

Proxies for Economic Freedom: A Critique of the Hanson Critique

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Economic freedom indicators have become quite popular recently as a useful tool to quantify the relationship between a country's institutions and its prosperity. In a recent article, Hanson (2003) criticizes these types of studies for: (i) failing to adequately distinguish between different proxies for economic freedom, (ii) not considering the potential for endogeneity, and (iii) accepting significance of economic freedom's ability to promote prosperity even though regression analysis generates "nonsensical" results. Closer inspection reveals that most of his arguments are questionable, do not apply to much of the literature, or are not original, and that he is guilty of misinterpreting his own econometric evidence relating freedom to the level of GDP.

JEL classification: B49, C19, H19

1. Introduction

Economic freedom indicators have become quite popular recently as a useful tool to quantify the relationship between a country's institutional structure and its promise for prosperity. Recent surveys include those by Berggren (2003), Mueller (2003, chapter 22), and Holcombe (2001). The most prominent indicators, denoted in the order of how extensively they have been used in empirical studies, are those developed by the Fraser Institute, the Heritage Foundation, and Freedom House. Recently, Hanson (2003) has criticized these types of studies on a number of grounds. Hanson expresses concern that these various proxies for the institutional environment have been adopted unquestioned and that they have been considered interchangeable despite having been developed independently by divergent agencies. In particular, he notes that Freedom House uses different criteria than Fraser or Heritage in developing its economic freedom rankings. Although several scholars have shown the three sets of rankings to be highly correlated, Hanson considers this to be problematic. He then presents bivariate regressions to test the relationship of freedom ranking to national wealth and argues that the results cannot be trusted, calling them "statistical nonsense" (p. 640).

Although the purpose of Hanson's study was a larger concern, namely what he regards as an unreliable reliance on econometric regression analyses that engage in false correlation and corroboration tests, he uses the economic freedom literature as his foil. Although there may be a useful cautionary tale here in general, by focusing on a single economic freedom study (specifically, Hanke and Walters 1997) as his whipping boy and failing to mention any others, Hanson's criticism may be interpreted as denigrating the empirical economic freedom literature in its entirety. Thus, it is useful to closely scrutinize his criticisms of this particular study, and the economic freedom literature more generally, to

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assess their accuracy. Although published only recently, Hanson's article has already garnered a lot of attention. In a simple search on the Internet, I found several working papers already citing his article. It would appear, therefore, that a thorough review of Hanson's study is in order.

Each of the next three sections considers Hanson's arguments in order. These can be summarized as follows. First, Hanson argues that empiricists working with the various economic freedom indicators fail to adequately distinguish between these different proxies. Second, Hanson notes that the economic freedom indicators may suffer from endogeneity to GDP in their construction, and also in empirical applications in which they are used in cross-country regressions to explain variations in GDP. Finally, Hanson presents a series of bivariate regressions between the Fraser index and GDP that he claims refutes any connection by focusing on the differences in the estimates over time. Most of these arguments are shown to be of questionable legitimacy and/or apply only to a select few empirical studies rather than to the literature as a whole.

2. Incompatibility of the Different Economic Freedom Measures

Hanson believes that the Freedom House indicators are fundamentally different from those developed by Fraser and Heritage. Although Hanson agrees with the standard interpretation in the literature that Fraser and Heritage are strictly measures of institutional support for the free market, he suggests that an alternative label for the Freedom House index would be "Liberal Values Index." Hanson believes, "It is troubling, in any case, that measures that differ so strikingly with one another are often taken to measure the same thing" (p. 642). Hanson seems to indicate that the tendency is for most researchers to treat these measures equivalently. In practice, however, it is rare for empirical researchers to use Freedom House or Heritage instead of, or even in addition to, the Fraser index. This may be because of researchers' belief in the superiority of the Fraser index, but some have conjectured that reliance on Fraser is simply because it is the only one of the three constructed for years prior to 1995 (De Haan 2003; Berggren 2003). Either way, the relevance of Hanson's criticism to the general literature is questionable. Given that the Freedom House scores, unlike Fraser or Heritage, have never been updated, they are unlikely to be of much use in the future either, rendering the whole point moot.

The argument itself, in addition to being somewhat irrelevant to the literature, can be questioned. If someone were interested in using Freedom House scores as a proxy for economic freedom, Hanson's argument should not by itself alter this inclination, because it is not clear that the various measures are indeed at odds with each other as Hanson concludes. The seeming incompatibility appears because, as Hanson points out, Freedom House includes policies supporting the rights to organize and protecting rights of women and minorities, which are not directly considered by Fraser or Heritage. Hanson's mistake is that he seemingly conflates activist government policies with the absence of official governmental barriers.

The Fraser methodology follows closely from the outline proposed by Alvin Rabushka at a series of Liberty Fund/Fraser Institute conferences (Walker 1996). As Rabushka (1991) explains, economic freedom as a broad sense would allow for all mutually voluntary transactions to occur, and for enforcement of voluntary commitments (contracts). The Freedom House methodology is consistent with this view because it assigns lower scores when the state prevents such activity from taking place, and does not address how individual market actors behave. Freedom House is explicit in measuring only legal barriers, and this notion of economic freedom is based on

a government that refrains from dictating wages, controlling prices, erecting trade barriers, or otherwise hindering private economic endeavors. It is of course elementary that an individual cannot be

free if the state infringes his or her rights to exchange goods and services or join together to pursue economic ends. . . . [In addition] the state must do more than simply stand aside and let the market work. . . . Contracts must be enforced, property rights defined, and the other institutional prerequisites required for the conduct of economic affairs set in place. (Messick 1996, p. 5)

Thus, if workers decide to voluntarily organize, Freedom House would consider it a breach of freedom to enact laws controlling unions or prohibiting their existence. This should not be viewed as contrasting with Fraser's concept of economic freedom, because in its new economic freedom index for the Canadian provinces and U.S. states, Fraser explicitly recognizes that "Workers should have the right to form and join unions, or not to do so, as they choose" (Karabegovic et al. 2004, p. 7). Likewise, according to Freedom House there should not be any legal barriers for women or minorities to engage in all the activities afforded to others. Note that this does not make them privileged groups as Hanson seems to imply, but rather only serves to ensure that there is no governmental discrimination targeted against these groups. Hanson argues that Freedom House "frowns on a lack of labor market regulations or ones without teeth" (p. 642), but the introductory essay accompanying the Freedom House volume suggests that it assigns higher scores to the absence of such legal regulations.¹ Although Hanson is correct to point out that neither Fraser nor Heritage includes these specific institutional considerations in their measures of national-level economic freedom, it is still reasonable to conclude that they can be consistent with attempts to quantify the degree of economic freedom.

As another example, consider the case of child labor, which is not discussed by Hanson. Here, Freedom House assigns higher scores when laws banning child labor exist and are enforced. On the one hand, this may be a better example of Hanson's "liberal values," because child labor represents a potentially voluntary transaction that according to Freedom House should be actively thwarted by the government. Conversely, an argument can be made that children are not yet old enough to properly form contracts. Child labor itself can also be an act of coercion in that parents may force their children into working, so child labor laws may be necessary to preserve their economic freedom.² The point here is not to advocate the abolishment of child labor laws, but simply to recognize that it is not clear whether such laws protect or interfere with economic freedom in the purest sense as put forth by Rabushka (1991). A reasonable argument could be made on either side. In line with the consideration of the rights of women and minorities, the fact that neither Fraser nor Heritage considers the issue of child labor does not necessarily imply that child labor laws conflict with their views on economic freedom.³ If it clearly did, then they would want to include such a measure but code it in the opposite direction from Freedom House.

Fraser includes a measure for conscription because it restricts freedom of labor. Neither Freedom House nor Heritage includes this measure, but there is no particular reason to assume that they believe conscription does not limit economic freedom. None of these organizations directly consider the presence of slavery in a nation, but it is reasonable to assume they would all agree that such institutions violate economic freedom and should be actively banned. Noninclusion of a particular measure does not automatically imply that such a measure would be incompatible with the notion of

¹ See especially pages 5–8 of the Freedom House volume.

² In this sense, compulsory education is also a form of coercion and dictates how a child's labor is to be spent. Neither Freedom House, Fraser, nor Heritage includes measures for compulsory education.

³ In fact, in a recent policy briefing at the Fraser Institute, specific attention was drawn to a perceived inverse relationship between a nation's freedom ranking (by quintile) and the percentage of child labor present in the country. This would seem to indicate disapproval of child labor. The briefing is available for viewing online at <http://freetheworld.com/2004/2004PolicyBriefing.ppt> (see slide 75).

economic freedom. Thus, the different measures considered between Freedom House, Fraser, and Heritage are not *prima facie* evidence that their views on economic freedom contrast.

Because economic freedom is not directly observable, Freedom House, Fraser, and Heritage have constructed proxies to capture the essential elements. The indexes are related but certainly not identical. The differences between the particular components included in each measure may be reflective of differing points of emphasis rather than of contrasting views of the notion of economic freedom.

3. Potential Endogeneity of Economic Freedom Rankings

Hanson shows in a series of bivariate regressions that the rankings developed by Fraser, Heritage, and Freedom House are significantly correlated with the level of GDP per capita. There are a number of reasons Hanson gives for suggesting that these correlations do not truly support the notion that greater economic freedom will generate a higher standard of living. Many of these concerns, however, are an artifact of his particular specification. Specifically, Hanson regresses the log of GDP per capita (relative to the United States) in 1995 on the freedom rankings for the same year. As he details, such correlation comparisons lead to two types of endogeneity concerns.

First, Hanson believes that the indicators Freedom House considered to be important determinants of economic freedom were based on the prevailing environment within the wealthier nations. As such, regressing wealth against the Freedom House ranking of freedom does not represent an independent test, because a positive correlation is built into the indicator scores. Analyzing the Freedom House rankings may provide support for his position. It turns out that all seven G7 nations, which are generally considered to be the most industrialized nations, are assigned the highest ranking of “free” (Freedom House ranking ≥ 13). Among all the OECD nations, only Greece, Hungary, South Korea, Mexico, Turkey, and the Slovak Republic (which did not join OECD until the end of 2000) are not designated as “free” (Iceland and Luxembourg are not rated by Freedom House). Furthermore, Freedom House explicitly forgives some of the wealthier nations for particular transgressions: “[E]ven though the United States and West European nations control the price and supply of many agricultural commodities and Japan restrains foreign trade in a number of ways, these factors alone did not bar these countries from being rated ‘free’” (Messick 1996, p. 6). In fact, these factors do not even bar the United States and some of the West European nations from receiving the maximum possible freedom ranking (Freedom House ranking = 16). Thus Hanson raises a potentially legitimate concern.

It must be noted, however, that most studies that test for the impact of economic freedom (predominantly using the Fraser index) choose to relate it to growth, not to the level of GDP. Such an approach should limit this particular concern and thus does represent an independent test, especially because most growth studies (not specific to economic freedom) find only a weak or even an inverse relationship to exist between the level of GDP and subsequent growth. Hanson bases much of his criticism on the single empirical study by Hanke and Walters (1997) that did examine the level of GDP, but Berggren (2003), in his comprehensive survey, lists only one other study (Leschke 2000) that related freedom to the level of GDP, whereas he includes eighteen studies that test for a relationship between the freedom ranking and growth.⁴ Thus, although Hanson justifiably criticizes Hanke and Walters (1997) for attempting to use an institutional index to explain concurrent levels of national wealth, such studies are rare and not representative of the literature as a whole.

The use of growth rates could also eliminate the second source of endogeneity troubling

⁴ See in particular, Berggren’s table 3. All studies listed there pertain to the Fraser index of economic freedom.

Hanson, namely that the regression results may simply be indicating reverse causality. If economic freedom is a normal good, then it may be that wealthier nations demand more freedom. Several growth studies considered in Berggren (2003) unfortunately overlook this consideration and use freedom rankings that are contemporaneous with the growth period, or examine the change in freedom during the same growth period, possibly falling into an endogeneity trap. Others are more careful and use the freedom ranking at the start of the growth period, which provides for consistent estimates because future growth could not cause past institutional arrangements. The overall consensus of these studies is that economic freedom (or its change) significantly affects current growth and future growth. Studies that test for the latter are not subject to the econometric problem of endogeneity.

The potential for reverse causality in growth studies has been noted before (Dawson 1998; Farr, Lord, and Wolfenbarger 1998; De Haan and Sturm 2000; Heckelman and Stroup 2000). De Haan and Sturm (2000) perform tests that reject endogeneity of the change in economic freedom for growth but do not report relevance tests for their exogenous instruments. This is an important consideration because Hanson noted that instrumental variable regressions could be used to account for possible reverse causality between GDP and the freedom index, but he claimed not to be able to find any suitable instruments.

In addition, there are other studies that directly consider the endogeneity issue in a Granger-causality framework. Dawson (2003) finds that the Fraser ranking precedes growth intertemporally but not the reverse, and similar findings are found by Heckelman (2000) using the Heritage ranking.⁵ Dawson (2003) also concludes that changes to the economic freedom ranking are jointly determined with growth, which corroborates Hanson's concern and those that made the same point before him.

4. Hanson's Fraser Regressions

Although the Freedom House rankings are available only for the single year of 1995, and the Heritage rankings are available only starting in 1995, the Fraser rankings go back in five-year intervals to 1975. Hanson uses each five-year Fraser ranking⁶ as the explanatory variable for the same year value of the log of GDP per capita relative to the United States, in separate bivariate cross-section regressions to compare the results over time. Hanson uses a matched sample of those nations rated by Fraser for each regression year. His regressions contain 78 observations per year, but there are 92 nations rated by Fraser for each five-year interval.⁷ Hanson uses Penn World Table (PWT) income data for the years prior to 1995 and World Bank data for the 1995 regression. If the World Bank dataset is missing income data for several of these nations, this could explain the discrepancy in sample size. Version 6.1 of PWT has data through 2000, but may not have been available at the time Hanson began his study. The regressions presented here include all 92 nations,⁸ using PWT GDP data for all years.

Regressions presented in the top portion of Table 1 largely corroborate Hanson's findings. With

⁵ Such tests are not possible for the Freedom House ranking because it exists for only a single year.

⁶ Hanson's regressions use the Is1 version of the summary ratings, which are based on survey-determined weights for the different components which comprise the index. To replicate his analysis, the Is1 index is used here as well.

⁷ The Fraser ratings appear in Gwartney, Lawson, and Block (1996).

⁸ Some of the individual nation ratings are marked by Fraser to draw attention to the large number of missing data for specific components. Dropping those nations which were marked in such a way for any of the years reduces the sample size to 81, but does not substantially alter the findings reported in Table 1, except that the coefficient for the freedom index in 1980 is no longer statistically significant. The time patterns for the magnitudes of the estimated coefficients for the intercept and freedom ranking, and the R^2 measure, remain the same.

Table 1. Fraser Institute Ranking: Relationship to Relative Income per Capita in the Same Year (Matched Sample: $n = 92$)

	1975	1980	1985	1990	1995
Dependent variable: log of relative per capita income in percentage terms					
Constant	2.09** (6.09)	2.30** (6.78)	1.88** (5.47)	0.97** (2.64)	-0.018 (-0.053)
Economic freedom	0.22** (2.91)	0.17** (2.29)	0.24** (3.25)	0.40** (5.40)	0.55** (8.59)
R^2	0.086	0.055	0.10	0.24	0.45
Dependent variable: log of relative per capita income in ratio terms					
Constant	-2.51** (-7.33)	-2.31** (-6.81)	-2.72** (-7.90)	-3.63** (-9.84)	-4.62** (-13.28)
Economic freedom	0.22** (2.91)	0.17** (2.29)	0.24** (3.25)	0.40** (5.40)	0.55** (8.59)
R^2	0.086	0.055	0.10	0.24	0.45
Dependent variable: relative per capita income in percentage terms (unlogged)					
Constant	8.25 (0.82)	15.22* (1.63)	2.78 (0.31)	-18.79** (-2.00)	-35.99** (4.16)
Economic freedom	5.67** (2.53)	4.06** (1.93)	6.31** (3.24)	10.24** (5.47)	12.77** (8.59)
R^2	0.066	0.040	0.10	0.24	0.42

t-statistics are shown in parentheses below coefficient estimates.

* Significant at the 10% level.

** Significant at the 5% level.

the exception of 1980, the time patterns are very similar to what Hanson finds.⁹ In each regression the Fraser ranking generates a statistically significant positive coefficient, yet Hanson questions the validity of these results in truly supporting the economic freedom–wealth relationship:

Although the coefficients on the Fraser index are always positive and statistically significant, they are enough lower than the 1995 coefficient that the difference is statistically significant, according to the Chow test; likewise for the coefficients of determination, which are low before 1990. Observe also that the coefficients on the Fraser index trend upward over time. The decline in the intercept term over time, with a loss of statistical significance by 1995, also is curious (p. 645).

Except for 1980, the regressions presented in Table 1 also show an increasing magnitude for the economic freedom variable and a decreasing magnitude for the intercept, which fails to achieve statistical significance only in the last year of 1995. Also, as Hanson finds, the R^2 measures are surprisingly high (for a bivariate regression) for 1995, and particularly poor before 1990.¹⁰ Hanson concludes from these results that there is “no support for the free-market argument” (p. 645). It would seem, in fact, that the only conclusion one could reach, based on his results and on those reported here, is direct support for the “free-market argument.”

Hanson’s interpretations are faulty in two ways. First, it is not clear why it should be expected

⁹ Hanson’s statistically insignificant intercept term for 1995 is positive in the matched sample of 78 nations, but negative in his full sample of 100 nations, which is closer in sample size to the 92-nation matched sample used here.

¹⁰ Hanson reports R^2 values of 0.08 (1975), 0.22 (1980), 0.10 (1985), 0.27 (1990), and 0.40 (1995), which are comparable to those given in Table 1.

that the marginal impact of a one-unit increase in freedom should always be identical in each year. Thus, reliance on a Chow test to refute the consistent relationship seems unwarranted. There is also a logical explanation as to why these results should be expected. Like the Freedom House and Heritage rankings, the Fraser rankings are based on an aggregation of various freedom components, as described by Hanson. The 1995 rankings include two additional components not considered for any of the earlier years, as well as a third component that is also included only for the 1990 ranking. In addition, earlier years contain more missing data, so rankings are based on even fewer components, which vary by country. In fact, Fraser cautions against using some of the particular nation rankings for certain years because they are based on only a few of the 15 components for which data were available. Thus, earlier rankings are less precise, and therefore the lower R^2 and coefficient estimates for earlier years are not surprising.

Second, concern over the shrinking intercept term is completely misplaced. In these regressions, the intercept term represents the predicted value for the log of per capita GDP, relative to the United States, for a nation receiving a 0 economic freedom rating, which would imply a 0 in every Fraser freedom category. No such nation actually exists in the Fraser dataset for any year, and therefore should be of little interest. Again, however, Hanson's finding is actually fully in accord with the "free market argument," given that the United States receives a relatively high ranking every year. The shrinking intercept implies merely that a hypothetical nation having no economic freedom whatsoever would find its GDP shrinking over time (or, more precisely, its GDP gap relative to the United States growing over time), and the nonsignificant intercept term in 1995 implies that such a hypothetical nation with a ranking of 0 would have a per capita GDP close to 0. Free market advocates would consider this to be strong evidence in support of the importance of economic freedom.

It is not even clear what is gained by testing for statistical significance of the intercept term, which, again, is equivalent to determining whether the dependent variable has a value of 0 when the hypothetical nation has a Fraser rating of 0. A value of 0 for the dependent variable represents such a nation having a log of relative income per capita equal to zero, which implies that unlogged relative income per capita has a value of 1, meaning 1% of U.S. GDP per capita. There is nothing special about the 1% criteria, except that this nation would obviously be very poor compared to the United States. One could instead inquire with the same rationale whether such a nation might be very poor, but not quite as poor, having a relative GDP per capita of only 2% compared to the United States. This would imply that the intercept term equals $\log(2) = 0.69$. Using the 1995 regression presented in Table 1, the relevant t -statistic in this case would be -2.04 and thus be considered statistically significant. Why anyone should be concerned with the difference between testing against 1% of U.S. GDP per capita, where the intercept is not statistically significant, and 2% of U.S. GDP per capita, where the null is easily rejected, remains a mystery.

Alternatively, one might investigate if this hypothetical nation with a 0 Fraser rating would be even poorer, perhaps with less than even 1% of U.S. GDP per capita. A low enough threshold would also generate a statistically significant t -statistic. If Hanson were to present a moral here, it should be against blind reliance on machine-generated t -statistics.

Furthermore, even if one were not to accept the interpretation of the t -test on the intercept term as given above, Hanson's concern is still erroneous, because the finding of no statistical significance for the default value of 0 for the intercept in 1995 is purely an artifact of the way the GDP data are constructed. The Penn World Table estimates of relative income per capita assign the United States a value of 100, and all other nations' incomes are expressed as a percentage of the U.S. value. If instead the other nations' incomes were expressed as a ratio of the U.S. GDP per capita, with the

United States thereby normalized to a value of 1 rather than 100, then, as shown in the middle portion of Table 1, the intercept term for 1995 would still be statistically significant.

Although these regressions still show a declining intercept over time (again, except for 1980), the constant term is always negative, and thus the t -values grow larger, rather than smaller, in absolute value in subsequent years. Here, the null under the default t -test for the intercept term is implicitly testing whether a nation with a Fraser ranking of 0 has significantly lower GDP per capita than the United States in general, rather than a particular (arbitrary) percentage. Again, fully consistent with the “free-market argument,” the answer is always yes. This interpretation comes about because when the constant term is equal to zero, the predicted dependent variable for a nation with a Fraser rating of 0 again would be $\log(1)$, but in this case the value of 1 is the value always assigned to the United States. Statistical significance of the intercept term with an estimated negative coefficient implies that a nation with a Fraser rating of 0 has a predicted value of relative income that is less than $\log(1) = 0$, and therefore less than that of the United States. As before, the “shrinking” intercept term implies that the relative income gap for such a nation is growing over time.

In terms of the relevance of the Fraser regressions, there is absolutely no reason to prefer a normalization of 100 over a normalization of 1 for the dependent variable. The Fraser index coefficient estimates and regression coefficients of variation are not affected by the change in scale to the dependent variable. In the latter case, however, anyone who might fret over a low default t -statistic for the intercept term can rest easy.

Alternatively, Hanson could simply have used the actual percentage values for relative income as given in the Penn World Tables, rather than converting them into log values (no justification is given for doing this). In cross-country studies, the log form is often used for per capita income in order to put all nations on a similar scale, but because Hanson uses relative income, all nations are already on the same 0–100 scale, so there is no reason to believe that the log conversion is necessary or even useful. If relative income is kept unlogged, then again the intercept would be statistically significant for 1995. This is shown in the bottom portion of Table 1. Here, the reverse result occurs, with the intercept falling from a positive value, but not statistically different from zero, to a negative and statistically significant value in later years.

Neither of these alternative specifications for the dependent variables alters the time pattern of a diminishing (in absolute value) intercept. However, as stated above, this result is actually fully in accord with a “free-market argument.” Furthermore, the specific concern expressed by Hanson for nonsignificance of the intercept in 1995, although not troubling to “free-market” advocates when properly interpreted, relates to a finding that is unique to his arbitrary choice of functional form for the income dependent variable. This choice, of course, is completely unrelated to construction of the freedom rankings, but critical for understanding the proper interpretation of the intercept term.

This is not to say that all relative-income regressions are above reproach. The time-varying results may very well amount to “statistical nonsense,” but not for the reasons Hanson gives. Rather, as discussed in the previous section, Hanson’s concerns for reverse causality are still relevant here. Failure to correct for endogeneity can certainly lead to inconsistent parameter estimates. To avoid the endogeneity pitfall, economic freedom rankings should be used as an explanatory variable to explain only subsequent growth, and not the level of concurrent wealth. The purpose of this section has been simply to counter Hanson’s claim that his findings that regression estimates relating freedom to relative income can change over time in any way diminishes the relevance of other empirical studies utilizing the Fraser rankings.

5. Conclusions

Hanson is very clear in his criticism of the Freedom House rankings. “The high correlations of the Freedom House index with the other indexes [Fraser Institute and Heritage Organization] are interesting but meaningless because of the different definitions of economic freedom and other philosophical differences inherent in their construction. The similarities in the regression results based on them are likewise misleading.” Furthermore, although he shows that all three rankings are significantly positively correlated with a nation’s level of wealth, Hanson claims these relationships are spurious. Neither conclusion is justified.

Although most of Hanson’s arguments are shown to be specious, he does raise valid concerns over the possibility of endogeneity bias. However, regressions using subsequent economic growth instead of the current level of GDP should address this particular concern, and numerous studies consistently find a positive correlation to exist between economic freedom and economic growth.

No body of literature is without its share of questionable studies, but by calling out the work of Hanke and Walters (1997) in particular, Hanson seems to have focused his attention on perhaps the weakest link in the economic freedom canon. Because most other studies are not subject to the same criticisms he levels at this one, this calls into question the general importance of many of his concerns. Furthermore, Hanson himself makes numerous mistakes in interpreting his own regression analysis. Proper interpretation is shown to actually validate the relationship between economic freedom and prosperity that he seems so desperate to undermine.

The rebuttal to Hanson’s criticisms does not mean that the economic freedom literature is without flaw. De Haan (2003) has complained that many studies have not given proper attention to robustness testing or parameter heterogeneity. Heckelman and Stroup (2000) argue that reliance on any summary rating comprised of disparate elements may result in a misspecification bias, and advocate that individual components should remain distinct in regression analysis rather than first combined into a single index. Doucouliagos and Ulubasoglu (2004) suggest that there may be selection and publication bias toward significant findings. These concerns all apply to the bulk of the empirical literature on economic freedom and should be taken seriously. But with the possible exception of the potential for reverse causality, Hanson’s criticisms are either wrong or severely limited in their applicability.

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