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The concept and measurement of economic freedom

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Abstract

Since 1996, the *Economic Freedom of the World* (EFW) reports have presented an index that measures the consistency of a nation's policies and institutions with economic freedom. The key ingredients of economic freedom are personal choice, voluntary exchange, freedom to compete, and protection of person and property. Earlier versions of the EFW index have been based almost exclusively on objective quantifiable data. However, some important elements of economic freedom, particularly those dealing with property rights and regulatory restraints, are difficult to capture with objective measures. This paper integrates survey data on legal structure and government regulation into the EFW index and uses it to develop a more comprehensive measure of economic freedom.
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1. Introduction

Since 1996, various editions of *Economic Freedom of the World* (EFW) have rated the economic freedom of more than 100 countries.[1] The initial publication covered 1975, 1980, 1985, 1990, and 1995. Subsequent annual reports have provided data for other years

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[1] Beginning in 1986, Michael Walker of the Fraser Institute and Nobel Laureate Milton Friedman hosted a series of conferences that focused on the measurement of economic freedom. Several other leading scholars, including Nobel Prize winners Gary Becker and Douglass North, also participated in the series. In total, almost 60 economists participated in these conferences which led ultimately to the creation of this index. For a complete list of conference participants, see Gwartney et al. (1996: pp. 8–10). For selected papers from these conferences, see Walker (1988), Block (1991), and Easton and Walker (1992).

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during the latter half of the 1990s. This paper presents a revised and extended index that incorporates survey data on property rights/legal structure and on government regulation, areas of economic freedom that are particularly difficult to measure. These revisions will be incorporated into future editions of the EFW index.

Other economic freedom indexes have been created. Scully and Slottje (1991) were the first to develop a systematic measure of economic freedom. Their pioneering work laid the foundation for subsequent research. Scully has participated in several of the EFW conferences and provided valuable input to the EFW project during the last decade. The Heritage Foundation/*Wall Street Journal* has published an annual index of economic freedom since 1995 (O'Driscoll et al., 2001). While it covers more countries than the EFW, the Heritage index is based on measurement procedures that are both less precise and less transparent than those of EFW. Even more important, since the Heritage measure covers only the period since the mid-1990s, it is of less value to researchers analyzing the impact of changes in economic freedom across time periods. In spite of their methodological differences, however, the analysis of Hanke and Walters (1997) indicates that the country rankings of the Heritage/*WSJ* and EFW indexes are highly correlated. In addition, Messick (1996) has constructed an economic freedom index for Freedom House. To date, this study has not been updated.

This paper will begin with an analysis of the concept of economic freedom and consider how it differs from political and civil liberties. We will also present the revised structure and methodology of the more comprehensive EFW index that incorporates survey-based components designed to improve the measurement of cross-country differences in the legal structure and regulatory areas. Finally, the new structure will be used to derive both cross-country summary and area ratings of economic freedom for 1999.

2. What is economic freedom?

The key ingredients of economic freedom are personal choice, voluntary exchange, freedom to compete, and protection of persons and property. When economic freedom is present, the choices of individuals will decide what and how goods and services are produced. Of course, individuals will often find it attractive to engage in exchange activities that are mutually advantageous. Personal ownership of self is an underlying postulate of economic freedom. Because of this self ownership, individuals have a right to choose—to decide how they will use their time and talents. On the other hand, they do not have a right to the time, talents, and resources of others. Thus, they have no right to demand that others provide things for them.

Institutions and policies are consistent with economic freedom when they provide an infrastructure for voluntary exchange, and protect individuals and their property from aggressors seeking to use violence, coercion, and fraud to seize things that do not belong to them. In this regard, the legal and monetary arrangements are particularly important. Governments promote economic freedom when they provide a legal structure and law enforcement system that protects the property rights of owners and enforces contracts in an even-handed manner. They also enhance economic freedom when they facilitate access to sound money. In some cases, the government itself may provide a currency of stable value.

In other instances, it may simply remove obstacles that retard the use of sound money that is provided by others, including private organizations and other governments.

However, economic freedom also requires governments to refrain from many activities. They must refrain from actions that interfere with personal choice, voluntary exchange, and the freedom to enter and compete in labor and product markets. Economic freedom is reduced when taxes, government expenditures, and regulations are substituted for personal choice, voluntary exchange, and market coordination. Restrictions that limit entry into occupations and business activities also retard economic freedom.

The concept of economic freedom outlined here 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 nonaggression or "negative" rights, all citizens can simultaneously possess them. Some argue that individuals have invasive rights or what some call "positive rights" to things like food, housing, medical services, or a minimal income level. Such rights imply that some individuals have the right to impose on others. If A has a positive right to housing, for example, this logically implies that A has a right to force B to provide the housing. But in a negative rights context, A has no right to the labor of B or any other individual since B owns himself. Because they imply that some have the right to invade and seize the labor and possessions of others, such invasive rights are in conflict with the concept of economic freedom underlying the EFW index.

3. Alternative ways of viewing the index

While the concept of economic freedom provides the compass for the design of the EFW index, the index can be viewed in other ways. Some may perceive of it as an indicator of each country's position on a spectrum with the minimal state at one end and the dominant state at the other. Conceptions of what constitutes a minimal state vary considerably from the near anarchy of Rothbard (1970) and Nozick (1974) to the more expansive though still severely limited role of government espoused by Smith (1937), Buchanan (1975), and Hayek (1960). It is important to note however that no real world economic system comes very close to any of these philosophical positions.

Berliner (1999: pp. 4–5) characterizes the issue along a "left–right" continuum. The left consists of socialism, fascism, communism, etc.; systems in which the government is center stage and private property is only tolerated if not outlawed altogether.[2] On the right, according to Berliner are the classical liberals or libertarians who oppose virtually all government interference in markets. And the vast center would be reformers of various kinds who are not quite socialists but not libertarians either. Most of the ruling parties in Europe and North America would be center-reformist parties along this continuum.

This approach is entirely consistent with our approach to rating economic freedom. When the minimal state functions (protection of people and their property from the actions

[2] Some will object to the placement of both socialism and fascism on the left of the spectrum. While it is true that these ideologies are often at odds politically and the underlying motivations are often vastly different, the economic policies espoused are often quite similar. Both socialism and fascism reject free markets.

of aggressors, enforcement of contracts, and provision of the limited set of public goods like roads, flood control projects, and money of stable value) are performed well, but the government does little else, the EFW summary index will be high. Correspondingly, as government expenditures increase and regulations expand, a country's rating will be low.

Countries with limited government expenditures will receive higher ratings in this index *ceteris paribus*. However, merely because minimal government functions could be provided with small governments, it does not follow that countries with low government expenditures will necessarily allocate their spending toward the protective functions of government. This highlights why other areas such as rule of law, sound money, regulation, etc. are important when evaluating economic freedom. de Haan and Sturm (2000) question the inclusion of government spending in an economic freedom index. It is undeniable that government spending can be desirable, and as a result most libertarians support at least some level of government. But the fact remains that government provision of goods and services, even when desirable, supplants individual decision making with collective decision making and erodes economic freedom as we conceive it.

Rating countries across a spectrum from most free to least free or from the minimal state to the dominant state does not reveal that one position (rating) is superior to another. Many would argue that some intervention beyond the minimal state will lead to greater economic efficiency, less inequality, more rapid growth, or various other attributes of a good society. Whether these perceptions are true is an empirical issue, and the EFW measure should be helpful to those investigating these questions.

The EFW index can also be viewed as a quality measure of a country's institutional and policy environment. For many years, North (1990), Bauer (1957), de Soto (1989) and Scully (1988, 1992) have stressed the importance of institutions and related policy variables. Following this same path, the new growth theory argues that sound institutions and policies are the keys to economic progress (for example, Torstensson, 1994; Knack and Keefer, 1995; Barro, 1996; Barro and Sala-i-Martin, 1995). This literature stresses the importance of rule of law, security of property rights, enforcement of contracts, monetary and price stability, free trade, open markets, and avoidance of excessive taxes and regulations. The EFW index incorporates most of the policy and institutional elements highlighted by the new growth theory.

4. Economic freedom, political freedom, and civil liberties

Economic freedom covers a different sphere of human interaction than political freedom and civil liberties. Political freedom concerns the procedures that are used to elect government officials and decide political issues. Political liberty is present when all adult citizens are free to participate in the political process (vote, lobby, and choose among candidates), and elections are democratic, fair, and competitive (alternative parties are allowed to participate freely). Civil liberty encompasses the freedom of the press and the rights of individuals to assemble, hold alternative religious views, receive a fair trial, and express their views without fear of physical retaliation.

While they cover different aspects of life, the foundation of political and civil liberty is identical to that of economic freedom. Consider political liberty. The freedom of voters to support candidates and parties of their choice is grounded in the personal choice postulate. Similarly, the presence of competition among alternative candidates and parties merely reflects the importance of voluntary interaction and free entry (freedom to compete). Voluntary association and freedom to compete also provide the foundation for civil liberties including the right to assemble, freedom of religion, and freedom of the press. The right to a fair trial reflects the importance of an even-handed legal system and protection of person and property against aggression. Thus, the foundation for our concept of economic freedom is the same as that underlying political and civil liberty.[3]

It is possible for a country to have a substantial amount of political freedom and, at the same time, follow policies that severely limit economic freedom. Political democracies that have pushed tax and spending levels to 50% and more of the economy illustrate this point. It is also possible for an economy to be relatively free even though citizen participation in the political process is highly limited. Hong Kong during the last several decades of British rule provides an example of this case.

However, there are reasons to believe that economic freedom and political and civil liberties are generally allies. When individuals are free to choose how to earn a living and spend their own income, they are also likely to believe that they are perfectly capable of choosing their political officials. Therefore, if the economic freedom of a country increases, there is also likely to be a tendency for political freedom to expand. While this is a topic for potentially fruitful future research, the experiences of Chile, Taiwan, and South Korea during the last three decades suggest that movements toward greater economic freedom also tend to enhance political and civil liberties.

There is also reason to believe that the presence of political freedom and civil liberties strengthens economic freedom. This is particularly true in the area of legal structure. The credibility of rule of law procedures and the fairness of the judicial system are greatly enhanced when these factors are reflective of widespread and long-term citizen sentiment. Conversely, credibility in these areas is difficult to achieve when the legal structure merely reflects the current policies of a strong political leader.

5. Measurement of economic freedom and revisions in the new EFW index

Clearly, economic freedom is complex and multidimensional. This makes it difficult to quantify. From the outset, it was agreed that to the fullest extent possible the EFW measure should be based on objective quantifiable data and transparent procedures. The subjective views of the researchers should not influence the rating of any country. The goal was the development of an index that others, regardless of their political orientation, could replicate.

[3] Milton Friedman reminds us that economic freedom is properly considered as a part of overall human freedom. The following is a quote from Friedman from the 2001 *Economic Freedom of the World* network annual meeting,

> I believe one has to be careful not to over-emphasize the role of economic freedom as a source of economic growth, as compared with the role of economic freedom as a part of freedom, of human freedom. We've talked about economic and political freedom as if they where wholly separate things, which they are not...Property rights are not only a source of economic freedom. They are also a source of political freedom. That's what really got us interested in economic freedom in the first place.

The most recent edition of the EFW index contains 21 individual components.[4] A diverse set of objective variables are employed and they provide a good measure of cross-country differences in size of government, access to sound money, openness of international trade, and regulation of capital markets. However, important dimensions are omitted because of data limitations and measurement problems. In some cases, potential components are omitted because the required data are only available for a small number of countries. In other instances, omissions reflect the difficulties involved in the development of an objective measure.

The impact of regulatory constraints and the consistency of a country's legal system with economic freedom are particularly difficult to quantify. Nonetheless, they exert a major impact on economic freedom. In the past, the EFW index has used data from the *International Country Risk Guide* (ICRG) to measure cross-country differences in the legal structure area (The PRS Group, 2000). The annual survey of the *Global Competitiveness Report* (GCR) recently incorporated questions on the independence of the judiciary, impartiality of courts, and protection of intellectual property rights (World Economic Forum, 2000). Incorporation of these survey ratings into the EFW index will improve the measure in the legal structure area. Similarly, prior versions of the EFW index have failed to register several important regulatory restraints, particularly those limiting freedom to contract and compete in business activities and labor markets. The GCR survey also includes several variables that address these issues.[5]

While we prefer components based on objective data, we recognize that the GCR survey ratings provide important information on the consistency of legal institutions and regulatory policies with economic freedom. As Milton Friedman noted following the publication of the initial *Economic Freedom of the World* annual report, the EFW measure is a work in progress. Thus, we are open to modifications that will improve the accuracy and comprehensiveness of the index. Supplementing the objective components of the index with survey data in the legal and regulatory areas will be a step in that direction.[6]

6. Structure of the revised EFW index

Table 1 indicates the structure of the forthcoming EFW index. The EFW index measures the degree of economic freedom present in five major areas:

- Size of Government: Expenditures, Taxes, and Enterprises
- Legal Structure and Security of Property Rights

[4] See Exhibit 1-1 of Gwartney and Lawson (2001) for a complete listing of the 21 components.

[5] The ratings of the *Global Competitiveness Report* were based on a survey of more than 4000 executives doing business in at least one of the 59 countries covered by the report. Of the 59 countries, all but Vietnam are also included in the *Economic Freedom of the World* Index. The focus of the GCR differs decidedly from that of the EFW project. The GCR seeks to measure the attractiveness (competitiveness) of a country for business activity. While it contains some information on policy and institutions, much of the focus is on the use of technology, quality of the physical infrastructure, and skill of the labor force.

[6] Chapter 2 in Gwartney and Lawson (2001) lays the foundation for this modification.

- Sound Money
- Freedom to Trade with Foreigners
- Regulation of Credit, Labor, and Business

Within the five major areas, 21 components are incorporated into the index, but many of those components are themselves made up of several subcomponents. Counting the various subcomponents, this index utilizes 37 distinct pieces of data. Each component and subcomponent is placed on a zero-to-ten scale that reflects the distribution of the underlying data.[7] The component ratings within each area are averaged to derive ratings for each of the five areas. In turn, the summary rating is merely the average of the five area ratings. We now turn to a brief explanation of the components incorporated into each of the five areas and their relationship to economic freedom.

6.1. Area I: size of government

The four components of Area I indicate the extent to which countries rely on individual choice and markets rather than the political process to allocate resources and goods and services. When government spending increases relative to spending by individuals, households, and businesses, government decision making is substituted for personal choice and economic freedom is reduced. The first two components address this issue. Government consumption as a share of total consumption (I-A) and transfers and subsidies as a share of GDP (I-B) are indicators of government size. When government consumption is a larger share of the total, political choice is substituted for private choice. Similarly, when governments tax some people in order to provide transfers to others, they reduce the freedom of individuals to keep what they earn. Thus, the greater the share of transfers and subsidies in an economy, the less economic freedom.

Economists often speak of the protective and productive functions of government. The protective function involves protecting citizens and their property against aggressors. It includes the provision of national defense, police protection, and a system of justice. The productive function involves the provision of a limited set of public goods like sound money, flood control and environmental quality that are difficult to provide through markets. High-income countries currently spend only about 10–15% of GDP on these activities. For evidence on this point, see Gwartney et al. (1998).

The third component (I-C) in this area measures the extent that countries use private rather than government enterprises to produce goods and services. Government firms play by different rules than private enterprises. They are not dependent on consumers for their revenue or on investors for risk capital. They often operate in protected markets. Thus, economic freedom is reduced as government enterprises produce a larger share of total output.

[7] For details about the raw data underlying the objective components of the index and how they were transformed to the zero-to-ten scale, see the Appendix to Chapter 1 of Gwartney and Lawson (2001). With regard to the survey data, the original GCR ratings were scaled from one to seven. The following formula was used to convert them to a zero-to-ten scale: GCR rating minus 1, multiplied by 1.667.

Table 1
The areas and components of the EFW Index

Area I: Size of government: expenditures, taxes, and enterprises

A. General government consumption spending as a percentage of total consumption.
B. Transfers and subsidies as a percentage of GDP.
C. Government enterprises and investment as a percentage of GDP.
D. Top marginal tax rate (and income threshold to which it applies).

Area II: Legal structure and security of property rights

A. Judicial independence: the judiciary is independent and not subject to interference by the government or parties in disputes (GCR).
B. Impartial courts: a trusted legal framework exists for private businesses to challenge the legality of government actions or regulation (GCR).
C. Protection of intellectual property (GCR).
D. Military interference in rule of law and the political process (ICRG).
E. Strength and impartiality of the legal system and popular observance of the law (ICRG).

Area III: Access to sound money

A. Average annual growth of the money supply in the last five years minus average annual growth of real GDP in the last ten years
B. Standard deviation of annual inflation in the last five years.
C. Annual inflation in the most recent year.
D. Freedom of citizens to own foreign currency bank accounts domestically and abroad.

Area IV: Freedom to exchange with foreigners

A. Taxes on international trade.
  i. Revenue from taxes on international trade as a percentage of exports plus imports.
  ii. Mean tariff rate.
  iii. Standard deviation of tariff rates.
B. Regulatory trade barriers.
  i. Hidden import barriers: No barriers other than published tariffs and quotas (GCR).
  ii. Costs of importing: the combined effect of import tariffs, licence fees, bank fees, and the time required for administrative red-tape raises costs of importing equipment by (10 = 10% or less; 0 = more than 50%) (GCR).
C. Actual size of trade sector compared to expected size.
D. Difference between official exchange rate and black market rate.
E. International capital market controls
  i. Access of citizens to foreign capital markets and foreign access to domestic capital markets. (GCR)
  ii. Restrictions on the freedom of citizens to engage in capital market exchange with foreigners—index of capital controls among 13 IMF categories.

Area V: Regulation of credit, labor, and business

A. Credit Market Regulations
  i. Ownership of banks: percentage of deposits held in privately owned banks.
  ii. Competition: domestic banks face competition from foreign banks (GCR).
  iii. Extension of credit: percentage of credit extended to private sector.
  iv. Avoidance of interest rate controls and regulations that lead to negative real interest rates.
  v. Interest rate controls: interest rate controls on bank deposits and/or loans are freely determined by the market (GCR).

Table 1 (*continued*)

Area V: Regulation of credit, labor, and business
B. Labor Market Regulations
i. Impact of minimum wage: the minimum wage, set by law, has little impact on wages because it is too low or not obeyed (GCR).
ii. Hiring and firing practices: hiring and firing practices of companies are determined by private contract (GCR).
iii. Share of labor force whose wages are set by centralized collective bargaining (GCR).
iv. Unemployment benefits: the unemployment benefits system preserves the incentive to work (GCR).
v. Use of conscripts to obtain military personnel
C. Business Regulations
i. Price controls: extent to which businesses are free to set their own prices.
ii. Administrative conditions and new businesses: administrative procedures are an important obstacle to starting a new business (GCR).
iii. Time with government bureaucracy: senior management spends a substantial amount of time dealing with government bureaucracy (GCR).
iv. Starting a new business: starting a new business is generally easy (GCR).
v. Irregular payments: irregular, additional payments connected with import and export permits, business licenses, exchange controls, tax assessments, police protection, or loan applications are very rare (GCR).

GCR = *Global Competitiveness Report*.
ICRG = *International Country Risk Guide*.

The fourth component (I-D) is based on the top marginal income tax rate and the income threshold at which it applies. High marginal tax rates deny individuals the fruits of their labor and they often impose a burden on many citizens that is substantially greater than the revenues transferred to the government. In extreme cases, the high marginal tax rates will raise little, if any, additional revenue. Thus, government expenditures (and revenues) will understate both the cost of government and the accompanying loss of economic freedom. Inclusion of the marginal tax rate component is intended to take this factor into account.[8]

Taken together, the four components measure the degree of a country's reliance on personal choice and markets rather than government budgets and political decision making. Therefore, countries with low levels of government spending as a share of the total, a smaller government enterprise sector, and lower marginal tax rates earn the highest ratings in this area.

6.2. Area II: legal structure and security of property rights

Protection of persons and their rightfully acquired property is a central element of both economic freedom and a civil society. Indeed, it is the most important function of government. Area II focuses on this issue. The key ingredients of a legal system consistent with economic freedom are rule of law, security of property rights, an independent judiciary, and an impartial court system. Failure of a country's legal system to provide for the security of property rights, enforcement of contracts, and the mutually agreeable

[8] Government expenditures are included in the index but revenues are omitted in order to avoid double-counting. The marginal tax rate variable is different, however, because it is reflective of a loss of economic freedom over and above the revenue transferred to the government.

settlement of disputes will undermine the operation of a market exchange system. If individuals and businesses lack confidence that contracts will be enforced and the fruits of their productive efforts protected, their incentive to engage in productive activity will be eroded.

Components indicating the even-handedness of the legal system and the security of property rights were assembled from two sources: the *International Country Risk Guide* and the *Global Competitiveness Report*. Component A in this area identifies cross-country differences with regard to the independence of the judiciary from manipulation by the executive and legislative branches of government. Components B and E focus on the impartiality of the court system. Component D provides evidence on the potential danger intervention by the military might pose to the rule of law. Component C measures the degree of protection the legal system provides for intellectual property rights.

In 1999, the three components (A, B, and C) from the *Global Competitiveness Report* were available for only 58 countries, while the two components (D and E) from the *International Country Risk Guide* could be obtained for 112 of the countries in our study. Ratings based on the average for all five components and on the average for only components D and E were derived for the 58 countries with complete data. The correlation coefficient between the two ratings was 0.75. This high correlation increases our confidence that the ratings in this area are a reliable indicator of the consistency of a country's legal structure with economic freedom, even when they are based only on the data from the *International Country Risk Guide*.[9]

6.3. Area III: access to sound money

Money oils the wheels of exchange. Absence of sound money undermines gains from trade. Inflation is a monetary phenomenon. It is caused by "too much money chasing too few goods." High rates of monetary growth invariably lead to inflation. Similarly, when the rate of inflation increases, it also tends to become more volatile. High and volatile rates of inflation distort relative prices, alter the fundamental terms of long-term contracts, and make it virtually impossible for individuals and businesses to plan sensibly for the future.

It makes little difference who provides the sound money. The important thing is that individuals have access to it. Thus, in addition to a country's monetary and inflation data, it is also important to consider how difficult it is to use alternative, more credible currencies. If bankers can offer saving and checking accounts in other currencies or if

[9] The mean values and distribution of the area ratings derived by the broad (all five components) and narrow (components D and E) data sources were slightly different. In order to correct for this factor and thereby preserve the comparability of the data across the 123 countries of the EFW index, we ran the following regression equation for the 58 countries for which the area rating could be derived by both methods: $B = a + xN$. B represents the area rating derived on the basis of all five components and N represents the area rating based only on components D and E. When only the latter two components were present (the countries for which the GCR data were unavailable), the N-value ratings of these countries were inserted into the regression equation and used to estimate the comparable B-value.This same procedure was also used in Areas IV and V in order to adjust the area ratings of the 65 countries for which the survey data were unavailable and enhance the comparability of the ratings across all 123 countries. This methodology avoids distortions that might occur as the result of missing data.

citizens can open foreign bank accounts, then access to sound money is increased and economic freedom expanded.

There are four components to the EFW index in the sound money area. All of them are objective and relatively easy to obtain. All have been included in the earlier editions of the index. The first three are designed to measure the consistency of monetary policy (or institutions) with long-term price stability. Component III-D is designed to measure the ease with which other currencies can be used via domestic and foreign bank accounts. In order to earn a high rating in this area, a country must follow policies and adopt institutions that lead to low (and stable) rates of inflation and avoid regulations that limit the use of alternative currencies should citizens want to use them.

6.4. Area IV: freedom to trade with foreigners

In our modern world of high technology and low communication and transportation costs, freedom of exchange across national boundaries is a key ingredient of economic freedom. The vast majority of our current goods and services are now either produced abroad or contain resources supplied from abroad. Of course, exchange is a positive-sum activity. Both trading partners gain and the pursuit of the gain provides the motivation for the exchange. Thus, freedom to exchange with foreigners also contributes substantially to our modern living standards.

Responding to protectionist critics and special-interest politics, countries have adopted a wide range of restrictions limiting international transactions. Tariffs and quotas are obvious examples of roadblocks that limit international trade. Because they reduce the convertibility of currencies, exchange rate controls also retard trade across national boundaries. The volume of trade is also reduced by administrative factors that delay the passage of goods through customs. Sometimes these delays are the result of inefficiency while in other instances they reflect the actions of corrupt officials seeking to extract bribes.

The components in this area are designed to measure a wide variety of restraints that impact international exchange including tariffs, quotas, hidden administrative restraints, exchange rate and capital controls. The regulatory items of Component IV-B (regulatory trade barriers) and Component IV-E (i) (capital market controls) are based on survey data from the *Global Competitiveness Report*. The other components in this area can be quantified objectively. In order to get a high rating in this area, a country must have low tariffs, a larger than expected trade sector, efficient administration of customs, a freely convertible currency, and few capital controls.

6.5. Area V: regulation of credit, labor, and business

When regulations restrict entry into markets and interfere with the freedom to engage in voluntary exchange, they reduce economic freedom. The final area of the index focuses on this topic. Because of the difficulties involved in developing objective measures of regulatory restraints, a substantial number (10 of 15) of the subcomponents in this area are based on survey data.

Regulatory restraints that limit the freedom of exchange in credit, labor, and product markets are included in the index. The first major component (V-A) focuses on regulatory elements of the credit market. The first two subcomponents provide evidence on the extent to which the banking industry is dominated by private firms and whether foreign banks are permitted to compete in the market. The final three subcomponents indicate the extent that credit is supplied to the private sector and whether interest rate controls interfere with credit market operations. Countries with an open banking system where privately owned banks extend a larger share of the outstanding credit to private borrowers at interest rates determined by market forces receive higher ratings for the credit market component of the regulatory area.

Many types of labor market regulations infringe on the economic freedom of employees and employers. Among the more prominent are minimum wages, dismissal regulations, centralized wage setting, extensions of union contracts to nonparticipating parties, unemployment benefits that undermine the incentive to accept employment, and conscription.[10] The labor market regulation component (V-B) is designed to measure the extent to which these restraints upon economic freedom are present across countries. In order to earn high marks in the labor regulatory area, a country must allow market forces to determine wages and establish the conditions of dismissal, avoid excessive unemployment benefits that undermine work incentives, and refrain from the use of conscription.

Like capital and labor market regulations, the regulation of business activities (Component V-C) inhibits economic freedom. The business regulation subcomponents are designed to identify the extent that regulatory restraints and bureaucratic procedures limit competition and the operation of markets. In order to score high in this portion of the index, countries must allow markets to determine prices and refrain from regulatory activities that retard entry into business and increase the cost of producing products. They also must refrain from playing favorites—from using their power to extract financial payments and reward some businesses at the expense of others.

7. Summary and area ratings, 1998–1999

Table 2 presents summary economic freedom ratings, sorted from highest to lowest, based on the format presented in Table 1. These ratings are for the 1998–1999 time period. The forthcoming *Economic Freedom of the World: 2002 Annual Report* will use the structure outlined here to derive ratings for the 1999–2000 period.

The survey data from the *Global Competitiveness Report* (16 subcomponents) are available for only 58 of the 123 countries covered by the EFW Index. Thus, the ratings of the other 65 countries are based on only 21 of the 37 elements of this index. An asterisk is attached to the rankings of these countries in Table 2. Two of the areas, size of government (I) and sound money (III), are completely unaffected by the omitted variables. The

[10] For information on how centralized wage setting, restrictive dismissal regulations, and lucrative unemployment benefits have reduced employment and increased unemployment among OECD countries, see Bierhanzl and Gwartney (1998) and Siebert (1997). If it was merely a reflection of voluntary arrangements between employees and employers, centralized wage setting would not be inconsistent with economic freedom. However, wide spread use of this form of wage setting is nearly always a reflection of government mandates that extend wage contracts established by others to employees and employers who were not parties to those contracts.

Table 2
Economic freedom summary ratings, 1998–1999

Rank	Countries	Summary Index	Rank	Countries	Summary Index	Rank	Countries	Summary Index
1	Hong Kong	8.88	42	Greece	6.90	83	*Nepal	5.70
2	Singapore	8.75	42	*Guyana	6.90	84	*Burundi	5.69
3	New Zealand	8.41	44	South Korea	6.86	85	*Benin	5.67
3	United Kingdom	8.41	45	*Kuwait	6.81	86	*Haiti	5.63
3	United States	8.41	45	*Nicaragua	6.81	87	Turkey	5.61
6	Luxembourg	8.33	47	France	6.80	88	*Mali	5.60
7	Switzerland	8.14	48	*Dominican Republic	6.78	89	Zimbabwe	5.59
8	Ireland	8.11	49	Hungary	6.77	90	*Tanzania	5.55
9	Australia	8.06	50	Thailand	6.76	91	*Ghana	5.54
10	Canada	8.01	51	*Bahamas	6.74	92	*Bangladesh	5.46
11	Netherlands	7.90	52	*Paraguay	6.69	93	Colombia	5.43
12	Iceland	7.71	53	*Uruguay	6.67	93	*Pakistan	5.43
13	Finland	7.65	54	Egypt	6.66	95	China	5.39
14	*Panama	7.57	55	*Malta	6.64	96	*Cameroon	5.32
15	Austria	7.53	56	*Kenya	6.61	97	*Chad	5.27
16	Denmark	7.49	56	*Namibia	6.61	98	Bulgaria	5.26
17	Germany	7.48	58	Peru	6.60	99	*Papua New Guinea	5.17
18	Belgium	7.43	59	*Jamaica	6.59	100	Brazil	5.15
19	Argentina	7.39	59	*Latvia	6.59	100	Venezuela	5.15
19	Norway	7.39	61	*Belize	6.52	102	*Iran	5.07
21	Chile	7.37	61	Israel	6.52	102	*Niger	5.07
22	Japan	7.36	63	Czech Republic	6.48	104	*Albania	5.06
22	Sweden	7.36	63	*Guatemala	6.48	105	*Madagascar	5.02
24	Portugal	7.35	65	*Uganda	6.43	106	*Senegal	4.94
25	Spain	7.30	66	Mexico	6.39	107	*Nigeria	4.86
26	Mauritius	7.25	67	*Honduras	6.38	108	*Croatia	4.84
27	Costa Rica	7.24	68	*Fiji	6.36	109	*Central African Republic	4.80
27	*Oman	7.24	69	India	6.31	110	*Togo	4.64
29	*United Arab Emirates	7.23	70	*Lithuania	6.18	111	*Rwanda	4.63
30	Philippines	7.20	71	Indonesia	6.14	112	*Syria	4.61
31	Taiwan	7.19	72	*Tunisia	6.11	113	*Gabon	4.60
32	El Salvador	7.17	73	Slovak Republic	6.09	114	*Malawi	4.38
33	*Bahrain	7.13	74	*Sri Lanka	6.04	115	*Congo, Republic of	4.35
34	Italy	7.05	75	*Cyprus	6.03	116	Ukraine	4.28
35	Jordan	7.02	76	*Morocco	5.99	117	*Sierra Leone	4.01
36	Bolivia	6.98	77	*Zambia	5.94	118	*Romania	3.91
37	Malaysia	6.94	78	*Barbados	5.92	119	Russia	3.70
38	*Estonia	6.93	79	Ecuador	5.82	120	*Congo, Democratic Republic	3.53
38	South Africa	6.93	80	Poland	5.78	121	*Algeria	3.42
38	*Trinidad and Tobago	6.93	81	*Cote d'Ivoire	5.75	122	*Guinea-Bissau	3.38
41	*Botswana	6.92	82	*Slovenia	5.71	123	*Myanmar	3.33

*The survey data were unavailable for these countries, thus their ratings were based on only 21 components.

omissions, however, are potentially important in the legal structure (II) and regulation (V) areas, and to a lesser extent in the international trade area (IV). In the legal structure area, only two of the five components are available for the 65 countries not covered by the *Global Competitiveness Report*. Only 5 of the 15 subcomponents in the regulation area are available for these countries. Although we have used regression analysis to adjust the summary and area ratings of the 65 countries (for which the GCR data are unavailable) in order to enhance their comparability with the 58, comparisons between countries in the two different groups should be made with a degree of caution.

Even though the summary ratings of Table 2 reflect the inclusion of the 16 additional survey-based components, most of which are in the legal structure and regulatory areas, the rankings and ratings are quite similar to the ratings presented in the *2001 Annual Report*. The rank correlation coefficient between the two indexes is 0.963 and the correlation coefficient between the ratings is 0.964. Given that the two indexes cover the same time period and many of the components are included in both, the high correlation is not surprising.

The summary ratings range from Hong Kong's 8.88 to Myanmar's 3.33 and most of the ratings are clustered in the middle. There are 25 countries in the 7.0 to 7.99 range, 40 with ratings between 6.0 and 6.99, and another 30 with ratings between 5.0 and 5.99. Thus, 95 of the 123 countries have ratings in the range between 5.0 and 8.0. There are only 10 countries with summary ratings above 8.0 and only 18 with ratings below 5.0. Because of this clustering, a small difference in rating (for example 0.5) among two countries in the middle range sometimes generates ranking differences of 15 or even 20 positions. Thus, the ranking differences, particularly for countries in the middle, sometimes suggest that the differences in economic freedom are larger than is really the case.

As in the ratings of the *2001 Annual Report*, Hong Kong and Singapore rank one—two in the index presented here. Similarly, the United States, New Zealand, and the United Kingdom occupy the next three positions in both indexes, while Switzerland, Australia, Luxembourg, and Ireland appear in the Top 10 in both. The picture is much the same at the bottom end. The 10 lowest ranked countries in this broader, more comprehensive index received similar rankings in the 2001 EFW index.

In spite of the high correlation between the two indexes and the similarities at the top and the bottom, there are nonetheless some interesting differences, particularly among the 58 countries for which there is reason to believe that the more comprehensive index presented here is more accurate. In some cases, the more comprehensive index results in a higher rating and ranking. This was the case for India. In the index presented here, India ranks 69th compared to 92nd in the *2001 Annual Report*. This suggests that, in the recent past, the EFW index understated India's economic freedom. The ranking of Panama is also substantially higher, 14th compared to 29th in the most recent EFW index. However, because the survey data are unavailable for Panama, this high rating should be interpreted with caution.

Conversely, the index presented here suggests that the narrower index of prior years was overly generous toward several other countries. Peru, Bolivia, Venezuela, Bulgaria, Uganda, Ecuador and Turkey fall into this category. All of these countries were ranked at least 15 positions higher in the *2001 Annual Report* than in the broader index presented here.

Italy and France were ranked 24th and 34th respectively in the 2001 report. In our analysis here, Italy's ranking falls to 34th and France's to 47th. Compared to the 2001

EFW Index, the index presented here gives more weight to both size of government and regulation, two areas where both Italy and France do poorly. This factor, along with the more comprehensive data in the regulation area, accounts for the substantially lower rankings (and ratings) of these two countries.

8. Area ratings

Tables 3–7 present the ratings and rankings for each of the five areas of the index sorted from highest to lowest. The ratings for the 123 countries listed alphabetically is presented in Appendix A. A number of interesting patterns emerge from inspection of the area data. First, the high-income industrial economies generally rank quite high in the legal structure, sound money, and freedom of international exchange areas. Their ratings, however, were lower in the size of government and regulation areas. This was particularly true for Western European countries.

Second, African and Latin American countries dominated the bottom of the ratings in the Legal Structure and Security of Property Rights area. The bottom six countries were all African. The area ratings of Peru, Honduras, Guatemala, Ecuador, Bolivia, Colombia, and Venezuela were also among the lowest in this area. The legal structure ratings of Indonesia, Pakistan, and Russia were also quite low.

Third, in the regulation area, the highest ranked economies were Hong Kong, Luxembourg, United Kingdom, United States, New Zealand, Singapore, Iceland, Canada, Ireland, and Australia. However, the regulatory policies of several high-income industrial economies were well down the line. For example, Germany ranked 56th, France 57th, Greece 76th, and Italy 85th. These countries were pulled down by their restrictive labor market regulations. The lowest rated countries in the regulation area were mostly African and Middle Eastern.

9. The weighting issue

From the inception of the EFW index, we have struggled with how the components should be aggregated into area and summary ratings. In the initial publication (Gwartney et al., 1996), we presented three summary ratings based on different systems of weighting. One assigned equal weight to each component; another weighted each inversely to the variation (standard deviation) in the cross-country distribution of the component; and the third was based on a survey of economists about how each of the components should be weighted. More recently, we have used principal component analysis to assign alternative weights.[11] None of these alternative methods are completely satisfactory.

[11] Principal component analysis assigns weights on the basis of the distributions and interrelations among the various components (and areas). While this value free approach is attractive, it can also be a liability when economic theory suggests that, at least for some applications, some components (and areas) are more important than others.

Table 3
Area I: size of government

Rank	Countries	Rating	Rank	Countries	Rating	Rank	Countries	Rating
1	Hong Kong	9.26	42	Brazil	6.45	83	Bulgaria	5.06
2	Guatemala	8.71	43	Ghana	6.43	84	Botswana	5.01
3	Ecuador	8.53	44	Madagascar	6.36	85	Zimbabwe	4.94
4	Peru	8.42	45	Albania	6.25	86	Guyana	4.84
5	Indonesia	8.38	45	United Kingdom	6.25	87	Papua New Guinea	4.76
6	Argentina	8.33	47	Uganda	6.24	88	Tanzania	4.75
7	El Salvador	8.29	48	Lithuania	6.10	89	Senegal	4.65
8	Dominican Republic	8.22	49	Oman	6.09	90	Guinea-Bissau	4.63
9	Singapore	8.15	50	Fiji	6.06	91	Spain	4.54
10	Bahamas	8.00	51	Taiwan	6.01	92	Italy	4.49
11	Haiti	7.89	52	Estonia	5.94	93	Czech Republic	4.40
12	Paraguay	7.73	52	Niger	5.94	94	Jordan	4.35
13	Mexico	7.65	52	Venezuela	5.94	95	Netherlands	4.31
14	Turkey	7.63	55	Ireland	5.93	96	Malawi	4.18
15	Panama	7.59	55	South Africa	5.93	97	Cameroon	4.13
16	Bolivia	7.46	57	Cyprus	5.91	97	Norway	4.13
16	Mauritius	7.46	58	Canada	5.84	99	Central African Republic	4.08
18	New Zealand	7.43	59	Egypt	5.79	99	Togo	4.08
19	Honduras	7.27	59	Latvia	5.79	101	Congo, Democratic Republic	4.01
20	Philippines	7.10	61	Belize	5.78	102	Finland	3.95
21	Costa Rica	7.06	62	Malta	5.77	102	Poland	3.95
22	Sri Lanka	7.04	63	Iceland	5.74	104	Austria	3.91
23	United States	6.99	64	Australia	5.72	105	Namibia	3.84
24	Uruguay	6.96	65	Sierra Leone	5.71	106	Syria	3.80
25	Thailand	6.91	66	Colombia	5.68	107	Germany	3.73
26	Switzerland	6.87	67	Nigeria	5.65	108	Romania	3.58
27	India	6.85	68	Rwanda	5.64	109	Myanmar	3.50
28	South Korea	6.78	69	Bangladesh	5.63	110	Belgium	3.42
29	United Arab Emirates	6.70	70	Kuwait	5.62	111	Croatia	3.40
30	Bahrain	6.69	71	Trinidad and Tobago	5.55	112	Denmark	3.28
31	Burundi	6.65	72	Zambia	5.46	113	China	3.25
32	Nicaragua	6.63	73	Portugal	5.45	114	Slovak Republic	3.14
33	Malaysia	6.61	74	Mali	5.36	115	Israel	3.12
34	Chile	6.60	75	Hungary	5.30	116	Russia	3.05
34	Kenya	6.60	75	Tunisia	5.30	117	Sweden	2.98
36	Pakistan	6.58	77	Iran	5.29	118	France	2.78
37	Greece	6.56	78	Nepal	5.28	119	Slovenia	2.70
38	Cote d'Ivoire	6.55	79	Japan	5.21	120	Gabon	2.69
39	Jamaica	6.52	80	Luxembourg	5.18	121	Algeria	2.41
40	Benin	6.46	81	Morocco	5.17	122	Congo, Republic of	2.39
40	Chad	6.46	82	Barbados	5.16	123	Ukraine	2.15

Table 4
Area II: legal system and property rights

Rank	Countries	Rating	Rank	Countries	Rating	Rank	Countries	Rating
1	Luxembourg	9.68	42	Czech Republic	6.77	80	Nicaragua	4.75
2	Netherlands	9.51	43	South Africa	6.64	80	Papua New Guinea	4.75
3	Australia	9.48	44	Croatia	6.55	80	Uganda	4.75
4	Finland	9.44	44	Estonia	6.55	86	China	4.70
5	Germany	9.41	44	Latvia	6.55	87	El Salvador	4.67
6	Austria	9.38	44	Lithuania	6.55	87	Russia	4.67
6	United Kingdom	9.38	44	Romania	6.55	89	Mexico	4.51
8	Canada	9.34	44	Tanzania	6.55	90	Gabon	4.15
8	Denmark	9.34	44	Trinidad and Tobago	6.55	90	Haiti	4.15
10	New Zealand	9.21	44	Tunisia	6.55	90	Kenya	4.15
11	Switzerland	9.18	44	United Arab Emirates	6.55	90	Paraguay	4.15
11	United States	9.18	44	Zambia	6.55	90	Senegal	4.15
13	Ireland	8.91	54	Zimbabwe	6.44	90	Sri Lanka	4.15
14	Iceland	8.84	55	Chile	6.41	96	Ecuador	4.04
14	Sweden	8.84	56	Taiwan	6.21	97	Colombia	4.01
16	Norway	8.81	57	Greece	6.11	98	Venezuela	3.94
17	Singapore	8.64	58	Mauritius	6.07	99	Bolivia	3.74
18	Japan	8.48	59	Bahrain	5.95	100	Albania	3.55
19	Belgium	8.44	59	Cyprus	5.95	100	Guatemala	3.55
20	Malta	8.35	59	Jamaica	5.95	100	Honduras	3.55
20	Namibia	8.35	59	Malawi	5.95	100	Nigeria	3.55
22	Israel	8.01	59	Panama	5.95	100	Pakistan	3.55
23	France	7.91	59	Uruguay	5.95	100	Togo	3.55
24	Hungary	7.74	65	South Korea	5.94	106	Peru	3.40
25	Portugal	7.67	66	Egypt	5.84	107	Indonesia	3.10
26	Spain	7.61	66	Malaysia	5.84	108	Myanmar	2.95
27	Italy	7.54	68	Thailand	5.77	108	Sierra Leone	2.95
28	Jordan	7.28	69	Philippines	5.61	110	Algeria	2.35
29	Hong Kong	7.21	70	Brazil	5.51	110	Niger	2.35
30	Bahamas	7.15	71	Argentina	5.47	112	Congo, Democratic Republic	1.75
30	Botswana	7.15	72	Cameroon	5.35	112	Congo, Republic of	1.75
30	Guyana	7.15	72	Cote d'Ivoire	5.35	112	Guinea-Bissau	1.75
30	Iran	7.15	72	Dominican Republic	5.35	*#N/A*	Barbados	*#N/A*
30	Kuwait	7.15	72	Mali	5.35	*#N/A*	Belize	*#N/A*
30	Morocco	7.15	72	Syria	5.35	*#N/A*	Benin	*#N/A*
30	Oman	7.15	77	Bulgaria	5.10	*#N/A*	Burundi	*#N/A*
30	Slovenia	7.15	78	Ukraine	4.84	*#N/A*	Central African Republic	*#N/A*
38	Costa Rica	6.97	79	Turkey	4.81	*#N/A*	Chad	*#N/A*
39	India	6.87	80	Bangladesh	4.75	*#N/A*	Fiji	*#N/A*
40	Poland	6.81	80	Ghana	4.75	*#N/A*	Nepal	*#N/A*
40	Slovak Republic	6.81	80	Madagascar	4.75	*#N/A*	Rwanda	*#N/A*

Table 5
Area III: sound money

Rank	Countries	Rating	Rank	Countries	Rating	Rank	Countries	Rating
1	Bahrain	9.85	42	Philippines	8.73	83	China	6.42
2	Sweden	9.82	43	Botswana	8.62	84	Cameroon	6.37
3	Belgium	9.75	44	Paraguay	8.28	85	Dominican Republic	6.35
3	United Kingdom	9.75	45	Nicaragua	8.09	86	Poland	6.33
5	Denmark	9.70	46	South Korea	7.95	87	Slovenia	6.31
5	Germany	9.70	47	Malaysia	7.89	88	Pakistan	6.29
5	United States	9.70	48	Tanzania	7.70	89	Central African Republic	6.14
8	Taiwan	9.67	49	Latvia	7.69	90	Rwanda	6.05
9	Austria	9.62	50	Israel	7.68	91	Benin	6.03
10	Luxembourg	9.60	51	Slovak Republic	7.66	92	Iran	6.01
11	Norway	9.59	52	Guyana	7.63	93	Mexico	5.99
12	Italy	9.57	53	Czech Republic	7.61	94	Senegal	5.94
13	France	9.56	54	Haiti	7.55	95	Albania	5.65
14	Panama	9.55	55	Peru	7.52	96	Congo, Republic of	5.47
15	Argentina	9.54	56	Costa Rica	7.44	97	Papua New Guinea	5.46
16	Netherlands	9.51	57	Jamaica	7.41	98	Nigeria	5.41
16	Oman	9.51	58	South Africa	7.38	99	Algeria	5.38
18	Jordan	9.50	59	Indonesia	7.35	100	Colombia	5.35
18	Singapore	9.50	60	Belize	7.31	101	Chad	5.24
20	El Salvador	9.48	60	Estonia	7.31	101	Ecuador	5.24
21	Spain	9.47	62	Burundi	7.30	103	Togo	5.23
22	Australia	9.46	63	Guatemala	7.29	104	Cote d'Ivoire	5.19
22	Canada	9.46	64	Cyprus	7.24	105	Gabon	5.12
24	Kuwait	9.44	65	Malta	7.23	106	Lithuania	4.99
25	Japan	9.43	66	Niger	7.14	107	Zimbabwe	4.89
25	Switzerland	9.43	67	Honduras	7.08	108	Ghana	4.85
27	Ireland	9.41	68	Namibia	6.98	109	Zambia	4.81
28	Finland	9.37	69	Tunisia	6.97	110	Myanmar	4.55
28	Mauritius	9.37	70	Fiji	6.96	111	Sierra Leone	4.01
30	Bolivia	9.36	71	Bahamas	6.91	112	Croatia	3.93
31	Egypt	9.35	72	India	6.90	112	Madagascar	3.93
32	Chile	9.34	73	Mali	6.89	114	Venezuela	3.82
33	Portugal	9.32	74	Syria	6.88	115	Bulgaria	3.62
34	Hong Kong	9.26	75	Uruguay	6.82	116	Ukraine	2.89
35	Iceland	9.15	76	Barbados	6.79	117	Turkey	2.50
36	New Zealand	9.08	77	Sri Lanka	6.77	118	Guinea-Bissau	2.27
37	Kenya	8.91	78	Thailand	6.75	119	Brazil	2.26
37	Trinidad and Tobago	8.91	79	Bangladesh	6.72	120	Congo, Democratic Republic	1.25
39	Uganda	8.88	80	Morocco	6.63	120	Russia	1.25
40	United Arab Emirates	8.86	81	Nepal	6.55	122	Malawi	1.07
41	Greece	8.82	82	Hungary	6.47	123	Romania	0.21

Table 6
Area IV: freedom to trade with foreigners

Rank	Countries	Rating	Rank	Countries	Rating	Rank	Countries	Rating
1	Hong Kong	9.89	42	Uruguay	7.51	83	Colombia	6.34
2	Singapore	9.79	43	Greece	7.50	84	Belize	6.17
3	Estonia	9.11	43	Hungary	7.50	85	Tunisia	6.11
4	Belgium	9.00	45	South Africa	7.48	86	Togo	5.96
5	Ireland	8.89	46	China	7.46	87	Zimbabwe	5.95
6	Netherlands	8.82	47	Chile	7.39	88	Morocco	5.92
7	Luxembourg	8.67	48	Botswana	7.34	89	Ghana	5.83
8	Germany	8.59	49	Latvia	7.33	90	Mali	5.79
9	Sweden	8.54	50	Namibia	7.30	91	Cameroon	5.78
10	United Kingdom	8.53	51	Zambia	7.28	92	Malawi	5.75
11	Austria	8.42	52	Bulgaria	7.26	93	Cyprus	5.70
12	Spain	8.39	53	Venezuela	7.25	93	Madagascar	5.70
13	Finland	8.36	54	Jordan	7.24	95	Brazil	5.69
14	Italy	8.31	55	Kenya	7.21	96	Gabon	5.63
15	Australia	8.26	55	Peru	7.21	97	Pakistan	5.54
16	New Zealand	8.25	57	Congo, Republic of	7.20	98	Nepal	5.48
17	Switzerland	8.23	58	Iceland	7.19	98	Senegal	5.48
18	Denmark	8.22	59	Dominican Republic	7.16	100	India	5.44
19	Nicaragua	8.21	60	Indonesia	7.03	101	Chad	5.41
20	Portugal	8.17	61	Argentina	7.01	102	Niger	5.35
21	Israel	8.14	62	Trinidad and Tobago	6.95	103	Russia	5.34
22	Mexico	8.09	63	Mauritius	6.88	104	Barbados	5.29
23	Panama	8.06	63	Oman	6.88	105	Romania	5.26
24	United States	8.05	65	Jamaica	6.87	106	Benin	5.15
25	Czech Republic	8.03	66	El Salvador	6.86	107	Central African Republic	5.09
25	Guyana	8.03	67	Turkey	6.85	108	Tanzania	5.00
25	Lithuania	8.03	68	Japan	6.81	109	Bahamas	4.90
28	Philippines	7.99	69	Venezuela	6.78	110	Albania	4.85
29	Paraguay	7.88	70	Kuwait	6.72	111	Croatia	4.78
30	Costa Rica	7.86	71	Congo, Democratic Republic	6.67	112	Bangladesh	4.72
31	Canada	7.84	71	Slovenia	6.67	113	Papua New Guinea	4.46
32	France	7.82	73	Bahrain	6.64	114	Syria	4.25
33	South Korea	7.76	73	Egypt	6.64	115	Nigeria	4.23
34	Malaysia	7.75	75	Poland	6.62	116	Algeria	3.89
34	Norway	7.75	75	Uganda	6.62	117	Burundi	3.47
36	Taiwan	7.70	77	Ecuador	6.58	118	Guinea-Bissau	3.15
37	United Arab Emirates	7.63	78	Ukraine	6.56	119	Iran	3.00
38	Thailand	7.61	79	Fiji	6.55	120	Sierra Leone	2.66
39	Slovak Republic	7.59	80	Sri Lanka	6.43	121	Haiti	2.58
40	Bolivia	7.56	81	Malta	6.42	122	Myanmar	1.66
41	Honduras	7.53	82	Cote d’Ivoire	6.35	122	Rwanda	1.66

Table 7
Area V: Regulation

Rank	Countries	Rating	Rank	Countries	Rating	Rank	Countries	Rating
1	Hong Kong	8.77	42	Mauritius	6.45	83	Gabon	5.43
2	Luxembourg	8.54	43	Barbados	6.44	84	Paraguay	5.40
3	United Kingdom	8.13	44	United Arab Emirates	6.43	85	Italy	5.35
3	United States	8.13	45	Peru	6.42	86	Cyprus	5.34
5	New Zealand	8.10	46	Papua New Guinea	6.40	87	Cote d'Ivoire	5.33
6	Singapore	7.66	47	Nicaragua	6.38	88	Burundi	5.32
7	Iceland	7.60	48	Taiwan	6.36	89	Bulgaria	5.28
8	Canada	7.56	49	Austria	6.30	90	Slovak Republic	5.27
9	Ireland	7.41	50	Turkey	6.24	90	Venezuela	5.27
10	Australia	7.40	51	Jamaica	6.21	92	Lithuania	5.22
11	Netherlands	7.37	52	Kenya	6.17	93	Poland	5.21
12	South Africa	7.22	53	Uruguay	6.13	94	Pakistan	5.19
13	Finland	7.13	54	Portugal	6.12	95	Rwanda	5.17
14	Chile	7.09	55	Haiti	5.98	96	China	5.12
15	Switzerland	7.00	56	Germany	5.95	97	Guinea-Bissau	5.11
16	Denmark	6.91	57	France	5.94	97	Kuwait	5.11
17	Japan	6.89	58	Fiji	5.89	99	Morocco	5.09
18	Costa Rica	6.86	59	Ghana	5.87	100	Benin	5.05
19	Dominican Republic	6.85	60	South Korea	5.86	101	Albania	5.00
20	Guyana	6.84	61	Brazil	5.84	102	Cameroon	4.97
21	Hungary	6.83	62	Sri Lanka	5.80	103	Malawi	4.96
22	Belize	6.82	63	Colombia	5.78	104	Ukraine	4.95
23	Bolivia	6.78	64	Slovenia	5.75	105	Congo, Republic of	4.91
24	Thailand	6.74	65	Estonia	5.74	106	Indonesia	4.82
25	Bahamas	6.73	66	Mexico	5.72	107	Sierra Leone	4.75
25	Jordan	6.73	66	Zimbabwe	5.72	108	Ecuador	4.69
27	Trinidad and Tobago	6.70	68	Egypt	5.67	109	Mali	4.64
28	Panama	6.69	68	Uganda	5.67	110	Niger	4.59
29	Norway	6.67	70	Israel	5.64	111	Senegal	4.50
30	Sweden	6.64	71	Tunisia	5.63	112	Togo	4.40
31	Malaysia	6.62	72	Czech Republic	5.61	113	Madagascar	4.39
32	Argentina	6.61	72	Guatemala	5.61	114	Russia	4.21
33	Oman	6.59	72	Latvia	5.61	115	Congo, Democratic Republic	3.98
34	Namibia	6.58	75	Zambia	5.58	115	Myanmar	3.98
35	Philippines	6.55	76	Croatia	5.53	117	Chad	3.96
36	El Salvador	6.53	76	Greece	5.53	118	Romania	3.94
37	Belgium	6.52	78	Nepal	5.50	119	Central African Republic	3.89
38	Bahrain	6.51	79	India	5.49	120	Iran	3.88
39	Spain	6.50	80	Bangladesh	5.46	121	Tanzania	3.76
40	Honduras	6.49	80	Malta	5.46	122	Algeria	3.09
41	Botswana	6.47	80	Nigeria	5.46	123	Syria	2.76

When the area and/or component ratings are correlated, the ratings and rankings will be relatively insensitive to the weights assigned to the components. Under these circumstances, the rankings of countries will be quite similar for a wide range of possible weighting assignments. Within areas, this is generally the case for the index presented here. For example, the 10 pairwise correlation coefficients among the five components of Area II (legal structure) are all positive and they range from 0.59 to 0.93.[12] As a result of these high correlations, the ratings and rankings of Area II would be much the same even if different weights were assigned to the various components.

While the correlation coefficients among the components in other areas are not as high as those for legal structure, the correlations among the components within areas are nearly always positive and they are often 0.50 or higher. This indicates that the area ratings and rankings would not be highly sensitive to variations in the weights assigned to the components.

In contrast, the weights assigned to the areas, particularly the Size of Government area, could exert a major impact on the summary ratings and rankings. The correlation coefficients among the ratings of Areas II, III, IV, and V are all positive and relatively high.[13] Thus, the summary ratings would not be highly sensitive to changes in the relative weights among these four areas. Changes in the weight attached to Area I relative to the other four areas, however, are potentially important. The country ratings for Area I are weakly correlated with the ratings of the other four areas. As we previously noted, the ratings and rankings of several European countries with large government expenditures are quite low in Area I. Thus, if Area I were weighted more heavily, the summary ratings and rankings of these countries would decline. On the other hand, the assignment of a lesser weight to Area I would improve their overall position.

Furthermore, some would argue that because it provides the foundation for the exchange process, the legal structure area should be weighted more heavily than the other areas of the index. After all, without a meaningful legal structure, both exchange and economic freedom would be undermined.[14] With only a few exceptions, African and Latin

[12] Given the high degree of correlation, some might wonder why we use all five components. There are two reasons why we do so. First, the components are based on survey data and they undoubtedly contain some measurement error. The larger number of components will help to minimize bias arising from this source. Second, the five components are not available for all of the countries in the index. As the result of the high correlation among the components, incorporation of all five makes it possible to provide area ratings with a reasonable degree of confidence for a larger number of countries than would otherwise be the case.

[13] The six pairwise correlation coefficients among these four areas are all positive and they range from 0.55 (between Areas III and IV) to 0.64 (between Areas IV and V).

[14] The events of the last decade have elevated recognition of how important the legal structure area really is. The following comment, made by Milton Friedman at the 2001 annual meeting of the *Economic Freedom of the World* network, highlights this point.

> We have learned about the importance of private property and the rule of law as a basis for economic freedom. Just after the Berlin Wall fell and the Soviet Union collapsed, I used to be asked a lot: What do these ex-communist states have to do in order to become market economies? And I used to say: You can describe that in three words: privatize, privatize, privatize. But I was wrong. That wasn't enough. The example of Russia shows that. Russia privatized, but in a way that essentially created private monopolies, private centralized economic controls, and replaced government-centralized controls. It turns out that the rule of law is probably more basic than privatization. Privatization is meaningless if you don't have the rule of law.

American countries are rated low in the legal structure area. Thus, assigning a larger weight to this area would reduce the summary ratings and rankings of these countries and others with low ratings in Area II.

As if these issues are not complex enough, there are also good reasons to believe that the proper weighting of components is dependent on the issue that is being addressed and it is likely to differ across countries. For example, if the index is being used to analyze economic growth or levels of income, the openness of the trade sector will generally be more important (merit a larger weight) in the case of a small country like Israel or Costa Rica than would be most appropriate for a large country like the United States.

Given these complicating factors, we concluded that at this time it was best to simply weight each component and area equally when calculating the area and summary ratings. The component and area ratings are available to all and if other researchers believe that an alternative weighting procedure is more appropriate for their purposes, we encourage them to utilize it. We will also continue to analyze alternative approaches and investigate how they affect both the area and summary ratings. With time, analysis of this issue, by others as well as ourselves, will improve the usefulness of the index.

10. Concluding thoughts

The degree of economic freedom present is influenced by numerous factors. No single statistic will be able to capture fully all of them and their interrelations. The index presented here captures most of the important elements and provides a reasonably good measure of cross-country differences in economic freedom. However, something as complex as economic freedom is difficult to measure with precision. Thus, *small differences* between countries should not be taken very seriously.

More than 15 years ago, we set out to develop an indicator that would reveal the consistency of a nation’s policies and institutions with economic freedom. The revised index presented here will both improve the EFW measure and make it easier for researchers and policymakers to pinpoint the strengths and weaknesses of various countries. In addition, the *2002 Economic Freedom of the World Annual Report* will incorporate a chain-link method that will increase the accuracy of the ratings across time periods. This report will provide a reliable measure of economic freedom for 123 countries during the last 25 years of the 20th century. As research in this area goes forward, it will open doors for more fruitful investigation of a wide range of topics including economic growth, the distribution of income, environmental quality and political decision making.

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Appendix A

Area and summary ratings, by country

Countries	Area I	Area II	Area III	Area IV	Area V	Summary index
Albania	6.25	3.55	5.65	4.85	5.00	5.06
Algeria	2.41	2.35	5.38	3.89	3.09	3.42
Argentina	8.33	5.47	9.54	7.01	6.61	7.39
Australia	5.72	9.48	9.46	8.26	7.40	8.06
Austria	3.91	9.38	9.62	8.42	6.30	7.53
Bahamas	8.00	7.15	6.91	4.90	6.73	6.74
Bahrain	6.69	5.95	9.85	6.64	6.51	7.13
Bangladesh	5.63	4.75	6.72	4.72	5.46	5.46
Barbados	5.16	*N/A*	6.79	5.29	6.44	5.92
Belgium	3.42	8.44	9.75	9.00	6.52	7.43
Belize	5.78	*N/A*	7.31	6.17	6.82	6.52
Benin	6.46	*N/A*	6.03	5.15	5.05	5.67
Bolivia	7.46	3.74	9.36	7.56	6.78	6.98
Botswana	5.01	7.15	8.62	7.34	6.47	6.92
Brazil	6.45	5.51	2.26	5.69	5.84	5.15
Bulgaria	5.06	5.10	3.62	7.26	5.28	5.26
Burundi	6.65	*N/A*	7.30	3.47	5.32	5.69
Cameroon	4.13	5.35	6.37	5.78	4.97	5.32
Canada	5.84	9.34	9.46	7.84	7.56	8.01
Central African Republic	4.08	*N/A*	6.14	5.09	3.89	4.80
Chad	6.46	*N/A*	5.24	5.41	3.96	5.27
Chile	6.60	6.41	9.34	7.39	7.09	7.37
China	3.25	4.70	6.42	7.46	5.12	5.39
Colombia	5.68	4.01	5.35	6.34	5.78	5.43
Congo, Democratic Republic	4.01	1.75	1.25	6.67	3.98	3.53
Congo, Republic of	2.39	1.75	5.47	7.20	4.91	4.35
Costa Rica	7.06	6.97	7.44	7.86	6.86	7.24
Cote d'Ivoire	6.55	5.35	5.19	6.35	5.33	5.75
Croatia	3.40	6.55	3.93	4.78	5.53	4.84
Cyprus	5.91	5.95	7.24	5.70	5.34	6.03
Czech Republic	4.40	6.77	7.61	8.03	5.61	6.48
Denmark	3.28	9.34	9.70	8.22	6.91	7.49
Dominican Republic	8.22	5.35	6.35	7.16	6.85	6.78
Ecuador	8.53	4.04	5.24	6.58	4.69	5.82
Egypt	5.79	5.84	9.35	6.64	5.67	6.66
El Salvador	8.29	4.67	9.48	6.86	6.53	7.17
Estonia	5.94	6.55	7.31	9.11	5.74	6.93
Fiji	6.06	*N/A*	6.96	6.55	5.89	6.36
Finland	3.95	9.44	9.37	8.36	7.13	7.65
France	2.78	7.91	9.56	7.82	5.94	6.80
Gabon	2.69	4.15	5.12	5.63	5.43	4.60
Germany	3.73	9.41	9.70	8.59	5.95	7.48
Ghana	6.43	4.75	4.85	5.83	5.87	5.54
Greece	6.56	6.11	8.82	7.50	5.53	6.90
Guatemala	8.71	3.55	7.29	7.25	5.61	6.48

(continued on next page)

Appendix A (*continued*)

Countries	Area I	Area II	Area III	Area IV	Area V	Summary index
Guinea-Bissau	4.63	1.75	2.27	3.15	5.11	3.38
Guyana	4.84	7.15	7.63	8.03	6.84	6.90
Haiti	7.89	4.15	7.55	2.58	5.98	5.63
Honduras	7.27	3.55	7.08	7.53	6.49	6.38
Hong Kong	9.26	7.21	9.26	9.89	8.77	8.88
Hungary	5.30	7.74	6.47	7.50	6.83	6.77
Iceland	5.74	8.84	9.15	7.19	7.60	7.71
India	6.85	6.87	6.90	5.44	5.49	6.31
Indonesia	8.38	3.10	7.35	7.03	4.82	6.14
Iran	5.29	7.15	6.01	3.00	3.88	5.07
Ireland	5.93	8.91	9.41	8.89	7.41	8.11
Israel	3.12	8.01	7.68	8.14	5.64	6.52
Italy	4.49	7.54	9.57	8.31	5.35	7.05
Jamaica	6.52	5.95	7.41	6.87	6.21	6.59
Japan	5.21	8.48	9.43	6.81	6.89	7.36
Jordan	4.35	7.28	9.50	7.24	6.73	7.02
Kenya	6.60	4.15	8.91	7.21	6.17	6.61
Kuwait	5.62	7.15	9.44	6.72	5.11	6.81
Latvia	5.79	6.55	7.69	7.33	5.61	6.59
Lithuania	6.10	6.55	4.99	8.03	5.22	6.18
Luxembourg	5.18	9.68	9.60	8.67	8.54	8.33
Madagascar	6.36	4.75	3.93	5.70	4.39	5.02
Malawi	4.18	5.95	1.07	5.75	4.96	4.38
Malaysia	6.61	5.84	7.89	7.75	6.62	6.94
Mali	5.36	5.35	6.89	5.79	4.64	5.60
Malta	5.77	8.35	7.23	6.42	5.46	6.64
Mauritius	7.46	6.07	9.37	6.88	6.45	7.25
Mexico	7.65	4.51	5.99	8.09	5.72	6.39
Morocco	5.17	7.15	6.63	5.92	5.09	5.99
Myanmar	3.50	2.95	4.55	1.66	3.98	3.33
Namibia	3.84	8.35	6.98	7.30	6.58	6.61
Nepal	5.28	*N/A*	6.55	5.48	5.50	5.70
Netherlands	4.31	9.51	9.51	8.82	7.37	7.90
New Zealand	7.43	9.21	9.08	8.25	8.10	8.41
Nicaragua	6.63	4.75	8.09	8.21	6.38	6.81
Niger	5.94	2.35	7.14	5.35	4.59	5.07
Nigeria	5.65	3.55	5.41	4.23	5.46	4.86
Norway	4.13	8.81	9.59	7.75	6.67	7.39
Oman	6.09	7.15	9.51	6.88	6.59	7.24
Pakistan	6.58	3.55	6.29	5.54	5.19	5.43
Panama	7.59	5.95	9.55	8.06	6.69	7.57
Papua New Guinea	4.76	4.75	5.46	4.46	6.40	5.17
Paraguay	7.73	4.15	8.28	7.88	5.40	6.69
Peru	8.42	3.40	7.52	7.21	6.42	6.60
Philippines	7.10	5.61	8.73	7.99	6.55	7.20
Poland	3.95	6.81	6.33	6.62	5.21	5.78
Portugal	5.45	7.67	9.32	8.17	6.12	7.35
Romania	3.58	6.55	0.21	5.26	3.94	3.91
Russia	3.05	4.67	1.25	5.34	4.21	3.70

Appendix A (*continued*)

Countries	Area I	Area II	Area III	Area IV	Area V	Summary index
Rwanda	5.64	*N/A*	6.05	1.66	5.17	4.63
Senegal	4.65	4.15	5.94	5.48	4.50	4.94
Sierra Leone	5.71	2.95	4.01	2.66	4.75	4.01
Singapore	8.15	8.64	9.50	9.79	7.66	8.75
Slovak Republic	3.14	6.81	7.66	7.59	5.27	6.09
Slovenia	2.70	7.15	6.31	6.67	5.75	5.71
South Africa	5.93	6.64	7.38	7.48	7.22	6.93
South Korea	6.78	5.94	7.95	7.76	5.86	6.86
Spain	4.54	7.61	9.47	8.39	6.50	7.30
Sri Lanka	7.04	4.15	6.77	6.43	5.80	6.04
Sweden	2.98	8.84	9.82	8.54	6.64	7.36
Switzerland	6.87	9.18	9.43	8.23	7.00	8.14
Syria	3.80	5.35	6.88	4.25	2.76	4.61
Taiwan	6.01	6.21	9.67	7.70	6.36	7.19
Tanzania	4.75	6.55	7.70	5.00	3.76	5.55
Thailand	6.91	5.77	6.75	7.61	6.74	6.76
Togo	4.08	3.55	5.23	5.96	4.40	4.64
Trinidad and Tobago	5.55	6.55	8.91	6.95	6.70	6.93
Tunisia	5.30	6.55	6.97	6.11	5.63	6.11
Turkey	7.63	4.81	2.50	6.85	6.24	5.61
Uganda	6.24	4.75	8.88	6.62	5.67	6.43
Ukraine	2.15	4.84	2.89	6.56	4.95	4.28
United Arab Emirates	6.70	6.55	8.86	7.63	6.43	7.23
United Kingdom	6.25	9.38	9.75	8.53	8.13	8.41
United States	6.99	9.18	9.70	8.05	8.13	8.41
Uruguay	6.96	5.95	6.82	7.51	6.13	6.67
Venezuela	5.94	3.94	3.82	6.78	5.27	5.15
Zambia	5.46	6.55	4.81	7.28	5.58	5.94
Zimbabwe	4.94	6.44	4.89	5.95	5.72	5.59

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