was then used to study the relationship. While a probit model is less efficient than ordinary least squares in the study of any two variables, it does identify if changes in the scale of the dependent variable are related to changes in the independent variable.

Table 3 shows probit regression results for Equation (1), where the dependent variable is 1 if the change in a country’s EFI score over the period was positive, and zero otherwise. The independent variable is the change in the government restrictions index, *Delta GRI*, between 2007 and 2014. As hypothesized above, the test is whether or not an increase in government restrictions on religion decreases the likelihood that a country experienced increasing economic freedom over the period. As shown in Table 3, the estimated equation has the correct sign, but the coefficient and overall model are not statistically significant. So while the relationship is predictive, the statistical evidence is not present in these data for any definitive conclusion about Equation (1).

Table 3: Probit Regression Estimates of Equation (1) for 153 Countries

	Suc-Obs	Fail-Obs	Total	
Suc-Pred	80	73	153	
Fail-Pred	0	0	0	
	80	73	153	
Accuracy	1	0	0.5229	
Cutoff	0.5			
Chi-Sq	0.0235			
df	1			
	<i>coeff b</i>	<i>s.e.</i>	<i>Wald</i>	<i>p-value</i>
Intercept	0.0667	0.1184	0.3173	0.5733
<i>Delta GRI</i>	-0.0171	0.1118	0.0233	0.8786

c. Trend Analysis

The Pew data on religious restrictions contain annual data from 2007 to 2014 for a subset of countries with larger populations. Table 4 reports the trend in both EFI and GRI for twenty of these large countries, where the final column, labeled *Trend*, is a linear prediction model for each country from the periodic data. Over this study period, thirteen of the twenty large countries experienced increasing economic freedom and seventeen of twenty countries experienced a decline in religious freedom. It is notable, however, that the proportion of those countries that experienced an increasing EFI score while the GRI score was declining over the period is 0.7, compared to only 0.6 for those countries that had a higher GRI score at the end of the period.

To illustrate this point, consider two examples from Table 4, China and the United States. Over this study period, China's EFI score increased while its GRI score declined, meaning the country is experiencing more economic and religious freedom. Meanwhile, by these same measures, both economic and religious freedom are declining in the United States; the U.S. EFI score declined, and the U.S. GRI score rose over the same period. Again, as noted by Richards (2016), the correlation at the extremes is moving towards the middle. That is, those countries that previously restricted both economic and religious freedoms are reducing such restrictions, while those that previously had few or no restrictions are adding both.

Table 4: Economic Freedom Scores (EFI) and Government Restrictions Index (GRI) in Twenty High-Population Countries Between 2007–2014

	EFI							
Countries	2014	2013	2012	2011	2010	2009	2008	2007
Bangladesh	6.35	6.42	6.33	6.41	6.43	6.37	6.15	6.14
Brazil	6.27	6.35	6.55	6.58	6.54	6.34	6.3	6.18
China	6.45	6.45	6.39	6.32	6.26	6.3	6.25	6.27
Congo, Dem. R.	5.49	5.64	5.39	5.43	5.46	5.36	5.3	5.33
Egypt	6.05	6.24	6.3	6.33	6.51	6.38	6.58	6.75
France	7.3	7.16	7.22	7.29	7.38	7.45	7.41	7.49
Germany	7.55	7.54	7.54	7.6	7.5	7.54	7.48	7.56
India	6.5	6.63	6.59	6.6	6.41	6.42	6.48	6.53
Indonesia	7.02	7.02	6.89	6.91	6.89	6.6	6.55	6.57
Iran	5.27	5.58	5.28	5.94	6.21	6.18	6.33	6.29
Japan	7.42	7.46	7.6	7.44	7.53	7.51	7.62	7.75
Mexico	6.88	6.79	6.75	6.72	6.71	6.61	6.72	6.79
Myanmar	5.39	5.42	5.15	4.24	4.18	4.24	3.89	3.75
Nigeria	6.45	6.45	6.28	6.39	6.17	5.9	6.04	6.34
Pakistan	6.01	6.27	6.26	6.34	6.29	6.22	6.05	6.18
Russia	6.66	6.67	6.65	6.58	6.55	6.44	6.51	6.44
Turkey	6.86	6.86	7.03	7.07	6.88	6.88	6.92	6.59
United Kingdom	7.93	7.88	7.83	7.81	7.79	8.01	7.92	8.05
United States	7.75	7.68	7.82	7.7	7.76	7.9	8.11	8.23
Vietnam	6.43	6.46	6.42	6.26	6.35	6.48	6.19	6.31
Averages	6.60	6.65	6.61	6.60	6.59	6.56	6.54	6.58
	GRI							
Countries	2014	2013	2012	2011	2010	2009	2008	2007
Indonesia	6.2	8.5	8.3	8.2	8.6	7	7.4	7.9
Turkey	6.6	7.4	6.4	5.3	5.8	6.4	6.2	8.1
Egypt	7.2	8.2	8.8	8.9	8.7	8.6	7.1	8.3
Russia	5.8	7.4	7.7	7	7.2	6.7	6.2	6.7
China	7.8	9.1	8.6	8.4	7.5	8.2	7.7	8.6
Pakistan	5.8	6.4	7.1	7.3	6.3	7	7.2	6.5
Nigeria	3.7	4.1	4.5	5.6	5.8	4.5	3.6	4.3
Japan	0.2	1.1	0.7	1.9	1.9	0.2	0.5	0.7
Brazil	0.4	0.2	0.6	0.4	1	1.1	0.8	0.7
Bangladesh	4	5.2	5.3	6.1	5.6	5.1	5.1	4.3
United Kingdom	1.6	1.7	3	3	4.3	2.8	2.8	1.6
Congo, Dem. R.	1.3	1.1	1.1	2.1	2.8	0.7	2.1	1.2
Mexico	4.7	3.4	3.9	3.6	3.5	4.2	3.4	4.5
Iran	7.9	8.3	8.6	8.5	7.9	8	8.7	7.7
Germany	3.4	4.5	3.8	3.5	4	3	3.2	3.1
India	4.8	5	5.5	5.1	5.3	5	5.8	4.5
Vietnam	6.6	6.1	6.7	6.6	7	6.3	6	6.1
United States	2.7	3	3.6	3	2.7	1.6	1.6	1.6
France	4.4	4.2	4.3	3.9	4.1	5.3	3.4	3.3
Myanmar	7.9	7.7	7.7	7.3	7.3	7.9	7.1	6.5
Averages	4.65	5.13	5.31	5.285	5.365	4.98	4.795	4.81

d. Granger causality

The greater frequency of reporting on religious freedom for these large population countries provides for a further test of Equation (1). Granger causality is said to be absent when a variable y as a function of lagged-values of itself and lagged values of some other variable x is equal to variable y as a function of only lagged values of y (see Greene 2008, Chapter 20). That is to say that if lagged values of x do not improve upon the estimate of y , there is no causal relationship. Table 5 provides ordinary least squares estimates for the change in the EFI score of the twenty large-population countries against lagged values of the change in the EFI score alone and against lagged values of both the change in the EFI score and change in the GRI score between 2007 and 2014. The R-squared rises for the model with lagged values of the GRI score, and a chi-square test of this model returns a value of 34.29, which is greater than the critical value of 10.12 for $n-1$ degrees of freedom. The coefficients on the lagged values of the GRI score all have the correct sign, but are not significant at standard levels.

Table 5: Test of Granger-Causality in the Economic Freedom Scores (EFI) and Government Restrictions Index (GRI) of Twenty High-Population Countries Between 2007-2014

<i>Regression Statistics</i>				
Multiple R	0.5916	<i>Lagged Values of change in EFI only</i>		
R Square	0.3500			
Adjusted R Square	0.0500			
Standard Error	0.1107			
Observations	20			
<i>Coefficients Standard Error t Stat P-value</i>				
Intercept	-0.0400	0.0274	-1.4584	0.1685
Y1	-0.1897	0.1995	-0.9509	0.3590
Y2	0.1446	0.1150	1.2572	0.2308
Y3	0.2500	0.2301	1.0868	0.2969
Y4	-0.1941	0.2144	-0.9053	0.3818
Y5	-0.1071	0.2107	-0.5084	0.6197
Y6	-0.0994	0.1981	-0.5020	0.6241
<i>Regression Statistics</i>				
Multiple R	0.7962	<i>Chi-square F-Critical</i>		
R Square	0.6339	34.2857143 10.117013		
Adjusted R Square	0.0063	<i>Lagged Values of change in EFI and GRI</i>		
Standard Error	0.1132			
Observations	20			
<i>Coefficients Standard Error t Stat P-value</i>				
Intercept	-0.0215	0.0443	-0.4839	0.6432
Y1	-0.2837	0.2673	-1.0613	0.3238
Y2	0.0319	0.1577	0.2021	0.8456
Y3	0.3312	0.3126	1.0596	0.3245
Y4	-0.2301	0.4032	-0.5706	0.5861
Y5	0.0868	0.2582	0.3361	0.7466
Y6	-0.1383	0.2120	-0.6524	0.5349
X1	-0.0041	0.0669	-0.0619	0.9524
X2	-0.1078	0.0601	-1.7939	0.1159
X3	-0.0461	0.0734	-0.6281	0.5499
X4	-0.0382	0.1131	-0.3375	0.7456
X5	-0.0766	0.0948	-0.8073	0.4460
X6	-0.0617	0.0670	-0.9209	0.3878

e. Very low economic freedom countries

The Pew data on religious restrictions contains scores for ten countries that do not have EFI scores for 2007. Table 6 presents the GRI scores for these ten countries and the change in this score between 2007 and 2014. Given that each of these ten countries is so lacking in availability of market data over the full period of study, it is reasonable to assume that they would score low in economic freedom. For these countries, however, there is a declining trend in religious restrictions, or rather, increasing religious freedom. Furthermore, two of the ten countries, Bhutan and Laos, did receive EFI scores for 2014 of 7.07 and 6.85, respectively. These countries now rank above the median for economic freedom, while religious restrictions are also on the decline. A third country, Cuba, has also seen increasing economic freedom while all religious restrictions have been eliminated according to the Pew data.

Table 6: Government Restrictions Index (GRI) between 2007–2014 for Ten Countries Where Sufficient Data Is Unavailable to Calculate an Economic Freedom Score

Country	GRI 2007	GRI 2014	Delta GRI
Afghanistan	5.3	8.5	3.2
Belarus	5.9	1.4	-4.5
Bhutan	4.4	1.9	-2.5
Cuba	4.5	0	-4.5
Eritrea	7	0.4	-6.6
Laos	6.3	1	-5.3
Sudan	5.7	6.5	0.8
Turkmenistan	5.6	1.5	-4.1
Uzbekistan	7.7	3.3	-4.4
Western Sahara	4.8	3.3	-1.5
		Average	-2.94

4. CONCLUSIONS AND SUGGESTIONS FOR FURTHER WORK

The empirical results presented here seek to further discussion about the relationship between economic and religious freedom. This work makes use of new longitudinal and cross sectional data on both economic and religious freedom to explore the causal relationship between economic and religious freedom. Three statistical processes were used to examine the hypothesis that economic freedom is positively dependent on religious freedom.

No specific statistical support was found in these broad data sets for a strong conclusion on the causal relationship between economic and religious freedoms, but the trends are suggestive and give cause for further research. Specifically, while there is no indication that a reduction in religious freedoms reduces or slows the rate of change in economic freedom, economic freedom is on the rise in countries that are also increasing religious freedoms.

Finke and Martin (2014) studied the data on religious restrictions and found that religious freedoms are often denied even where substantial constitutional protections reside. The authors tested a predictive model for GRI and found that an independent judiciary, a factor in the EFI scores used here, is an important indicator. This interrelationship between the GRI and EFI data sets used here therefore complicates the statistical analysis. Furthermore, the simple fact that the GRI and EFI scores used for this study are an aggregation of many different indicators creates a limitation. The control variables suggested in Equation (1) are part of each variable of interest. Further research can make use of the broad data sets as each are expanded with time, but could also use subcomponents in the economic freedom index or specific questions in the religious restrictions data. Hopefully, more delineated data over longer periods will provide more conclusive evidence.

REFERENCES

- Alon, Ilan, and Gregory Chase. 2005. "Religious Freedom and Economic Prosperity." *Cato Journal* 25(2): 399–406.
- Ayers, Greg. 2016. "What Direction Are You Moving In? Are You Going to Decline, or Are You Going to Move in the Direction of Long-Term Societal Flourishing?": A Conversation with Dr. Joseph Connors about the Impact of Religious Freedom on Political and Economic Freedom." Institute for Faith, Work, and Economics, April 28. Available at <https://tifwe.org/what-direction-are-you-moving-in-decline-or-flourishing/>.
- Babones, Salvatore J. 2014. *Methods for Quantitative Macro-comparative Research*. Thousand Oaks, CA: Sage.
- Finke, Roger, and Robert R. Martin. 2014. "Ensuring Liberties: Understanding State Restrictions on Religious Freedoms." *Journal for the Scientific Study of Religion* 53(4): 687–705.
- Friedman, Milton. 1961. "Capitalism and Freedom." *The New Individualist Review* 1 (April): 3–10.

- Gill, Anthony, and Timothy S. Shah. 2013. "Religious Freedom, Democratization, and Economic Development: A Survey of the Causal Pathways Linking Religious Freedom to Economic Freedom and Prosperity and Political Freedom and Democracy." Paper presented at the annual meeting of the Association for the Study of Religion, Economics, and Culture, Washington, D.C. Available at <http://www.asrec.org/wp-content/uploads/2015/10/Gill-Shah-Religious-freedom-democratization-and-economic-development.pdf>.
- Gill, Anthony J. 2013. "Religious Liberty & Economic Development: Exploring the Causal Connections." *The Review of Faith & International Affairs* 2(4): 5–23.
- Gregg, Samuel. 2016. "Religious Liberty and Economic Freedom: Intellectual and Practical Paradoxes." In *One and Indivisible: The Relationship between Religious and Economic Freedom*, edited by Kevin Schmiesing, 1–10. Grand Rapids, MI: Acton Institute.
- Greene, William H. 2008. *Econometric Analysis*. New York: Pearson Prentice Hall.
- Grim, Brian J., Greg Clark, and Robert Edward Snyder. 2014. "Is Religious Freedom Good for Business?: A Conceptual and Empirical Analysis." *Interdisciplinary Journal of Research on Religion* 10(4).
- Gwartney, James, Robert Lawson, and Joshua Hall. 2016. "2016 Economic Freedom Dataset." In *Economic Freedom of the World: 2016 Annual Report*, Fraser Institute. Available at http://www.freetheworld.com/datasets_efw.html.
- Hall, Joshua C., and Robert A. Lawson. 2013. "Economic Freedom of the World: An Accounting of the Literature." *Contemporary Economic Policy* 32(1): 1–19.
- Hylton, Keith N., Yulia Rodionova, and Fei Deng. 2011. "Church and State: An Economic Analysis." *American Law and Economics Review* 13(2): 402–52.
- Pew Research Center. 2017. "Global Restrictions on Religion Rise Modestly in 2015, Reversing Downward Trend." Available at <http://www.pewforum.org/2017/04/11/global-restrictions-on-religion-rise-modestly-in-2015-reversing-downward-trend/>.
- Richards, Jay W. 2016. "Why Religious Liberty Cannot Prosper without Economic Liberty." In *One and Indivisible: The Relationship between Religious and Economic Freedom*, edited by Kevin Schmiesing, 69–84. Grand Rapids, MI: Acton Institute.
- Rogge, Benjamin A. 1963. "The Case for Economic Freedom." *The Freeman*, September: 3–12.