

Appendix 1: Explanatory Notes and Data Sources

Area 1: Size of Government: Expenditures, Taxes, and Enterprises

A General government consumption spending as a percentage of total consumption

The rating for this component is equal to: $(V_{\max} - V_i) / (V_{\max} - V_{\min})$ multiplied by 10. The V_i is the country's actual government consumption as a proportion of total consumption, while the V_{\max} and V_{\min} were set at 40 and 6 respectively. Countries with a larger proportion of government expenditures received lower ratings. If the ratio of a country's government consumption to total consumption is close to the minimum value of this ratio during the 1990 base year, the country's rating will be close to 10. In contrast, if this ratio is close to the highest value during the base year, the rating will be close to zero. ♦ Sources: World Bank, *World Development Indicators* (various issues) and International Monetary Fund, *International Financial Statistics* (various issues).

B Transfers and subsidies as a percentage of GDP

The rating for this component is equal to: $(V_{\max} - V_i) / (V_{\max} - V_{\min})$ multiplied by 10. The V_i is the country's ratio of transfers and subsidies to GDP, while the V_{\max} and V_{\min} represent the maximum and minimum values of this component during the 1990 base year. The formula will generate lower ratings for countries with larger transfer sectors. When the size of a country's transfer sector approaches that of the country with the largest transfer sector during the base year, the rating of the country will approach zero. ♦ Sources: International Monetary Fund, *Government Finance Statistics Yearbook* (various years); World Bank, *World Development Indicators* (various issues); International Monetary Fund, *International Financial Statistics* (various issues); and Inter-American Development Bank, *Economic and Social Progress in Latin America, 1994*.

C Government enterprises and investment as a percentage of total investment

Data on the number, composition, and share of output supplied by State-Operated Enterprises (SOEs) and government investment as a share of total investment were used to construct the zero-to-10 ratings. Countries with more government enterprises and government investment received lower ratings. When there were few SOEs and government investment was generally less than 15% of total investment, countries were given a rating of 10. When there were few SOEs other than those involved in industries where economies of scale reduce the effectiveness of competition (e.g., power generation) and government investment was between 15% and 20% of the total, countries received a rating of 8. When there were, again, few SOEs other than those involved in energy and other such industries and government investment was between 20% and 25% of the total, countries were rated at 7. When SOEs were present in the energy, transportation, and communication sectors of the economy and government investment was between 25% and 30% of the total, countries were assigned a rating of 6. When a substantial number of SOEs operated in many sectors, including manufacturing, and government investment was generally between 30% and 40% of the total, countries received a rating of 4. When numerous SOEs operated in many sectors, including retail sales, and government investment was between 40% and 50% of the total, countries were rated at 2. A rating of zero was assigned when the economy was dominated by SOEs and government investment exceeded 50% of total investment. ♦ Sources: World Bank, *World Development Indicators* (various issues); World Bank Policy Research Report, *Bureaucrats in Business* (1995); Rexford A. Ahene and Bernard S. Katz, eds., *Privatization and Investment in Sub-Saharan Africa* (1992); Manuel Sanchez and Rossana Corona, eds., *Privatization in Latin America* (1993); Iliya Harik and Denis J. Sullivan,

eds., *Privatization and Liberalization in the Middle East* (1992); OECD, *Economic Surveys* (various issues); and L. Bouten and M. Sumlinski, *Trends in Private Investment in Developing Countries: Statistics for 1970–1995*.

D Top marginal tax rate (and income threshold at which it applies)

i Top marginal income tax rate (and income threshold at which it applies)

ii Top marginal income and payroll tax rates (and income thresholds at which they apply)

Countries with higher marginal tax rates that take effect at lower income thresholds received lower ratings based on the matrix below. The income threshold data were converted from local currency to 1982/1984 US dollars (using beginning-of-year exchange rates and the US Consumer Price Index). These figures include sub-national rates if applicable. ♦ Source: Price Waterhouse, *Individual Taxes: A Worldwide Summary* (various issues).

Top Marginal Tax Rate	Income Threshold at Which the Top Marginal Rate Applies (1982–1984 US\$)			
	< \$25,000	\$25,000 – \$50,000	\$50,000 – \$150,000	> \$150,000
< 20%	10	10	10	10
21%–25%	9	9	10	10
26%–30%	8	8	9	9
31%–35%	7	7	8	9
36%–40%	5	6	7	8
41%–45%	4	5	6	7
46%–50%	3	4	5	5
51%–55%	2	3	4	4
56%–60%	1	2	3	3
61%–65%	0	1	2	2
66%–70%	0	0	1	1
> 70%	0	0	0	0

Area 2: Legal Structure and Security of Property Rights

[Special Note: The ratings for Area 2 from 1970 to 1995 are the same as the Area V ratings from *Economic Freedom of the World: 2001 Annual Report*. Please see that report for methodological details.]

A Judicial independence—the judiciary is independent and not subject to interference by the government or parties in disputes

Source: World Economic Forum, *Global Competitiveness Report* (various issues).

B Impartial courts—a trusted legal framework exists for private businesses to challenge the legality of government actions or regulations

Sources: World Economic Forum, *Global Competitiveness Report* (various issues). We have used the “Rule of Law” ratings from the World Bank’s Governance Indicators Project to fill in gaps in the data since 1995. <<http://www.worldbank.org/wbi/governance/govdata/>>.

C Protection of intellectual property

Source: World Economic Forum, *Global Competitiveness Report* (various issues).

D Military interference in rule of law and the political process

This component is based on the Political Risk Component G (Military in Politics) from the *International Country Risk Guide*. ♦ Sources: PRS Group, *International Country Risk Guide* (various issues). We have used the “Political Stability and Absence of Violence” ratings from the World Bank’s Governance Indicators Project to fill in gaps in the data since 1995. <<http://www.worldbank.org/wbi/governance/govdata/>>.

E Integrity of the legal system

This component is based on Political Risk Component I (Law and Order) from the *International Country Risk Guide*. ♦ Source: PRS Group, *International Country Risk Guide* (various issues).

Area 3: 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**

The M1 money supply figures were used to measure the growth rate of the money supply. The rating is equal to: $(V_{\max} - V_i) / (V_{\max} - V_{\min})$ multiplied by 10. V_i represents the average annual growth rate of the money supply during the last five years adjusted for the growth of real GDP during the previous ten years. The values for V_{\min} and V_{\max} were set at zero and 50%, respectively. Therefore, if the adjusted growth rate of the money supply during the last five years was zero, indicating that money growth was equal to the long-term growth of real output, the formula generates a rating of 10. Ratings decline as the adjusted money-supply growth increases toward 50%. When the adjusted annual money growth is equal to (or greater than) 50%, a rating of zero results. ♦ Sources: World Bank, *World Development Indicators* (various issues) and International Monetary Fund, *International Financial Statistics* (various issues).

B Standard inflation variability during the last five years

Generally, the GDP deflator was used as the measure of inflation for this component. When these data were unavailable, the Consumer Price Index was used. The following formula was used to determine the zero-to-10 scale rating for each country: $(V_{\max} - V_i) / (V_{\max} - V_{\min})$ multiplied by 10. V_i represents the country’s standard deviation of the annual rate of inflation during the last five years. The values for V_{\min} and V_{\max} were set at zero and 25%, respectively. This procedure will allocate the highest ratings to the countries with least variation in the annual rate of inflation. A perfect 10 results when there is no variation in the rate of inflation over the five-year period. Ratings will decline toward zero as the standard deviation of the inflation rate approaches 25% annually. ♦ Sources: World Bank, *World Development Indicators* (various issues) and International Monetary Fund, *International Financial Statistics* (various issues).

C Recent inflation rate

Generally, the CPI was used as the measure of inflation for this component. The zero-to-10 country ratings were derived by the following formula: $(V_{\max} - V_i) / (V_{\max} - V_{\min})$ multiplied by 10. V_i represents the rate of inflation during the most recent year. The values for V_{\min} and V_{\max} were set at zero and 50%, respectively—the lower the rate of inflation, the higher the rating. Countries that achieve perfect price stability earn a rating of 10. As the inflation rate moves toward a 50% annual rate, the rating for this component moves toward zero. A zero rating is assigned to all countries with an inflation rate of 50% or more. ♦ Sources: World Bank, *World Development Indicators* (various issues) and International Monetary Fund, *International Financial Statistics* (various issues).

D Freedom to own foreign currency bank accounts domestically and abroad

When foreign currency bank accounts were permissible without restrictions both domestically and abroad, the rating was 10; when these accounts were restricted, the rating was zero. If foreign currency bank accounts were permissible domestically but not abroad (or vice versa), the rating was 5. ♦ Sources: International Monetary Fund, *Annual Report on Exchange Arrangements and Exchange Restrictions* (various issues) and Currency Data and Intelligence, Inc., *World Currency Yearbook* (various issues).

Area 4: Freedom to Trade Internationally

A Taxes on international trade

i Revenue from taxes on international trade as a percentage of exports plus imports

The formula used to calculate the ratings for this component was: $(V_{\max} - V_i) / (V_{\max} - V_{\min})$ multiplied by 10. V_i represents the revenue derived from taxes on international trade as a share of the trade sector. The values for V_{\min} and V_{\max} were set at zero and 15%, respectively. This formula leads to lower ratings as the average tax rate on international trade increases. Countries with no specific taxes on international trade earn a perfect 10. As the revenues from these taxes rise toward 15% of international trade, ratings decline toward zero. (Note that except for two or three extreme observations, the revenues from taxes on international trade as a share of the trade sector are within the zero to 15% range.) ♦ Sources: International Monetary Fund, *Government Finance Statistics Yearbook* (various issues) and International Monetary Fund, *International Financial Statistics* (various issues).

ii Mean tariff rate

The formula used to calculate the zero-to-10 rating for each country was: $(V_{\max} - V_i) / (V_{\max} - V_{\min})$ multiplied by 10. V_i represents the country's mean tariff rate. The values for V_{\min} and V_{\max} were set at 0% and 50%, respectively. This formula will allocate a rating of 10 to countries that do not impose tariffs. As the mean tariff rate increases, countries are assigned lower ratings. The rating will decline toward zero as the mean tariff rate approaches 50%. (Note that except for two or three extreme observations, all countries have mean tariff rates within this range from 0% to 50%.) ♦ Sources: World Bank, *World Development Indicators* (various issues); OECD, *Indicators of Tariff and Non-tariff Trade Barriers* (1996); World Bank *World Development Report 2000*; J. Michael Finger, Merlinda D. Ingco, and Ulrich Reincke, *Statistics on Tariff Concessions Given and Received* (1996); Judith M. Dean, Seema Desai, and James Riedel, *Trade Policy Reform in Developing Countries since 1985: A Review of the Evidence* (1994); GATT, *The Tokyo Round of Multilateral Trade Negotiations, Vol. II: Supplementary Report* (1979); UNCTAD, *Revitalizing Development, Growth and International Trade: Assessment and Policy Options* (1987); R. Erzan and K. Kuwahara, *The Profile of Protection in Developing Countries*, *UNCTAD Review* 1 (1) (1989): 29–49; and Inter-American Development Bank (data supplied to the authors).

iii Standard deviation of tariff rates

Compared to a uniform tariff, wide variation in tariff rates exerts a more restrictive impact on trade and, therefore, on economic freedom. Thus, countries with greater variation in their tariff rates should be given lower ratings. The formula used to calculate the zero-to-10 ratings for this component was: $(V_{\max} - V_i) / (V_{\max} - V_{\min})$ multiplied by 10. V_i represents the standard deviation of the country's tariff rates. The values for V_{\min} and V_{\max} were set at 0% and 25%, respectively. This formula will allocate a rating of 10 to countries that impose a uniform tariff. As the standard deviation of tariff rates increases toward 25%, ratings decline toward zero. (Note that except for a few very extreme observations, the standard deviations of the tariff rates for the countries in our study fall within this 0% to 25% range.) ♦ Sources: World Bank, *World Development Indicators* (various issues); OECD, *Indicators of Tariff and Non-tariff Trade Barriers* (1996); World Bank, *1997 World Development Indicators CD-Rom*; Jang-Wha Lee and Phillip Swagel, *Trade Barriers and Trade Flows across Countries and Industries*, NBER Working Paper Series No. 4799 (1994); and Inter-American Development Bank (data supplied to the authors).

B Regulatory Trade Barriers

i Hidden import barriers—no barriers other than published tariffs and quotas

Source: World Economic Forum, *Global Competitiveness Report* (various issues).

- ii Costs of importing—the combined effect of import tariffs, license fees, bank fees, and the time required for administrative red-tape raises costs of importing equipment (by 10% or less = score of 10; by more than 50% = score of 0)

◆ Source: World Economic Forum, *Global Competitiveness Report* (various issues).

C Actual size of trade sector compared to expected size

Regression analysis was used to derive an expected size of the trade sector based on the population and geographic size of the country and its location relative to the concentration of world GDP. The actual size of the trade sector was then compared with the expected size for the country. If the actual size of the trade sector is greater than expected, this figure will be positive. If it is less than expected, the number will be negative. The percent change of the negative numbers was adjusted to make it symmetrical with the percent change of the positive numbers. The following formula was used to place the figures on a zero-to-10 scale: $(V_i - V_{\min}) / (V_{\max} - V_{\min})$ multiplied by 10. V_i is the country's actual value for the component. V_{\max} and V_{\min} were set at 100% and minus 50%, respectively. (Note that minus 50% is symmetrical with positive 100%.) This procedure allocates higher ratings to countries with large trade sectors compared to what would be expected, given their population, geographic size, and location. On the other hand, countries with small trade sectors relative to the expected size receive lower ratings. A short paper explaining the methodology is available on our website: <<http://www.freetheworld.com/2004/TradeSectorMethodology.pdf>>. ◆ Sources: World Bank, *World Development Indicators* (various issues); International Monetary Fund, *International Financial Statistics* (various issues); and Central Intelligence Agency, *1997 World Factbook*.

D Difference between official exchange rate and black-market rate

The zero-to-10 ratings for this component were calculated using the following formula: $(V_{\max} - V_i) / (V_{\max} - V_{\min})$ multiplied by 10. V_i is the country's black-market exchange rate premium. The values for V_{\min} and V_{\max} were set at 0% and 50%, respectively. This formula will allocate a rating of 10 to countries without a black-market exchange rate; *i.e.*, those with a domestic currency that is fully convertible without restrictions. When exchange rate controls are present and a black market exists, the ratings will decline toward zero as the black market premium increases toward 50%. A zero rating is given when the black market premium is equal to, or greater than, 50%. ◆ Sources: *MRI Bankers' Guide to Foreign Currency* (various issues). World Bank, *World Development Indicators* (various issues); Currency Data and Intelligence, Inc., *World Currency Yearbook* (various issues of the yearbook and the monthly report supplement) and International Monetary Fund, *International Financial Statistics* (various issues).

E International capital market controls

- i Access of citizens to foreign capital markets and foreign access to domestic capital markets

Beginning with the *2004 Annual Report*, this sub-component is based on the question: "Foreign ownership of companies in your country is (1) rare, limited to minority stakes, and often prohibited in key sectors or (2) prevalent and encouraged," from the World Economic Forum, *Global Competitiveness Report* (various issues). For earlier years, this sub-component was based on two questions about "Access of citizens to foreign capital markets and foreign access to domestic capital markets" from the World Economic Forum, *Global Competitiveness Report* (various issues).

- ii Restrictions on the freedom of citizens to engage in capital market exchange with foreigners—index of capital controls among 13 IMF categories

The IMF reports on 13 different types of capital controls. This component is based on the number of capital controls levied. The zero-to-10 rating is constructed by taking 13 minus the number of capital controls divided by 13 and multiplied by 10. ◆ Source: International Monetary Fund, *Annual Report on Exchange Arrangements and Exchange Restrictions* (various issues).

Area 5: Regulation of Credit, Labor, and Business

A Credit market regulations

i Ownership of banks—percentage of deposits held in privately owned banks.

Data on the percentage of bank deposits held in privately owned banks were used to construct rating intervals. Countries with larger shares of privately held deposits received higher ratings. When privately held deposits totaled between 95% and 100%, countries were given a rating of 10. When private deposits constituted between 75% and 95% of the total, a rating of 8 was assigned. When private deposits were between 40% and 75% of the total, the rating was 5. When private deposits totaled between 10% and 40%, countries received a rating of 2. A zero rating was assigned when private deposits were 10% or less of the total. ♦ Sources: Euromoney Publications, *The Telrate Bank Register* (various editions); World Bank, *Adjustment in Africa: Reforms, Results, and the Road Ahead* (1994); Price Waterhouse, *Doing Business In ...* publication series; H.T. Patrick and Y.C. Park, eds., *The Financial Development of Japan, Korea, and Taiwan: Growth, Repression, and Liberalization* (1994); D.C. Cole and B.F. Slade, *Building a Modern Financial System: The Indonesian Experience* (1996); and information supplied by member institutes of the Economic Freedom Network.

ii Competition—domestic banks face competition from foreign banks

Beginning with the *2004 Annual Report*, data on the denial rate of foreign bank license applications and on foreign bank assets were used to update some countries' data. If a country approved all or most foreign bank applications and if foreign banks had a large share of the banking sector assets, then the country received a higher rating according to table below. ♦ Sources: World Economic Forum (2001), *Global Competitiveness Report 2001–2002* (Oxford: Oxford University Press). *World Bank Survey of Bank Regulation and Supervision*, <http://www.worldbank.org/research/interest/2003_bank_survey/2003_bank_regulation_database.htm>.

		0%	0%–49%	50%–100%
Foreign bank assets as a share of total banking sector assets	80%–100%	10	8	5
	40%–79%	9	7	4
	0%–39%	8	6	3

iii Extension of credit—percentage of credit extended to private sector

For this component, higher values are indicative of greater economic freedom. Thus, the formula used to derive the country ratings for this component was $(V_i - V_{\min}) / (V_{\max} - V_{\min})$ multiplied by 10. V_i is the share of the country's total domestic credit allocated to the private sector. V_{\max} is the maximum value and V_{\min} the minimum value for the figure during the 1990 base year. Respectively, these figures were 99.9% and 10.0%. The formula allocates higher ratings as the share of credit extended to the private sector increases. A country's rating will be close to 10 when the private sector's share of domestic credit is near the base-year maximum (99.9%). A rating near zero results when the private sector's share of credit is close to the base-year minimum (10.0%). ♦ Source: International Monetary Fund, *International Financial Statistics* (various issues).

iv Avoidance of interest rate controls and regulations that lead to negative real interest rates

Data on credit-market controls and regulations were used to construct rating intervals. Countries with interest rates determined by the market, stable monetary policy, and positive real deposit and lending rates received higher ratings. When interest rates were determined primarily by market forces and the real rates were positive,

countries were given a rating of 10. When interest rates were primarily determined by the market but the real rates were sometimes slightly negative (less than 5%) or the differential between the deposit and lending rates was large (8% or more), countries received a rating of 8. When the real deposit or lending rate was persistently negative by a single-digit amount or the differential between them was regulated by the government, countries were rated at 6. When the deposit and lending rates were fixed by the government and the real rates were often negative by single-digit amounts, countries were assigned a rating of 4. When the real deposit or lending rate was persistently negative by a double-digit amount, countries received a rating of 2. A zero rating was assigned when the deposit and lending rates were fixed by the government and real rates were persistently negative by double-digit amounts or hyperinflation had virtually eliminated the credit market. ♦ Source: International Monetary Fund, *International Financial Statistics* (various issues).

- v Interest rate controls—interest rates on bank deposits and/or loans are freely determined by the market
Sources: World Economic Forum, *Global Competitiveness Report* (various issues).

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
This component is based on two survey responses obtained from the *Global Competitiveness Report 2001–2002*. The first question, which was not presented in the GCR publication only due to space constraints asked about the overall “impact of the minimum wage.” The second question, which was included in the published report, asked about the strength of enforcement of the minimum wage law. Countries received higher ratings if the survey respondents indicated the minimum wage had a small impact and/or was not strongly enforced. Countries received lower ratings if the impact was deemed to be great and/or if the law was strongly enforced. ♦ Source: World Economic Forum, *Global Competitiveness Report* (various issues)..
- ii Hiring and firing practices—hiring and firing practices of companies are determined by private contract
Source: World Economic Forum, *Global Competitiveness Report* (various issues).
- iii Share of labor force whose wages are set by centralized collective bargaining
Source: World Economic Forum, *Global Competitiveness Report* (various issues).
- iv Unemployment benefits—the unemployment benefits system preserves the incentive to work
Source: International Institute for Management Development (IMD), *World Competitiveness Yearbook* (various issues).
- v Use of conscripts to obtain military personnel
Data on the use and duration of military conscription were used to construct rating intervals. Countries with longer conscription periods received lower ratings. A rating of 10 was assigned to countries without military conscription. When length of conscription was six months or less, countries were given a rating of 5. When length of conscription was more than six months but not more than 12 months, countries were rated at 3. When length of conscription was more than 12 months but not more than 18 months, countries were assigned a rating of 1. When conscription periods exceeded 18 months, countries were rated zero. ♦ Source: International Institute for Strategic Studies, *The Military Balance* (various issues).

C Business Regulations

- i Price controls—extent to which businesses are free to set their own prices
The more widespread the use of price controls, the lower the rating. The survey data of the International Institute for Management Development (IMD), *World Competitiveness Report*, various editions, were used to rate the

46 countries (mostly developed economies) covered by this report. For other countries, the Price Waterhouse series, *Doing Business In ...* and other sources were used to categorize countries. Countries were given a rating of 10 if no price controls or marketing boards were present. When price controls were limited to industries where economies of scale may reduce the effectiveness of competition (e.g., power generation), a country was given a rating of 8. When price controls were applied in only a few other industries, such as agriculture, a country was given a rating of 6. When price controls were levied on energy, agriculture, and many other staple products that are widely purchased by house-holds, a rating of 4 was given. When price controls applied to a significant number of products in both agriculture and manufacturing, the rating was 2. A rating of zero was given when there was widespread use of price controls throughout various sectors of the economy. ♦ Sources: International Institute for Management Development (IMD), *World Competitiveness Yearbook* (various issues). Price Waterhouse, *Doing Business In ...* publication series; World Bank, *Adjustment in Africa: Reforms, Results, and the Road Ahead* (1994); Economist Intelligence Unit, *EIU Country Reports and Country Commerce, 2001*; and US State Department, *Country Commercial Guides and Country Reports on Economic Policy and Trade Practices* (various years).

- ii Administrative conditions and new businesses—administrative procedures are an important obstacle to starting a new business
Source: World Economic Forum, *Global Competitiveness Report* (various issues).
- iii Time with government bureaucracy—senior management spends a substantial amount of time dealing with government bureaucracy
Source: World Economic Forum, *Global Competitiveness Report* (various issues).
- iv Starting a new business—starting a new business is generally easy
Source: World Economic Forum, *Global Competitiveness Report* (various issues).
- 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
Source: World Economic Forum, *Global Competitiveness Report* (various issues).