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## 2. The creation of the Economic Freedom of the World index

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### INTRODUCTION

The first edition of the Fraser Institute's Economic Freedom of the World (EFW) index was published in 1996 (Gwartney et al. 1996), and revised editions have been published annually since then. The purpose of the EFW index is to measure the degree to which the institutions and policies of countries are consistent with economic freedom and to track changes in economic freedom through time. The index has been used in numerous studies (see Lawson et al. 2020, and Lawson 2022) and has influenced public policy debates throughout the world.

The objective of this chapter is to document the history of the creation and the evolutionary development of the EFW index. First, the historical background, events, and nature of the EFW project will be outlined in detail. Second, the creation and composition of the initial EFW index published in 1996 will be described. Finally, the evolutionary development and modifications of the index since the initial publication will be discussed.

### HISTORY OF THE EFW PROJECT

The origins of the EFW project go back to the 1984 general meeting of the Mont Pelerin Society (MPS) held in Cambridge, UK.<sup>1</sup> Understandably, George Orwell's famous dystopic novel, *1984*, was a key topic of discussion at the meeting. A panel session was organized on the topic, 'Was George Orwell right?' This session featured a paper by Paul Johnson, one of the world's leading historians, entitled, '1984: A false alarm.' Johnson argued that the world had not evolved in the manner projected by Orwell. We were *not* living in a totalitarian Big Brother era, and if anything, political liberalism and democracy seemed to be on the rise. China was beginning to move away from the horrors of the Great Leap Forward and Cultural Revolution, and even the Soviet Union was hinting at liberalizations that would come a couple of years later in the form of *perestroika* and *glasnost*.

Michael Walker, the founder and executive director of the Fraser Institute, was asked to comment on Johnson's paper. Walker argued that while political liberalism may be on the rise, economic control in the form of taxation, industrial planning, trade protectionism, wage-price controls, and other regulations were stifling the actions of individuals and entrepreneurs in a manner similar to the projections of Orwell. Furthermore, there is a relationship between

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<sup>1</sup> The Mont Pelerin Society is a prestigious society of classical liberals founded by F.A. Hayek in the aftermath of World War II. MPS hosts meetings where members and their guests can discuss and debate the issues of the day.

economic freedom and political freedom that hangs in the balance. Stressing this point, Walker quoted a key passage from Milton Friedman's *Capitalism and Freedom* (1962, p. 9),

Historical evidence speaks with a single voice on the relation between political freedom and a free market. I know of no example in time or place of a society that has been marked by a large measure of political freedom, and that has not also used something comparable to a free market to organize the bulk of economic activity.

This triggered a heated debate concerning whether economic freedom was gaining or losing ground. Disagreement was widespread and neither side presented much in the way of empirical evidence. This convinced Michael Walker that economic freedom needed to be more carefully defined and measured. If even committed classical liberals like those attending Mont Pelerin Society meetings were unable to distinguish between political and economic freedom and determine whether economic freedom was increasing or decreasing, someone needed to figure out how to measure it and track changes through time.

Walker convinced Milton and Rose Friedman to join him in hosting a series of conferences with the objective to define and measure economic freedom for a large set of countries. The Liberty Fund, a foundation located in Indianapolis, Indiana, agreed to arrange for the necessary funding. Eventually, six conferences were held during 1986–1993.

The participation of the Friedmans in this project was of crucial importance. This made it possible for the small Liberty Fund conferences, typically involving about 15 participants, to attract some of the world's best minds to the project. In addition to Walker, the Friedmans, and the eventual authors of the index, the conferences involved approximately 60 scholars, including luminaries such as Armen Alchian, Peter Bauer, Edward Hudgins, Gary Becker, Ed Crane, Arthur Denzau, David Friedman, John Goodman, Arnold Harberger, Henri Lepage, Assar Lindbeck, Ronald Jones, Tibor Machan, Henry Manne, Richard McKenzie, Charles Murray, Douglass North, William Niskanen, Svetozar Pejovich, Alvin Rabushka, Richard Rahn, Alan Stockman, Sally Pipes, Gerald Scully, Richard Stroup, and Gordon Tullock.

The first meeting was held October 5–8, 1986 in Napa Valley, California. Selected papers and transcripts of the discussions were later published in a volume edited by Walker (1988). Milton Friedman suggested that a representative from Freedom House be invited to make a presentation at this meeting. Freedom House had been producing cross-country indexes of political rights and civil liberties for many years and thus had considerable experience in the construction of freedom-related indexes. Moreover, the 1982 Freedom House annual report (Gastil 1982) included a section, on an experimental basis, providing ratings for economic freedom (Wright 1982). Raymond Gastil, then the President of Freedom House and Lindsay Wright, an economist working for the organization, presented a paper on their concept of economic freedom.

The Gastil and Wright (1988) viewpoint reflected the Freedom House perspective that democratic political procedures and civil liberties are the most important aspects of economic freedom. Progressive taxation and income transfers are entirely consistent with economic liberty, they contended, so long as they are approved by democratic majorities. A spirited discussion and debate occurred with regard to whether economic freedom was properly understood in the context of individual rights (the position held by most of the conference participants) or whether economic freedom was a collective right that was 'hardly separable from political freedom,' which was the Freedom House view (Gastil 1985, p. 170). Walker (1996, p. 2) summarized the views of most of the conference participants in the following manner:

Several of the participants in this first conference, including myself, Walter Block, and Alvin Rabushka, believed that the Freedom House approach trivialized and distorted economic freedom, making it dependent on the political process. We came away even more convinced that development of a sound measure of economic freedom was a vitally important project.

Walker felt that a series of follow-up symposia was needed to explore the weaknesses of the Freedom House approach and to develop a measure of economic freedom based on classical liberal principles. The Liberty Fund agreed to finance five additional conferences with the objective of clearly defining economic freedom and developing a measure for a large set of countries. The second meeting was held in Vancouver in July of 1988. The papers and proceedings of this second meeting were later published in a volume edited by Block (1991).

The highlight of the 1988 meeting was a paper presented by Alvin Rabushka focusing on how economic freedom should be defined and analyzing how it might be measured (Walker 1996). Building on the work of John Locke and Adam Smith, Rabushka examined the attributes of economic freedom and policies consistent with that freedom. He was highly critical of the collective rights approach of Freedom House presented at the first meeting. Rabushka stressed that economic freedom is present when individuals are permitted to choose for themselves and that collective action that interferes with their choices is still a violation of economic freedom. Private property and rule of law provide the institutional foundation for economic freedom. He applied the concept of economic freedom to five basic areas – taxation, public spending, economic regulation of business and labor, money, and foreign trade – and outlined some ideas about how it might be measured in each of these areas.

After the presentation of the Rabushka paper and accompanying discussion, it was clear that the Freedom House conceptual approach did not provide a fruitful path to the development of a sound measure of economic freedom. Freedom House itself did eventually release an economic freedom index of its own (Messick 1996). In this volume, it appears that they had adopted a somewhat more individual-rights viewpoint compared with the one presented earlier. Even so, Freedom House could not bring itself to include government spending and/or taxation in its index. In any case, Freedom House's economic freedom index was published only once, and its interest in the topic appears to have waned.

The 1988 meeting also featured a paper by Zane Spindler and Laurie Still (1991) seeking to develop an empirical measure of economic freedom based on individual rights. Spindler and Still considered a list of 21 items and attempted to evaluate the consistency of each of the factors with economic freedom for 148 countries. Their list of factors included items such as privatization, import restrictions, taxes, tariffs and non-tariff barriers, and price controls. Unfortunately, data were unavailable for many of the factors. Of the 21 items included in their index, the average country had just 6.5 data points; the most any country had was 13 and some countries had only 1. Obviously, the limited data coverage and large variation in the variables used from country to country weakened the trustworthiness of the index. Furthermore, some of the items on their list, such as 'infrastructure,' were more closely related to economic development rather than economic freedom. During the discussion of this paper, participants were asked to prepare a list of factors that they thought should be included in a measurement of economic freedom. This list provided direction for the future development of a more reliable index.

James Gwartney's involvement with the EFW project began with his participation in the 1988 meeting. He later recalled reading the letter inviting him to participate in a Liberty fund conference focusing on how to measure economic freedom (Gwartney 2009). Reading this

part of the letter, his immediate thought was this is a harebrained idea. How could anyone measure something as complex and multi-dimensional as economic freedom? Gwartney then noticed that the invitation was from Milton Friedman, and thus he immediately fired back his acceptance.

As Gwartney reflected on this meeting, he was impressed with the cooperative spirit as some of the world's leading minds sought to develop a really important measurement tool. Virtually all participants perceived they were involved in an important project. There was even discussion of the parallel between this project and the development of national income accounts in the 1920s. Like economic freedom, measurement of national income was also complex and multidimensional. Initial measurement efforts were imperfect, and debate continues with regard to precisely how various items should be handled. Nonetheless, development of a measure of national income was one of the most important economic breakthroughs of the 20th century. Perhaps, this would also be the case for the development of a sound measure of economic freedom (Gwartney 2009).

A third meeting in this series of Liberty Fund/Fraser Institute symposia was held in Banff, Alberta in 1989 and was followed soon thereafter with a fourth meeting held at Sea Ranch, California in 1990. The papers and discussions from these two meetings were later published in a single volume by the Fraser Institute (Easton and Walker 1992).

The Banff meeting featured a paper by Gerald Scully and Daniel Slottje (1992), which represented the first fully-fledged effort to develop an empirical measure of economic freedom based on the principles outlined by Alvin Rabushka at the second meeting. This work was an outgrowth of Scully's earlier interest in constitutional rules and economic growth (Scully 1992). Using 15 'liberty indicators,' such as the flexibility of exchange rates, conscription, and a variety of other variables mostly related to civil liberties, Scully and Slottje developed a measure of economic freedom for 144 countries. They spent a lot of time discussing the details related to alternative ways of weighting the variables included in their index, an exercise that foreshadowed issues the EFW index would also confront. The Scully and Slottje paper was later published in the symposium proceedings, but they first published a version of it in *Public Choice*, making theirs the first economic freedom index published outside of the Liberty Fund/Fraser symposium proceedings (Scully and Slottje 1991). Although Scully continued to work in the field, he eventually dropped his own index and used the EFW index in his research (e.g., Scully 2002).

During the first two conferences of the series, there was considerable debate about the nature and conceptualization of economic freedom. At the Banff meeting, however, a consensus crystallized. There was widespread agreement that self-ownership and freedom of individuals to choose for themselves constitute the foundation of economic freedom. Individuals are economically free when they can choose how to use their time, talents, and resources as long as their actions do not harm the person or property of another party. Use of violence, theft, fraud, and physical invasions are not permissible; but otherwise, economically free individuals are free to choose for themselves, trade with others, and compete as they see fit (Walker 1996).

This concept of economic freedom is closely related to the presence of protective rights, that is, rights that provide individuals with a shield against others who would invade and/or take what does not belong to them. Since they are non-aggression or 'negative' rights, all citizens can simultaneously possess them. Some argue that individuals have invasive rights or what some call 'positive' rights to things such as food, housing, medical services, or a minimal income level. Such rights imply that some individuals have a right to demand that others

provide these things to them. For example, if Paul has a positive right to housing, this logically implies that Paul has a right to force Peter and others to provide the housing. But in a negative rights context, Paul has no right to the labor of Peter or any other individual because Peter owns himself. No one has a right to the time, talents, and resources of others. Put another way, individuals and groups do not have a right to demand that others provide things to them. Thus, invasive rights are inconsistent with economic freedom.

The Banff meeting also featured a set of papers outlining variables needed to develop a measure of economic freedom in labor markets, international trade, and money of stable value. While these papers provided details on the measurement of economic freedom in each of these areas, data limitations restricted their application. One of the papers indicated roughly 100 variables that would be needed to develop a sound measure of economic freedom in labor markets. Unfortunately, only six or seven of the specified variables could be obtained for as many as a dozen countries.

Following this presentation, Gwartney and Block concluded that it would be more fruitful to focus on a smaller set of variables that could be actually obtained for a large set of countries. As they shared this view with conference participants, Gwartney recalls that Friedman responded, 'I agree and you should do so and present your findings at the next meeting.' Upon his return to Tallahassee, Gwartney enlisted the assistance of his graduate student, Robert Lawson, to begin the construction of a new index.

The fourth meeting was held in Sea Ranch, California in 1990, and this meeting featured the first presentation by Gwartney et al. (1992) of what would eventually evolve into the EFW index. The index provided ratings for 79 countries based on 11 variables grouped into four major categories (see Box 2.1). The variables were objective and available for a fairly large number of countries from published external sources.

### BOX 2.1 COMPONENTS AND SUB-COMPONENTS OF THE INITIAL INDEX CONSTRUCTED BY GWARTNEY, BLOCK, AND LAWSON IN 1990

- I. Money and Prices
  - a. Standard deviation of the annual growth rate of the money supply (last five years)
  - b. Standard deviation of the annual inflation rate (last five years)
- II. Size of Government
  - a. Total government expenditures as a percent of GNP
  - b. Nonfinancial central government enterprises
    - i. Total number
    - ii. Government enterprises in designated industries
  - c. Portion of economy subject to price controls
- III. Takings and Discriminatory Taxation
  - a. Transfers and subsidies as a percent of GNP
  - b. Top marginal tax rate (and income threshold at which it applies)
  - c. Conscripts per 1,000 population
- IV. Restrain of International Trade
  - a. Taxes on international trade as a percent of exports and imports
  - b. Actual size of the trade sector compared to the expected size

The Sea Ranch meeting also featured an interesting experiment on an alternative approach. At the beginning of the session, Milton and Rose Friedman asked the 23 participants to rank order the perceived economic freedom of 11 countries with which all participants would be familiar. The 11 countries included in this survey were: Australia, Chile, France, Germany, Hong Kong, India, Israel, Japan, Sweden, the United Kingdom, and the United States. The Friedmans tabulated the rankings during the evening and presented the results the following day. This simple survey and analysis enhanced the confidence in the Gwartney, Block, and Lawson approach. While there were some differences, the Gwartney, Block, and Lawson ratings of the 11 countries were highly correlated with the rankings derived by the survey approach.

In 1991, a fifth meeting of the series was held in Monterey, California (Walker 1996) without the participation of Gwartney and Lawson. This meeting focused on a series of papers based on the survey approach to creating an index. Groups of respondents in Asia, Latin America, Africa, Europe and North America were asked to rank countries in their region as well as countries outside their region which were common to all of the lists. In this way it was hoped that an integrated picture might emerge of the economic freedom rankings of the countries examined. While this experiment generated some interesting results, it also highlighted a number of problems. The respondents did not possess enough information about a broad set of countries. Even knowledgeable people living in a given region generally possessed detailed knowledge for only one or two countries in their region. In the end, the conference did not generate a set of coherent ratings that seemed credible. Later an actual survey was sent to Mont Pelerin Society members all over the world, who presumably would have closely related ideas regarding the concept and meaning of economic freedom. While the results from this survey were more consistent, it was felt that the more objective, data-driven approach previously presented by Gwartney, Block and Lawson would lead to a more desirable outcome.

The sixth and final symposium in the series was held in Sonoma, California in 1993. This meeting focused on an expanded and updated version of the Gwartney, Block and Lawson measure. Several suggestions for improvement were advanced and alternative methods of weighting the variables considered. After this meeting, Michael Walker and the Fraser Institute decided it was time to move toward a final publication.

Gwartney developed serious problems with his eyesight shortly after the 1993 meeting, which would eventually result in his total blindness; this caused a several-year delay in the publication process. In the interim, the Heritage Foundation released its own *Index of Economic Freedom* in 1995 which was published mere months before the EFW index. Edward Hudgins had been a representative from the Heritage Foundation at both the Banff and Sea Ranch meetings. See Miller et al. (2022) for the most recent Heritage index.

## STRUCTURE OF THE INITIAL EFW INDEX

The Fraser Institute released the initial *Economic Freedom of the World: 1975–1995* (Gwartney et al. 1996) to considerable fanfare receiving attention even from *The Economist* (Anonymous 1996) magazine. The publication contained an introduction by Michael Walker describing much of the historical background outlined above and a foreword by Milton Friedman.

Throughout the development phase of the index, Milton Friedman constantly reminded participants that we were developing a scientific measure. To the fullest extent possible, it should

be based on objective quantifiable data and transparent procedures. The subjective views of the researchers should not influence the rating of any country. Thus, the data used to derive ratings were objective data obtained from external sources. The goal was the development of an index that others, regardless of their political orientation, could replicate.

As shown in Box 2.2, the initial EFW index was based on 17 components organized into four major areas. Based on the actual data, each component was assigned a gradation rating ranging from zero representing the least free to ten representing the freest. The component ratings were aggregated to derive the area ratings and finally the area ratings aggregated to derive an overall summary rating. Data were available to calculate the index for 102 nations for 1975, 1980, 1985, 1990, and 1993–1995. This made it possible to not only observe cross-country differences in economic freedom, but for the first time, to track country changes through time.

As the availability of data expanded through the years, the EFW index has become more comprehensive, and changes have been made in the structure, the types of data used, and the methods of aggregation.

### BOX 2.2 COMPONENTS AND SUB-COMPONENTS OF THE FIRST EFW REPORT IN 1996

- I. Money and Inflation (protection of money as a store of value and medium of exchange)
  - a. Average annual growth rate of the money supply during the last five years minus the potential growth rate of real GDP
  - b. Standard deviation of the annual inflation rate during the last five years
  - c. Freedom of citizens to own a foreign currency bank account domestically
  - d. Freedom of citizens to maintain a bank account abroad
- II. Government Operations and Regulations (freedom to decide what is produced and consumed)
  - a. Government general consumption expenditures as a percent of GDP
  - b. The role and presence of government-operated businesses
  - c. The extent that businesses are free to set their own prices
  - d. Freedom of private businesses and cooperatives to compete in markets
  - e. Equality of citizens under the law and access of citizens to a nondiscriminatory judiciary
  - f. Freedom from government regulations and policies that cause negative real interest rates
- III. Takings and Discriminatory Taxation (freedom to keep what you earn)
  - a. Transfers and subsidies as a percent of GDP
  - b. Top marginal tax rate (and income threshold at which it applies)
  - c. The use of conscripts to obtain military personnel
- IV. Restraints on International Exchange
  - a. Taxes on international trade as a percent of exports plus imports
  - b. Difference between the official exchange rate and the black market rate
  - c. Actual size of the trade sector compared to the expected size
  - d. Restrictions on the freedom of citizens to engage in capital transactions with foreigners

## **The Economic Freedom Network**

From the beginning, the EFW Index has been produced and published by the Fraser Institute in Canada and is co-published by an Economic Freedom Network (EFN) of private think tanks and institutes, each of which receives copyright permissions within its country. Currently, there are EFN members in 90 different countries. EFW members include the Cato Institute (USA), the Hong Kong Center for Economic Research, the Institute of Economic Affairs (UK), the Liberales Institut (Germany), The Free Market Foundation (South Africa), and Timbro (Sweden).

Each year before final publication, the EFW index authors send preliminary data to the members of the EFN for their review. They are asked to comment on the data for their country and in rare cases correct the data when a credible local source conflicts with the international sources.

In addition, the EFN holds an annual meeting, hosted by one of the member groups, to discuss the EFW index in more detail. At these meetings, invited guests make presentations and participate in panel discussions. Importantly, the annual EFN meeting also provides the authors with the opportunity to share and discuss ideas for improvements in the index with a broad set of scholars and practitioners who have been involved with the project through the years. The open collaborative spirit of those first six Liberty Fund colloquia remains alive at these annual EFN meetings.

## **CHANGES IN THE INDEX THROUGH TIME**

In the foreword to the initial EFW publication (Gwartney et al. 1996, p. vii), Milton Friedman (1996) wrote:

Freedom is a big word, and economic freedom not much smaller. To talk about economic freedom is easy; to measure it, to make fine distinctions, assign numbers to its attributes, and combine them into one overall magnitude – that is a very different and much more difficult task, as we found out when we started on this quest some thirteen years ago (see Michael Walker's introduction).

James Gwartney, Robert Lawson, and Walter Block deserve great credit for having brought this quest to so satisfactory a temporary conclusion – I say temporary because this study of economic freedom for more than 100 countries provides a cornucopia for students of the relation between economic freedom, political freedom, and civil freedom, and for further explorations of the relation between economic freedom and the level and rate of economic growth. The resulting studies will surely make revised editions necessary, both to bring the indexes of economic freedom up to date and to incorporate the additional understanding that will be generated.

As Friedman correctly indicated, the EFW index was a work in progress. Subsequent changes would be necessary to improve the accuracy and comprehensiveness of the measure. The following provides a review of the major changes in the index since the initial publication.

### **Structural Changes to the Index**

As previously mentioned, objective variables such as government consumption as a share of total consumption were strongly preferred to variables reflecting subjective views. While it was possible to develop a set of objective variables for the measurement of economic freedom



in the areas of size of government, access to sound money, and openness of international exchange, this was not the case in the legal system and regulatory areas. Nonetheless, institutions and policies in these areas exert a major impact on economic freedom. In the end, it was decided that survey data would be needed to provide information on the consistency of institutions and policies with economic freedom in the legal and regulatory areas.

Prior to the 2002 report, the EFW index mainly used data from the *International Country Risk Guide* (ICRG) to measure cross-country differences in the legal structure area (PRS Group, various years). Beginning in the early 2000s, the World Economic Forum's Executive Opinion Survey, which formed the basis for its *Global Competitiveness Report* (GCR) ratings, included information on the independence of the judiciary, impartiality of courts, and hiring and firing practices (World Economic Forum, various years). The GCR also included several variables that addressed regulatory restraints, particularly those limiting freedom to contract and compete in business activities and labor markets. Beginning with the 2002 annual report, survey variables from the GCR were incorporated into the legal and regulatory areas of the index. Like the other variables in the index, the survey variables were derived from an external source. Although the data were subjective, the subjective views of the authors still did not exert an impact on the rating of any country. This is a critical ingredient of the index that has been and will continue to be maintained.

The 2002 annual report (Gwartney and Lawson 2002) also reorganized the components into five major areas: (1) Size of Government, (2) Legal Structure and Security of Property Rights, (3) Access to Sound Money, (4) Freedom to Exchange with Foreigners, and (5) Regulation of Credit, Labor, and Business. This basic organizational structure of the areas in the index is still maintained.

In 2007, the availability of the *Doing Business Indicators* of the World Bank presented another opportunity to increase the comprehensiveness of the EFW index. Using a team of professionals around the globe, World Bank staff derived data on the required time and money costs across countries when engaging in various business activities such as starting a new business, clearing imports or exports through customs, hiring and dismissing employees, collecting an uncontested debt, and making tax payments. The methodology of the World Bank involved estimating the regulatory compliance cost incurred in each country when undertaking specific generic business activities. These data along with the survey data from the *Global Competitiveness Report* substantially increased the coverage of various indicators of economic freedom in the legal and regulatory areas of the EFW index.<sup>2</sup>

In 2020, the EFW index began to augment various components and sub-components using selected variables from the Varieties of Democracy (V-Dem Institute, various years) database, and as a result the data coverage prior to 2000, especially in Area 2, has been greatly enhanced.

The 2007 annual report contained 42 different variables (components and sub-components), up from 25 in 1998–1999, 17 in the initial 1996 report, and 11 in the first prototype index (Gwartney and Lawson 2007). The 42 variables were grouped into the five major areas of the index. With only minor changes, this structure is still present in the latest annual report. See Box 2.3 for the listing of the components in each of the five areas of the index in the 2022 report.

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<sup>2</sup> The World Bank recently announced the discontinuation of the *Doing Business* project over alleged improprieties in the calculations related to several countries including China. Simeon Djankov (2022) is currently exploring the opportunity to revive the project with another institutional home.

Each annual report contains an appendix, 'Explanatory notes and data sources,' indicating the source of the raw data for each component and how the data are transformed to the zero to ten scale. This allows reviewers to understand how the ratings for each component are derived. Because the derivation of data takes time and only data from external sources are used, there is a two-year lag between the year of the annual report and the year used to derive the index. For example, the 2022 annual report provides the EFW index based on data from 2020.

### BOX 2.3 COMPONENTS AND SUB-COMPONENTS OF 2022 EFW INDEX

- I. Size of Government
  - a. Government consumption
  - b. Transfers and subsidies
  - c. Government investment
  - d. Top marginal tax rate
    - i. Top marginal income tax rate
    - ii. Top marginal income and payroll tax rate
- II. Legal System and Property Rights
  - a. Judicial independence
  - b. Impartial courts
  - c. Protection of property rights
  - d. Military interference in the rule of law and politics
  - e. Integrity of the legal system
  - f. Legal enforcement of contract
  - g. Regulatory costs of the sale of real property
  - h. Reliability of police
- III. Sound Money
  - a. Money growth
  - b. Standard deviation of inflation
  - c. Inflation: most recent year
  - d. Freedom to own foreign currency bank accounts
- IV. Freedom to Trade Internationally
  - a. Tariffs
    - i. Revenue from trade taxes (% of trade sector)
    - ii. Mean tariff rate
    - iii. Standard deviation of tariff rates
  - b. Regulatory trade barriers
    - i. Non-tariff trade barriers
    - ii. Compliance costs of importing and exporting
  - c. Black market exchange rates
  - d. Controls on the movement of capital and people
    - i. Financial openness
    - ii. Capital controls
    - iii. Freedom of foreigners to visit
- V. Regulation

- a. Credit market regulation
  - i. Ownership of banks
  - ii. Private sector credit
  - iii. Interest rate controls/negative real interest rates
- b. Labor market regulations
  - i. Hiring regulation and minimum wage
  - ii. Hiring and firing regulations
  - iii. Centralized collective bargaining
  - iv. Hours regulations
  - v. Mandated cost of worker dismissal
  - vi. Conscription
- c. Business regulations
  - i. Administrative requirements
  - ii. Bureaucracy costs
  - iii. Starting a business
  - iv. Impartial public administration
  - v. Licensing restrictions
  - vi. Cost of tax compliance

### **Adjustment for Differences in the Legal Rights of Women Relative to Men**

The 2017 report incorporated an adjustment of the legal structure area rating for cross-country differences in the legal rights of women relative to men. While the legal rights of men and women are similar or identical in many countries, and most economic policies affect women and men equally (e.g., inflation and tariffs), this is not always the case especially when it comes to legal matters. The World Bank provides data on the legal rights of women relative to men for a large number of countries on women's freedom to move outside of the home, open a bank account, engage in employment, operate a business, own property, and inherit assets, among others. These data were used to adjust country ratings in the legal area.

Failure to make this adjustment results in an upward bias of the ratings for economic freedom in countries that restrict the legal rights of women. Since the World Bank data on gender disparities are available historically all the way back to 1970, it was possible to adjust the earlier EFW ratings as well. This adjustment both improved the accuracy and expanded the comprehensiveness of the EFW index. Rosemarie Fike conducted detailed research on this topic and assisted us with the adjustment in the legal area. See Fike (2017) for details.

### **Aggregation Methods and Weighting of Components**

How should the components be aggregated and used to calculate area and summary ratings? There is no single answer to this question. Economic theory provides direction regarding elements that should be grouped together within the areas of the index, but it does not indicate how each component should be weighted. It would be nice if the components of economic freedom were independent of each other and a statistical tool such as regression analysis could be used to derive an appropriate weight for each component. However, the components are

often interrelated, and even if they were independent, the number of observations would limit the use of statistical techniques to derive weights.

The initial 1996 EFW report derived area and summary ratings based on three alternative weighting methods: equal weights, survey information, and correlation with level of income. The next few reports used principal component analysis to assign the component weights (within each area) and the area weights (for the summary rating). These alternative weighting systems did not generally exert much impact on the overall ranking of countries.

Starting with the 2002 Report, the index switched to using simple averages to create the component, area, and summary index scores. There were two practical reasons underlying this decision. First, it was easily understandable and easier to compute. Complex statistical weighting procedures are difficult for the media, policymakers, and ordinary citizens to comprehend. Thus, use of a simple averaging technique was consistent with our goal of transparency.

Second, there is reason to believe that the components of economic freedom work together like a team. Put another way, they may be linked like the wheels, motor, transmission, drive shaft, and frame of a car. Which of these components is most important for the operation of the car? The question cannot be easily answered because the parts work together. If any of these key parts break down, the car is immobile. We think institutional quality may be much the same. If any of the key parts are absent, the overall effectiveness is undermined. Just as it is a bundle of interrelated parts underlying the operation of an automobile, there is reason to believe that there is a bundle of interrelated components underlying the operation of economic freedom.

As the result of these two considerations, we organize the elements of the index in a manner that seems sensible to us, but we make no attempt to weight the components in any special way when deriving either area or summary ratings. Of course, the component and area ratings are available to researchers and if they believe that an alternative weighting procedure is more appropriate for their purposes, we have always encouraged them to employ it.

In fact, a cottage industry of alternative weighting schemes for the EFW index has emerged. Heckelman and Stroup (2000) experimented with different aggregation schemes based on growth regressions, to which Sturm et al. (2003) responded offering their own preferred weighting method. Balliew et al. (2020) explored the use of geometric means instead of arithmetic means. Along similar lines, Bolen and Sobel (2020) suggest that countries with higher standard deviations of the area ratings grow less rapidly over time, *ceteris paribus*, echoing the EFW authors' teamwork argument.

## Comparability Across Time

As the availability of data through time has increased, the number of countries included in the index has expanded. The initial 1996 Index included 102 countries. By 2002, the annual report covered 123 countries, and that figure has jumped to 165 in the most recent report (Gwartney et al. 2022). More importantly, the EFW index has also become more comprehensive through time. The number and composition of the components and sub-components for many countries vary across time. Given these changes in the structure of the index, how can comparability across time be achieved?

Our initial solution was to adopt a chain-linked procedure similar to that used by government statisticians when there are changes in the basket of goods included in the construction of price indexes to track inflation. When new goods are added (or old goods subtracted) to the

basket, the statisticians will base *changes* in the price index only on *changes* in the prices of goods that are common from one year's basket to the next. If we add, say, bananas to a price index basket that had previously contained only apples and oranges, the only effect of this addition would be to adjust the price index based on *changes* in the price of bananas this year to next. In essence, the price *level* of bananas would not matter, only *changes* in the price of bananas would matter. If the following year, avocados were added, then similarly, the price index would adjust upward or downward based on *changes* in the price of avocados.

The 2002 EFW index was the first to present a chain-linked EFW index (now called the EFW Panel Dataset) using the 2000 value as the 'base year.' The 2000 rating was taken as the base, and then the scores for the areas and the overall index were adjusted upward or downward in the years before and after based only on *changes* in the ratings for the underlying variables common to adjacent data years.

One downside to this approach was that you could only construct a chain-linked score for those countries with ratings in the 2000 base year. As time went on, additional countries were added to the EFW index, but they could not be included in the chain-linked version of the index without a rating in 2000. Beginning with the 2022 report, the base year was set as the most recent year, and the chain-linking procedure was performed going backward in time from that most recent year. This means that the EFW Panel Dataset can include the same list of countries as the regular index. It should be noted that the EFW Panel Dataset contains area and summary ratings only for those years in which the country received a regular EFW index rating. Because some data for earlier years may have been updated or corrected, researchers are always encouraged to use the data from the most recent annual report to assure the most reliable figures.

## CONCLUSION

Those intensely involved with the EFW project set out to develop to the fullest extent possible a comprehensive and accurate measure of economic freedom. We believed that this measure would make it possible for researchers to investigate more directly a large number of unsettled questions.

Consider the following questions. Are the poor often left behind in more economically free economies? Is income inequality greater in countries with more economic freedom? How does economic freedom impact environmental quality? Are economically free countries more or less likely to become involved in wars? Are people living in economically free countries more or less happy than those residing in countries that are less economically free? Can a country maintain a high degree of political freedom without relying on something like a market economy to allocate goods and resources? These are vitally important questions. Without a measure of economic freedom, it would be impossible to address them in a scholarly manner.

From the outset, those of us involved in the EFW project sought to move questions like these away from opinions, biases, and heated arguments toward scholarly empirical analysis. The more than 1,300 peer-reviewed journal articles that have cited the EFW index (Lawson 2022) provide ample evidence of the success of the EFW index in affecting the academic conversation. Scholarly debate about the EFW index itself is ongoing as evidenced by the spirited exchange of papers by Hanson (2003) and Heckelman (2005); the vigorous debate between about the proper specification to be employed in growth regressions among de Haan et al.

(2006), Lawson (2006), de Haan and Sturm (2006), Lawson and Cole (2007), and de Haan and Sturm (2007); and the debate about the appropriateness of including government spending in the EFW index between Ott (2018, 2022) and Murphy (2022a, 2022b). Regrettably, sober analyses such as these play only a small role in popular and political discussions about economic freedom. Clearly, there is much room for improvement in these areas.

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