Methodology for the 10 Economic Freedoms

The *Index of Economic Freedom* is built upon analysis of 10 specific components of economic freedom, some of which are themselves composites of additional quantifiable measures. The 10 component scores are equally weighted and averaged to get an overall economic freedom score for each country.

The following paragraphs provide detailed descriptions of the methodology used to determine the scores for each of the 10 components of economic freedom.

FREEDOM #1: BUSINESS FREEDOM

Business freedom is a quantitative measure of the ability to start, operate, and close a business that represents the overall burden of regulation, as well as the efficiency of government in the regulatory process. The business freedom score for each country is a number between 0 and 100, with 100 equaling the freest business environment. The score is based on 10 factors, all weighted equally, using data from the World Bank's *Doing Business* study:

- Starting a business—procedures (number);
- Starting a business—time (days);
- Starting a business—cost (% of income per capita);
- Starting a business—minimum capital (% of income per capita);
- Obtaining a license—procedures (number);
- Obtaining a license—time (days);
- Obtaining a license—cost (% of income per capita);
- Closing a business—time (years);

- Closing a business—cost (% of estate); and
- Closing a business—recovery rate (cents on the dollar).[1]

Each of these raw factors is converted to a scale of 0 to 100, after which the average of the converted values is computed. The result represents the country's business freedom score. For example, even if a country requires the highest number of procedures for starting a business, which yields a score of zero in that factor, it could still receive a score as high as 90 based on scores in the other nine factors.

Singapore, for instance, receives scores of 100 in nine of the 10 factors, the exception being the 11 licensing procedures required by the government, which equates to a score of 83.1 for that factor.

Each factor is converted to a 0 to 100 scale using the following equation:

$$\text{Factor Score}_i = 50 \times \text{factor}_{average} / \text{factor}_i$$

which is based on the ratio of the country data for each factor relative to the world average, multiplied by 50. For example, on average worldwide, it takes 18.3 procedures to get necessary licenses. Singapore's 11 licensing procedures is a factor value better than the average, resulting in a ratio of 1.66. That ratio multiplied by 50 equals the final factor score of 83.

For the nine countries that are not covered by the World Bank's *Doing Business* study, business freedom is scored by looking into business regulations based on qualitative information from reliable and internationally recognized sources.[2]

Sources. Unless otherwise noted, the authors used the following sources in determining business freedom scores, in order of priority: World Bank, *Doing Business 2009*; Economist Intelligence Unit, *Country Report*, *Country Commerce*, and *Country Profile*, 2005–2008; U.S. Department of Commerce, *Country Commercial Guide*, 2005–2008; and official government publications of each country.

FREEDOM #2: TRADE FREEDOM

Trade freedom is a composite measure of the absence of tariff and non-tariff barriers that affect imports and exports of goods and services. The trade freedom score is based on two inputs:

- The trade-weighted average tariff rate and
- Non-tariff barriers (NTBs).

Different imports entering a country can, and often do, face different tariffs. The weighted average tariff uses weights for each tariff based on the share of imports for each good. Weighted average tariffs are a purely quantitative measure and account for the basic calculation of the score using the following equation:

$$\text{Trade Freedom}_i = (((\text{Tariff}_{max} - \text{Tariff}_i) / (\text{Tariff}_{max} - \text{Tariff}_{min})) * 100) - \text{NTB}_i$$

where Trade Freedom$_i$ represents the trade freedom in country *i*, Tariff$_{max}$ and Tariff$_{min}$ represent the upper and lower bounds for tariff rates (%), and Tariff$_i$ represents the weighted average tariff rate (%) in country *i*. The minimum tariff is naturally zero percent, and the upper bound was set

1. The recovery rate is a function of time and cost. However, the business freedom component uses all three subvariables to emphasize closing a business, starting a business, and dealing with licenses equally.

2. Nine countries are not covered by the World Bank's *Doing Business* study: Barbados, Burma, Cuba, Cyprus, North Korea, Libya, Macao, Malta, and Turkmenistan. The methodology for business freedom dates to the 2006 *Index* because of the limited availability of quantitative data. For the 1995 through 2005 editions, we used a subjective assessment with a score of 1–5. Those earlier scores have been converted by means of a simple formula to make them comparable. Observations with the top score were converted to 100, the next best to 85, and so on. This conversion formula is different from the one used for other subjective factors, but it is unique because those other factors are not bridging to a new, data-driven methodology.

as 50 percent. An NTB penalty is then subtracted from the base score. The penalty of 5, 10, 15, or 20 points is assigned according to the following scale:

- **20—**NTBs are used extensively across many goods and services and/or act to effectively impede a significant amount of international trade.
- **15—**NTBs are widespread across many goods and services and/or act to impede a majority of potential international trade.
- **10—**NTBs are used to protect certain goods and services and impede some international trade.
- **5—**NTBs are uncommon, protecting few goods and services, and/or have very limited impact on international trade.
- **0—**NTBs are not used to limit international trade.

We determine the extent of NTBs in a country's trade policy regime using both qualitative and quantitative information. Restrictive rules that hinder trade vary widely, and their overlapping and shifting nature makes their complexity difficult to gauge. The categories of NTBs considered in our penalty include:

- **Quantity restrictions—**import quotas; export limitations; voluntary export restraints; import–export embargoes and bans; countertrade, etc.
- **Price restrictions—**antidumping duties; countervailing duties; border tax adjustments; variable levies/tariff rate quotas.
- **Regulatory restrictions—**licensing; domestic content and mixing requirements; sanitary and phytosanitary standards (SPSs); safety and industrial standards regulations; packaging, labeling, and trademark regulations; advertising and media regulations.
- **Investment restrictions—**exchange and other financial controls.
- **Customs restrictions—**advance deposit requirements; customs valuation procedures; customs classification procedures; customs clearance procedures.
- **Direct government intervention—**subsidies and other aid; government industrial policy and regional development measures; government-financed research and other technology policies; national taxes and social insurance; competition policies; immigration policies; government procurement policies; state trading, government monopolies, and exclusive franchises.

As an example, China received a trade freedom score of 71.4. China's weighted average tariff of 4.3 percent would have yielded a score by itself of 91.4, but the existence of significant NTBs in China reduced the score by 20 points.

Gathering data on tariffs to make a consistent cross-country comparison can be a challenging task. Unlike data on inflation, for instance, countries do not report their weighted average tariff rate or simple average tariff rate every year; in some cases, the most recent time a country reported its tariff data could have been as far back as 1999. To preserve consistency in grading the trade policy component, the authors have decided to use the most recently reported weighted average tariff rate for a country from our primary source. If another reliable source reports more updated information on the country's tariff rate, the authors note this fact and may review the grading of this component if there is strong evidence that the most recently reported weighted average tariff rate is outdated.

The World Bank produces the most comprehensive and consistent information on weighted average applied tariff rates. When the weighted average applied tariff rate is not available, the authors use the country's average applied tariff rate; and when the country's average applied tariff rate is not available, the authors use the weighted average or the simple average of most favored nation (MFN) tariff rates.[3] In the very few cases where data on duties and customs rev-

3. MFN is now referred to as permanent normal trade relations (PNTR).

enues are not available, the authors use data on international trade taxes instead. In all cases, the authors clarify the type of data used and the different sources for those data in the corresponding write-up for the trade policy component. Sometimes, when none of this information is available, the authors simply analyze the overall tariff structure and estimate an effective tariff rate.

Sources. Unless otherwise noted, the authors used the following sources to determine scores for trade policy, in order of priority: World Bank, *World Development Indicators 2008* and *Data on Trade and Import Barriers: Trends in Average Applied Tariff Rates in Developing and Industrial Countries, 1981–2006*; World Trade Organization, *Trade Policy Review*, 1995–2008; Office of the U.S. Trade Representative, *2008 National Trade Estimate Report on Foreign Trade Barriers*; World Bank, *Doing Business 2008* and *Doing Business 2009*; U.S. Department of Commerce, *Country Commercial Guide*, 2004–2008; Economist Intelligence Unit, *Country Report*, *Country Profile*, and *Country Commerce*, 2004–2008; and official government publications of each country.

FREEDOM #3: FISCAL FREEDOM

Fiscal freedom is a measure of the burden of government from the revenue side. It includes both the tax burden in terms of the top tax rate on incomes (individual and corporate separately) and the overall amount of tax revenue as a percentage of GDP. Thus, the fiscal freedom component is composed of three quantitative factors:

- The top tax rate on individual income,
- The top tax rate on corporate income, and
- Total tax revenue as a percentage of GDP.

In scoring the fiscal freedom component, each of these numerical variables is weighted equally as one-third of the factor. This equal weighting allows a country to achieve a score as high as 67 based on two of the factors even if it receives a score of 0 on the third.

The economics of public finance is unambiguous about the effect of taxation, using simple supply and demand. A doubling of the tax rate quadruples lost economic activity's economic cost to society. This is known as deadweight loss because it is not value gained by government, but simply prosperity that is destroyed. This happens because the price wedge created by taxation separates optimal supply and demand and diminishes the quantity of goods exchanged. In the extreme, raising tax rates will decrease tax revenue itself, as famously demonstrated by the Laffer curve. Therefore, the scoring of fiscal freedom is calculated with a quadratic cost function. The data for each factor are converted to a 100-point scale using this quadratic equation:

$$\text{Fiscal Freedom}_{ij} = 100 - \alpha \times (\text{Factor}_{ij})^2$$

where Fiscal Freedom$_{ij}$ represents the fiscal freedom in country *i* for factor *j*; Factor$_{ij}$ represents the value (based on a scale of 0 to 100) in country *i* for factor *j*; and $\boldsymbol{\alpha}$ is a coefficient set equal to 0.03. The minimum score for each factor is zero, which is not represented in the printed equation but was utilized because it means that no single high tax burden will make the other two factors irrelevant.

As an example, in the 2008 *Index*, Bulgaria has a flat rate of 10 percent for both individual and corporate tax rates, which yields a score of 97 for each of the two factors. Bulgaria's overall tax revenue as a portion of GDP is 34.4 percent, yielding a revenue factor score of 64.5. When the three factors are averaged together, Bulgaria's overall fiscal freedom score becomes 86.2.

Sources. Unless otherwise noted, the authors used the following sources for information on taxation, in order of priority: Deloitte, *Country Snapshot*, *Corporate Tax Rates at a Glance*, and *International Tax and Business Guide*, 2008; International Monetary Fund, *Staff Country Report*, "Selected Issues and Statistical Appendix," 2005–2008; Ernst & Young, *The Global Executive* and *Worldwide Corporate Tax Guide*, 2007–2008; PricewaterhouseCoopers, *Worldwide Tax Summaries*, 2006–2008; countries' investment agencies; other governmental authorities (embassy confirmations and/

or the country's treasury or tax authority); and Economist Intelligence Unit, *Country Report* and *Country Profile*, 2006–2008.

For information on tax revenue as a percentage of GDP, the authors' primary sources (in order of priority) were Organisation for Economic Co-operation and Development data; Eurostat; African Development Bank and Organisation for Economic Co-operation and Development, *African Economic Outlook 2008*; International Monetary Fund, *Staff Country Report*, "Selected Issues and Statistical Appendix," 2005–2008; Asian Development Bank, *Key Indicators of Developing Asian and Pacific Countries 2007–2008*; World Trade Organization, *Trade Policy Reviews*, 2007–2008; official government publications of each country; and individual contacts from government agencies and multinational organizations such as the IMF and World Bank.

FREEDOM #4: GOVERNMENT SIZE

This component considers the level of government expenditures as a percentage of GDP. Government expenditures—including consumption and transfers—account for the entire score.

Some level of government expenditures represents true public goods, implying an ideal level greater than zero. However, identifying that ideal level seems too arbitrary, static, and difficult to apply universally. For these reasons, the methodology treats zero government spending as the benchmark. Moreover, governments that have no public goods will be penalized by lower scores in the other factors (such as property rights and financial freedom).

The scale for scoring government size is non-linear, which means that government spending that is close to zero is lightly penalized, while levels of government exceeding 30 percent of GDP receive much worse scores in a quadratic fashion (e.g., doubling spending yields four times less freedom), so that only really large governments receive very low scores.

The expenditure equation used is:

$$GE_i = 100 - \alpha \times (\text{Expenditures}_i)^2$$

where GE_i represents the government expenditure score in country *i*; Expenditures_i represents the total amount of government spending at all levels as a portion of GDP (between 0 and 100); and α is a coefficient to control for variation among scores (set at 0.03). The minimum component score is zero.

In most cases, general government expenditure data include all levels of government such as federal, state, and local. In cases where general government spending data are not available, data on central government expenditure are used instead.

Sources. Unless otherwise noted, the authors used the following sources for information on government intervention in the economy, in order of priority: Official government publications of each country; Economist Intelligence Unit, *Country Report* and *Country Profile*, 2004–2007; Organisation for Economic Co-operation and Development data; Eurostat; African Development Bank and Organisation for Economic Co-operation and Development, *African Economic Outlook 2008*; African Development Bank, *Selected Statistics on African Countries 2008*; International Monetary Fund, *Staff Country Report*, "Selected Issues and Statistical Appendix," 2004–2008 ; and Asian Development Bank, *Key Indicators 2007–2008*.

FREEDOM #5: MONETARY FREEDOM

Monetary freedom combines a measure of price stability with an assessment of price controls. Both inflation and price controls distort market activity. Price stability without microeconomic intervention is the ideal state for the free market.

The score for the monetary freedom factor is based on two factors:

- The weighted average inflation rate for the most recent three years and
- Price controls.

The weighted average inflation rate for the most recent three years serves as the primary input into an equation that generates the base score for monetary freedom. The extent of price controls is then assessed as a penalty of up to 20 points subtracted from the base score. The two equations used to convert inflation rates into the monetary freedom score are:

$$\text{Weighted Avg. Inflation}_i = \theta_1 \times \text{Inflation}_{it} + \theta_2 \times \text{Inflation}_{it-1} + \theta_3 \times \text{Inflation}_{it-2}$$

$$\text{Monetary Freedom}_i = 100 - \alpha \times \sqrt{\text{Weighted Avg. Inflation}_i} - \text{PC penalty}_i$$

where θ_1 through θ_3 (thetas 1–3) represent three numbers that sum to 1 and are exponentially smaller in sequence (in this case, values of 0.665, 0.245, and 0.090, respectively); Inflation_{it} is the absolute value of the annual inflation rate in country *i* during year *t* as measured by the consumer price index; α represents a coefficient that stabilizes the variance of scores; and the price control (PC) penalty is an assigned value of 0–20 points based on the extent of price controls. The convex (square root) functional form was chosen to create separation among countries with low inflation rates. A concave functional form would essentially treat all hyperinflations as equally bad, whether they were 100 percent price increases annually or 100,000 percent, whereas the square root provides much more gradation. The α coefficient is set to equal 6.333, which converts a 10 percent inflation rate into a freedom score of 80.0 and a 2 percent inflation rate into a score of 91.0.

Sources. Unless otherwise noted, the authors used the following sources for data on monetary policy, in order of priority: International Monetary Fund, *International Financial Statistics Online*; International Monetary Fund, *2008 World Economic Outlook*; and Economist Intelligence Unit, *Country Report*, 1999–2008, and *Country Profile*, 2004–2008.

FREEDOM #6: INVESTMENT FREEDOM

This component scrutinizes each country's policies toward the free flow of investment capital (foreign investment as well as internal capital flows) in order to determine its overall investment climate. The authors assess all countries using the same rubric.

Questions examined include whether there is a foreign investment code that defines the country's investment laws and procedures; whether the government encourages foreign investment through fair and equitable treatment of investors; whether there are restrictions on access to foreign exchange; whether foreign firms are treated the same as domestic firms under the law; whether the government imposes restrictions on payments, transfers, and capital transactions; and whether specific industries are closed to foreign investment.

The following criteria are used in determining a country's score for this component:

- **100**—Foreign investment (FI) is encouraged and treated the same as domestic investment, with a simple and transparent FI code and a professional, efficient bureaucracy. There are no restrictions in sectors related to national security or real estate. No expropriation is allowed. Both residents and non-residents have access to foreign exchange and may conduct international payments. Transfers or capital transactions face no restrictions.
- **90**—Same as above with the following exceptions: There are very few restrictions on FI in sectors related to national security. There are legal guarantees against expropriation of property. Transfers or capital transactions are subject to virtually no restrictions.
- **80**—Same as above with the following exceptions: A transparent FI code is subject to minimal bureaucratic or other informal impediments. There are very few restrictions on foreign exchange. Transfers or capital transactions are subject to very few restrictions.
- **70**—Same as above with the following exceptions: There are some restrictions on FI through general rules or in a few sectors such as utilities, natural resources, or national security. There are a few restrictions on access to foreign exchange or the ability to conduct international payments.

- **60**—Same as above with the following exceptions: FI is generally encouraged but may not receive equal treatment in a few sectors. The FI code is somewhat non-transparent, and/or FI faces bureaucratic impediments. Expropriation of property is highly unlikely, and the government guarantees compensation. Transfers or capital transactions are subject to some restrictions.
- **50**—Same as above with the following exceptions: Foreign investors face restrictions on their ability to purchase real estate. All investors face bureaucratic impediments and corruption. Residents and/or non-residents face some restrictions on access to foreign exchange or their ability to conduct international payments. Transfers or capital transactions are subject to obvious restrictions.
- **40**—Same as above with the following exceptions: FI is somewhat restricted, the FI code is somewhat discriminatory, and FI is restricted outright in some sectors. Expropriation of property is rare. Transfers and capital transactions are subject to significant restrictions.
- **30**—Same as above with the following exceptions: FI is significantly restricted, the FI code is discriminatory, and foreign investors may purchase real estate only in limited circumstances. All investors face significant bureaucratic impediments and corruption. Residents and non-residents face strict restrictions on access to foreign exchange, and the government imposes many controls on international payments.
- **20**—Same as above with the following exceptions: FI is discouraged and prohibited in many sectors, the FI code is discriminatory, and the approval process is opaque and subject to widespread corruption. Few sectors are open to FI. Expropriation of property is common. The government imposes extensive controls on international payments, transfers, and capital transactions.
- **10**—Same as above with the following exceptions: Foreign investors may not purchase real estate. The government controls or prohibits most international payments, transfers, and capital transactions.
- **0**—Same as above with the following exceptions: FI is prohibited, foreigners may not own real estate, and the government prohibits international payments, transfers, and capital transactions.

Sources. Unless otherwise noted, the authors used the following sources for data on capital flows and foreign investment, in order of priority: Official government publications of each country; Economist Intelligence Unit, *Country Commerce*, *Country Profile*, and *Country Report*, 2005–2008; Office of the U.S. Trade Representative, *2008 National Trade Estimate Report on Foreign Trade Barriers*; and U.S. Department of Commerce, *Country Commercial Guide*, 2005–2008.

FREEDOM #7: FINANCIAL FREEDOM

Financial freedom is a measure of banking security as well as a measure of independence from government control. State ownership of banks and other financial institutions such as insurers and capital markets is an inefficient burden that reduces competition and generally lowers the level of available services.

The authors score this component by determining the extent of government regulation of financial services; the extent of state intervention in banks and other financial services; the difficulty of opening and operating financial services firms (for both domestic and foreign individuals); and government influence on the allocation of credit. The authors use this analysis to develop a description of the country's financial climate and assign it an overall score on a scale of 0 to 100.

The following criteria are used in determining a country's score for this component of economic freedom:

- **100—Negligible government influence.** Independent central bank supervision and regulation of financial institutions are limited to enforcing contractual obligations and preventing fraud. Credit is allocated on market terms. The government does not own financial institutions. Financial institutions may engage in all types of financial services. Banks are free to issue competitive notes, extend credit and accept deposits, and conduct operations in foreign currencies. Foreign financial institutions operate freely and are treated the same as domestic institutions.

- **90—Minimal government influence.** Same as above with the following exceptions: Independent central bank supervision and regulation of financial institutions are minimal but may extend beyond enforcing contractual obligations and preventing fraud.
- **80—Nominal government influence.** Same as above with the following exceptions: Independent central bank supervision and regulation are straightforward and transparent but extend beyond enforcing contractual obligations and preventing fraud. Government ownership of financial institutions is a small share of overall sector assets. Financial institutions face almost no restrictions on their ability to offer financial services.
- **70—Limited government influence.** Same as above with the following exceptions: Credit allocation is slightly influenced by the government, and private allocation of credit faces almost no restrictions. Foreign financial institutions are subject to few restrictions.
- **60—Significant government influence.** Same as above with the following exceptions: The central bank is not fully independent, its supervision and regulation of financial institutions are somewhat burdensome, and its ability to enforce contracts and prevent fraud is insufficient. The government exercises active ownership and control of financial institutions with a significant share of overall sector assets. The ability of financial institutions to offer financial services is subject to some restrictions.
- **50—Considerable government influence.** Same as above with the following exceptions: Credit allocation is significantly influenced by the government, and private allocation of credit faces significant barriers. The ability of financial institutions to offer financial services is subject to significant restrictions. Foreign financial institutions are subject to some restrictions.
- **40—Strong government influence.** Same as above with the following exceptions: The central bank is subject to government influence, its supervision and regulation of financial institutions are heavy, and its ability to enforce contracts and prevent fraud is weak. The government exercises active ownership and control of financial institutions with a large minority share of overall sector assets.
- **30—Extensive government influence.** Same as above with the following exceptions: Credit allocation is extensively influenced by the government. The government owns or controls a majority of financial institutions or is in a dominant position. Financial institutions are heavily restricted, and bank formation faces significant barriers. Foreign financial institutions are subject to significant restrictions.
- **20—Heavy government influence.** Same as above with the following exceptions: The central bank is not independent, and its supervision and regulation of financial institutions are repressive. Foreign financial institutions are discouraged or highly constrained.
- **10—Near repressive.** Same as above with the following exceptions: Credit allocation is controlled by the government. Bank formation is restricted. Foreign financial institutions are prohibited.
- **0—Repressive.** Same as above with the following exceptions: Supervision and regulation are designed to prevent private financial institutions. Private financial institutions are prohibited.

Sources. Unless otherwise noted, the authors used the following sources for data on banking and finance, in order of priority: Economist Intelligence Unit, *Country Commerce*, *Country Profile*, and *Country Report*, 2005–2008; Deloitte, *Country Snapshot*; Organisation for Economic Co-operation and Development; official government publications of each country; U.S. Department of Commerce, *Country Commercial Guide*, 2005–2008; Office of the U.S. Trade Representative, *2008 National Trade Estimate Report on Foreign Trade Barriers*; U.S. Department of State, *Investment Climate Statements 2008*; World Bank, *World Development Indicators 2008*; and various news and magazine articles on banking and finance.

FREEDOM #8: PROPERTY RIGHTS

The property rights component is an assessment of the ability of individuals to accumulate private property, secured by clear laws that are fully enforced by the state. It measures the degree to which a country's laws protect private property rights and the degree to which its government enforces those laws. It also assesses the likelihood that private property will be expropriated and analyzes the independence of the judiciary, the existence of corruption within the judiciary, and the ability of individuals and businesses to enforce contracts. The more certain the legal protection of property, the higher a country's score; similarly, the greater the chances of government expropriation of property, the lower a country's score. Countries that fall between two categories may receive an intermediate score.

The authors grade each country according to the following criteria:

- **100**—Private property is guaranteed by the government. The court system enforces contracts efficiently and quickly. The justice system punishes those who unlawfully confiscate private property. There is no corruption or expropriation.
- **90**—Private property is guaranteed by the government. The court system enforces contracts efficiently. The justice system punishes those who unlawfully confiscate private property. Corruption is nearly nonexistent, and expropriation is highly unlikely.
- **80**—Private property is guaranteed by the government. The court system enforces contracts efficiently but with some delays. Corruption is minimal, and expropriation is highly unlikely.
- **70**—Private property is guaranteed by the government. The court system is subject to delays and is lax in enforcing contracts. Corruption is possible but rare, and expropriation is unlikely.
- **60**—Enforcement of property rights is lax and subject to delays. Corruption is possible but rare, and the judiciary may be influenced by other branches of government. Expropriation is unlikely.
- **50**—The court system is inefficient and subject to delays. Corruption may be present, and the judiciary may be influenced by other branches of government. Expropriation is possible but rare.
- **40**—The court system is highly inefficient, and delays are so long that they deter the use of the court system. Corruption is present, and the judiciary is influenced by other branches of government. Expropriation is possible.
- **30**—Property ownership is weakly protected. The court system is highly inefficient. Corruption is extensive, and the judiciary is strongly influenced by other branches of government. Expropriation is possible.
- **20**—Private property is weakly protected. The court system is so inefficient and corrupt that outside settlement and arbitration is the norm. Property rights are difficult to enforce. Judicial corruption is extensive. Expropriation is common.
- **10**—Private property is rarely protected, and almost all property belongs to the state. The country is in such chaos (for example, because of ongoing war) that protection of property is almost impossible to enforce. The judiciary is so corrupt that property is not protected effectively. Expropriation is common.

- **0**—Private property is outlawed, and all property belongs to the state. People do not have the right to sue others and do not have access to the courts. Corruption is endemic.

Sources. Unless otherwise noted, the authors used the following sources for information on property rights, in order of priority: Economist Intelligence Unit, *Country Profile*, *Country Report*, and *Country Commerce*, 2005–2008; U.S. Department of Commerce, *Country Commercial Guide*, 2005–2008; and U.S. Department of State, *Country Reports on Human Rights Practices*, 2005–2008.

FREEDOM #9: FREEDOM FROM CORRUPTION

Corruption erodes economic freedom by introducing insecurity and uncertainty into economic relationships. The score for this component is derived primarily from Transparency International's Corruption Perceptions Index (CPI) for 2007, which measures the level of corruption in 179 countries.

The CPI is based on a 10-point scale in which a score of 10 indicates very little corruption and a score of 0 indicates a very corrupt government. In scoring freedom from corruption, the authors convert the raw CPI data to a scale of 0 to 100 by multiplying the CPI score by 10. For example, if a country's raw CPI data score is 5.5, its overall freedom from corruption score is 55.

For countries that are not covered in the CPI, the freedom from corruption score is determined by using the qualitative information from internationally recognized and reliable sources.[4] This procedure considers the extent to which corruption prevails in a country. The higher the level of corruption, the lower the level of overall economic freedom and the lower a country's score.

Sources. Unless otherwise noted, the authors used the following sources for information on informal market activities, in order of priority: Transparency International, *Corruption Perceptions Index*, 2007; U.S. Department of Commerce, *Country Commercial Guide*, 2005–2008; Economist Intelligence Unit, *Country Commerce*, *Country Profile*, and *Country Report*, 2005–2008; Office of the U.S. Trade Representative, *2008 National Trade Estimate Report on Foreign Trade Barriers*; and official government publications of each country.

FREEDOM #10: LABOR FREEDOM

The labor freedom component is a quantitative measure that looks into various aspects of the legal and regulatory framework of a country's labor market. It provides cross-country data on regulations concerning minimum wages; laws inhibiting layoffs; severance requirements; and measurable regulatory burdens on hiring, hours, and so on.

Six quantitative factors are equally weighted as one-sixth of the labor freedom component:[5]

- Ratio of minimum wage to the average value added per worker,
- Hindrance to hiring additional workers,
- Rigidity of hours,
- Difficulty of firing redundant employees,
- Legally mandated notice period, and
- Mandatory severance pay.

Based on data from the World Bank's *Doing Business* study, these factors specifically examine "the difficulty of hiring, nonstandard work schedules and paid annual leave, and the costs and rules governing redundancy termination."[6]

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4. The following three countries are not covered by the CPI: Bahamas, Liechtenstein, and North Korea.
5. The labor freedom assessment in the 2009 *Index* expanded its factors to six from four in previous editions of the *Index*. This refinement was applied equally to past editions' labor freedom scores so as to maintain consistency. The method for labor freedom assessment dates to the 2005 *Index* due to the limited availability of the quantitative data.
6. For more detailed information on the data, see "Employing Workers," in World Bank, *Doing Business*, at *http://www.doingbusiness.org/MethodologySurveys/EmployingWorkers.aspx*.

In constructing the labor freedom score, each of the six factors is converted to a scale of 0 to100 based on the following equation:

$$\text{Factor Score}_i = 50 \times \text{factor}_{average}/\text{factor}_i$$

where country *i* data are calculated relative to the world average and then multiplied by 50. The six factor scores are then averaged for each country, yielding a labor freedom score.

The simple average of the converted values for the six factors is computed for the country's overall labor freedom score. For example, even if a country has the worst rigidity of hours in the world with a zero score for that factor, it could still get a score as high as 83.3 based on the other five factors.

For the nine countries that are not covered by the World Bank's *Doing Business* study, the labor freedom component is scored by looking into labor market flexibility based on qualitative information from other reliable and internationally recognized sources.[7]

Sources. Unless otherwise noted, the authors relied on the following sources for data on labor freedom, in order of priority: World Bank, *Doing Business 2009*; Economist Intelligence Unit, *Country Report* and *Country Profile*, 2004–2008; U.S. Department of Commerce, *Country Commercial Guide*, 2006, 2007, and 2008; and official government publications of each country.

CONTINUITY AND CHANGE

With over a decade of experience measuring economic freedom in over a hundred nations annually, two issues regularly challenge our methodology.

The first challenge has to do with outdated data. Country data in the most up-to-date sources are often behind by years. Also, countries often make policy changes during the year of grading. Sometimes the policy changes are not reflected in official data, and sometimes the changes are proposed but not made law, or made law but not enforced. Additionally, a country can experience a violent conflict or catastrophe that interrupts all efforts to measure the economy.

The second challenge is the balance between quality and consistency of the *Index* itself. The authors aim for methodological consistency from one year to the next, balanced against opportunities to incorporate new data and methods that improve the quality of the current year's scores.

Using the Most Currently Available Information. Analyzing economic freedom annually permits the authors of the *Index* to include the most recent information as it becomes available country by country. A cutoff date is utilized so that all countries are treated fairly. As described above, the period of study for the current year's *Index* considers all information as of the last day of June of the previous year (June 30, 2008). Any new legislative changes or policy actions effective after that date have no positive or negative impact.

Occasionally, because the *Index* is published several months after the cutoff date for evaluation, recent economic events cannot be factored into the scores. In the past, such occurrences have been uncommon and isolated to one region of the world. The Asian financial crisis, for example, erupted at the end of 1997 just as the 1998 *Index* was going to print. The policy changes in response to that crisis, therefore, were not considered in that year's scoring, but they were included in the next year's scores. Similarly this year, the convulsions in global financial markets that occurred in the second half of 2008 have not affected the rankings for 2009, but will almost certainly show up in scores for 2010.

Changes in government policy are occurring at a rapid rate in many less-developed countries. The *Index*, because it is published each year, enables readers around the world to see how recent changes in government policy affect economic freedom in specific countries. Each country page includes a time series graph of the country's overall score for each year from the present back either to 1995 or to the first year when a country's economic freedom began to be scored.

7. See note 2.

In the 2009 *Index of Economic Freedom*, 21 new countries were added to expand the reach of the *Index*'s economic analysis. The 21 newly added countries are Afghanistan, Bhutan, Comoros, Dominica, Eritrea, Kiribati, Liberia, Liechtenstein, Macao, Maldives, Micronesia, Papua New Guinea, Saint Lucia, Saint Vincent and the Grenadines, Samoa, São Tomé and Príncipe, Seychelles, Solomon Islands, Timor-Leste, Tonga, and Vanuatu. Because of data constraints for Afghanistan, Iraq, Sudan, and Liechtenstein, however, only 179 countries are fully scored and ranked.

Quality and Continuity. Ideally, the methodology used for the *Index* should not change over time. Instead, the scores for various countries would improve as the institutions of freedom improved as measured against a constant standard of measurable liberty. However, the increased quality of the data available allows researchers to create more detailed measures of institutions as well as economic performance. The positive consequence of statistical progress is an enhanced ability to measure progress.

Over time, therefore, the *Index* methodology has been continually revised and improved; but we also aim for continuity, so each time a methodology change is implemented, we also attempt to make the scores continuous back to 1995. In this way, country performance is comparable from one year to the next.

Nevertheless, there are still some cases for which new data are not available going back to the first year, at least not in the same level of detail. There is a natural tension between the quality of the *Index* and the continuity of the *Index*. It would be easy to maintain perfect continuity if no changes were ever made, or *vice versa*, but we are committed to incorporating innovations into the methodology to optimize both the quality and continuity of the *Index* rather than simply maximizing one at the expense of the other.