

## 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 enterprise 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 the total.

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 included sub-national rates if applicable.

Source: Price Waterhouse, *Individual Taxes: A Worldwide Summary* (various issues).

Top Marginal Tax Rate	Income Threshold Level (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	2	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

Sources: World Economic Forum (2003), *Global Competitiveness Report 2002–2003* (Oxford: Oxford University Press). World Economic Forum (2000), *Global Competitiveness Report 2000* (Oxford: Oxford University Press).

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

Sources: World Economic Forum (2003), *Global Competitiveness Report 2002–2003* (Oxford: Oxford University Press). World Economic Forum (2000), *Global Competitiveness Report 2000* (Oxford: Oxford University Press).

Kaufmann, Daniel, Aart Kraay, and Pablo Zoido-Lobaton (2002). "Governance Matters II: Updated Indicators for 2000/01," World Bank Policy Research Working Paper No. 2772, <<http://www.worldbank.org/wbi/governance/govdata2001.htm>>. This project creates an aggregated measure of governance based on an array of different indicators from different sources in six different areas: Voice and Accountability, Political Stability, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption. We used the 1997/98 and 2000/01 Rule of Law estimates to fill in gaps in our Component 2-B (Impartial Courts) for 1995 and 2000, respectively.

### C Protection of intellectual property

Sources: World Economic Forum (2003), *Global Competitiveness Report 2002–2003* (Oxford: Oxford University Press). World Economic Forum (2001), *Global Competitiveness Report 2001–2002* (Oxford: Oxford University Press).

### 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). Kaufmann, Daniel, Aart Kraay and Pablo Zoido-Lobaton (2002). "Governance Matters II: Updated Indicators for 2000/01," World Bank Policy Research Working Paper No. 2772, <<http://www.worldbank.org/wbi/governance/govdata2001.htm>>. This project creates an aggregated measure of governance based on an array of different indicators from different sources in six different areas: Voice and Accountability, Political Stability, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption. We used the 1997/98 and 2000/01 Political Stability estimates to fill in gaps in our Component 2-D (Military Interference) for 1995 and 2000, respectively.

### 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), with updates from 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), with updates from 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), with updates from 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

Sources: World Economic Forum (2003), *Global Competitiveness Report 2002–2003* (Oxford: Oxford University Press). World Economic Forum (2001), *Global Competitiveness Report 2001–2002* (Oxford: Oxford University Press).

### 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% or less + score of 10; by more than 50% = score of 0)

Sources: World Economic Forum (2003), *Global Competitiveness Report 2002–2003* (Oxford: Oxford University Press). World Economic Forum (2000), *Global Competitiveness Report 2000* (Oxford: Oxford University Press).

## 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 exact methodology is available from the authors upon request. 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.

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 formula used to calculate the zero-to-10 ratings for this component was the following:  $(V_{\max} - V_i) / (V_{\max} - V_{\min})$  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 (2003) *Global Competitiveness Report 2003–2004* (Oxford: Oxford University Press). 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 (2001) *Global Competitiveness Report 2001–2002*. (Oxford: Oxford University Press).

##### 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 to-

talled 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 totalled 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.

		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

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](http://www.worldbank.org/research/interest/2003_bank_survey/2003_bank_regulation_database.htm)>.

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%).

Sources: International Monetary Fund, *International Financial Statistics* (various issues) and *Statistical Yearbook of the Republic of China* (1996).

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 market-determined 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 Yearbook* (various issues, as well as the monthly supplements).

- 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). This particular component was not presented in the 2001 GCR publication only due to space constraints but the data were provided to us directly from the World Economic Forum.

## **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 (2001), *Global Competitiveness Report 2001–2002* (Oxford: Oxford University Press).

- 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 (2003), *Global Competitiveness Report 2002–2003* (Oxford: Oxford University Press). This particular component was not presented in the 2001 GCR publication only due to space constraints but the data were provided to us directly from the World Economic Forum.

- iv Unemployment benefits—the unemployment benefits system preserves the incentive to work

Source: International Institute for Management Development (IMD), *World Competitiveness Yearbook* (various issues). World Economic Forum, *Global Competitiveness Report* (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 households, 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: IMD, *World Competitiveness Report* (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).

## Appendix 2: Selected Publications Using Ratings from *Economic Freedom of the World*

The following are some of the articles that have used the economic freedom ratings from *Economic Freedom of the World*. In some cases, a brief abstract of the article is provided. Those interested in doing further research using the Economic Freedom index are invited to retrieve the dataset from the website of the Economic Freedom Network, <<http://www.freetheworld.com>>. The most up-to-date information on articles using the index of *Economic Freedom of the World* can be found at <<http://www.freetheworld.com/papers.html>>.

**Ali, Abdiweli M. (1997). "Economic Freedom, Democracy and Growth." *Journal of Private Enterprise* 13 (Fall): 1–20.**

"This paper takes advantage of newly constructed measures of economic freedom to show the importance of economic freedom on growth. I find that economic freedom is a more robust determinant of growth than political freedom and civil liberty."

Uses summary ratings from *Economic Freedom of the World: 1975–1995* as one variable in a comparison of a number of institutional variables.

**Ali, Abdiweli M., and W. Mark Crain (1999). "Institutional Distortions, Economic Freedom, and Growth." Draft manuscript (April). James M. Buchanan Center for Political Economy.**

This paper examines the robustness of economic freedom as a predictor of growth and investment compared to political rights and civil liberties. It also examines the relation between economic freedom and input price distortions and institutional quality.

Uses summary ratings from *Economic Freedom of the World: 1975–1995* as one of a number of institutional variables.

**Ayal, Eliezer B., and Karras Georgios (1998). "Components of Economic Freedom and Growth: An Empirical Study." *Journal of Developing Areas* 32 (Spring): 327–38.**

The paper uses regression analysis to examine the effect of the components of economic freedom on growth, output and investment and finds that "economic freedom enhances growth both via increasing total factor productivity and via enhancing capital accumulation." It also identifies components that have the highest statistical effects on these variables, with the aim of informing policy makers.

Uses component ratings from *Economic Freedom of the World: 1975–1995* as the main data source for institutional variables.

**Bengoa, Marta, and Blanca Sanchez-Robles (2003). "Foreign Direct Investment, Economic Freedom and Growth: New Evidence from Latin America." *European Journal of Political Economy* 19, 3: 529–45.**

"This paper explores the interplay between economic freedom, foreign direct investment (FDI) and economic growth using panel data analysis for a sample of 18 Latin American countries for 1970–1999. We find that economic

freedom in the host country is a positive determinant of FDI inflows. Our results also suggest that foreign direct investment is positively correlated with economic growth in the host countries. The host country requires, however, adequate human capital, economic stability and liberalized markets to benefit from long-term capital flows. “

Uses summary ratings from *Economic Freedom of the World: 1975–1995* as the main data source for institutional variables.

**Berggren, Niclas (1999). “Economic Freedom and Equality: Friends or Foes?” *Public Choice* 100, 3/4 (September): 203–23.**

This paper describes a theoretical model of the relationship between economic freedom and income distribution, and investigates empirical results. The results indicate that “sustained and gradual increases in economic freedom influence equality measures positively ... [but] the absolute level of economic freedom appears to be negatively related to equality in some cases.”

Uses summary ratings from *Economic Freedom of the World: 1975–1995* as the main data source for institutional variables.

**Berggren, Niclas, and Henrik Jordahl (forthcoming). “Does Free Trade Really Reduce Growth? Further Testing Using the Economic Freedom Index.” *Public Choice*.**

“While studies of the relationship between economic freedom and economic growth have shown it to be positive, significant and robust, it has rightly been argued that different areas of economic freedom may have quite different effects on growth. Along that line, Carlsson and Lundström (2002) present the surprising result that “International exchange: Freedom to trade with foreigners” is detrimental for growth. We find that “Taxes on international trade” seems to drive this result. However, using newer data and a more extensive sensitivity analysis, we find that it is not robust. Least Trimmed Squares-based estimation in fact renders the coefficient positive.”

Uses Economic Freedom of the World index as the main data source for institutional variables.

**Boockmann, Bernhard, and Axel Dreher (2003). “The Contribution of the IMF and the World Bank to Economic Freedom.” *European Journal of Political Economy* 19, 3: 633–49.**

“We analyse the effect of IMF and World Bank policies on the composite index of economic freedom by Gwartney et al. (2000) as well as its sub-indexes, using a panel of 85 countries observed between 1970 and 1997. With respect to the Bank, we find that the number of projects has a positive impact on overall economic freedom, while the effect of the amount of World Bank credits appears to be negative. These effects are stronger during the 1990s than in earlier periods. There is no clear relationship between credits and programmes of the IMF and economic freedom as measured by the index.”

Uses summary ratings from *Economic Freedom of the World: 2002 Annual Report* as the main data source for institutional variables.

**Carlsson, F., and S. Lundstrom (2002). “Economic Freedom and Growth: Decomposing the Effects.” *Public Choice* 112, 3–4 (September): 335–44.**

“Most studies of the relation between economic freedom and growth of GDP have found a positive relation. In this paper we investigate what specific types of economic freedom measures that are important for growth. The results show that economic freedom does matter for growth. This does not mean that increasing economic freedom, de-

fined in general terms, is good for economic growth since some of the categories in the index are insignificant and some of the significant variables have negative effects.”

Uses summary ratings and the components from *Economic Freedom of the World: 2002 Annual Report* as the main data source for institutional variables.

**Chafuen, Alejandro (1998). “Estado y Corrupción.” In Alejandro Chafuen and Eugenio Guzmán, *Corrupción y Gobierno* (Santiago, Chile: Fundación Libertad y Desarrollo): 45–98.**

Finds that corruption is negatively related to economic freedom.

*Economic Freedom of the World: 1975–1995* and *Transparency International* are the main data-source for institutional variables.

**Dawson, John W. (1998). “Institutions, Investment, and Growth: New Cross-Country and Panel Data Evidence.” *Economic Inquiry* 36 (October): 603–19.**

“This paper outlines the alternative channels through which institutions affect growth, and studies the empirical relationship between institutions, investment, and growth. The empirical results indicate that (i) free-market institutions have a positive effect on growth; (ii) economic freedom affects growth through both a direct effect on total factor productivity and an indirect effect on investment; (iii) political and civil liberties may stimulate investment; (iv) an important interaction exists between freedom and human capital investment; (v) Milton Friedman’s conjectures on the relation between political and economic freedom are correct; (vi) promoting economic freedom is an effective policy toward facilitating growth and other types of freedom.”

Uses *Economic Freedom of the World: 1975–1995* as the main data source for institutional variables.

**De Haan, Jakob, and Clemens L.J. Sierman (1998). “Further Evidence on the Relationship between Economic Freedom and Economic Growth.” *Public Choice* 95: 363–80.**

Primarily investigates the robustness of the index of economic freedom devised by Gerald Scully and D.J. Slottje and determines that the robustness of results depends heavily on how freedom is measured. Finds that some specifications are robust predictors of the growth rate of real per-capita GDP (1980–1992) but few are robust for investment share of GDP.

Empirical analysis on *Economic Freedom of the World: 1975–1995* is limited to correlation with the Scully and Slottje’s index. Suggests further empirical work be done on *Economic Freedom of the World*.

**De Haan, Jakob, and Jan-Egbert Sturm (2000). “On the Relationship between Economic Freedom and Economic Growth.” *European Journal of Political Economy* 16: 215–41.**

“It is often maintained that economic freedom underlies high levels of economic growth. This paper compares various indicators for economic freedom. We conclude that, although these measures differ somewhat in their coverage, they show similar rankings for the countries covered. Some elements in these measures are, however, questionable. Our main conclusion is that greater economic freedom fosters economic growth. The level of economic freedom is, however, not related to growth.”

Uses summary ratings from *Economic Freedom of the World: 1975–1995* as the main data source for institutional variables.

**De Haan, Jakob, and Jan-Egbert Sturm (2003).** "Does More Democracy Lead to Greater Economic Freedom? New Evidence for Developing Countries." *European Journal of Political Economy* 19, 3 (September): 547–63.

"This paper examines the relationship between economic and political freedom, focusing on developing countries. We conclude that increases in economic freedom between 1975 and 1990 are to some extent caused by the level of political freedom. This result shows up for all measures of political freedom that we employ."

Uses summary ratings from *Economic Freedom of the World: 1975–1995* as the main data source for institutional variables.

**Easton, Steven T., and Michael A. Walker (1997).** "Income, Growth, and Economic Freedom." *American Economic Review* 87, 2 (May): 328–32.

Finds that economic freedom is an important explanatory variable for steady-state levels of income. The addition of a variable for economic freedom is also shown to increase the explanatory power of a neo-classical growth model.

*Economic Freedom of the World: 1975–1995* is the main data source for institutional variables.

**Farr, W. Ken, Richard A. Lord, and J. Larry Wolfenbarger (1998).** "Economic Freedom, Political Freedom and Economic Well-Being: A Causality Analysis." *Cato Journal* 18, 2 (Fall): 247–62.

The paper uses Granger causality analysis to demonstrate that economic freedom "causes" economic well-being and economic well-being "causes" economic freedom. Additionally, the authors argue that economic well-being causes political freedom but that there is no causation flowing from political freedom to economic well-being. The paper also finds no evidence of a causal relationship in either direction between economic freedom and political freedom. Indirectly economic freedom causes political freedom through its effect on economic well-being.

*Economic Freedom of the World: 1975–1995* and the Freedom House index of political rights and civil liberties are the main data sources for institutional variables.

**Graeff, P., and G. Mehlkop (2003).** "The Impact of Economic Freedom on Corruption: Different Patterns for Rich and Poor Countries." *European Journal of Political Economy* 19, 3 (September): 605–20.

"This paper investigates the impact of various components of economic freedom on corruption. Some aspects of economic freedom appear to deter corruption while others do not. We identify a stable pattern of aspects of economic freedom influencing corruption that differs depending on whether countries are rich or poor. This implies that there is a strong relation between economic freedom and corruption. This relation depends on a country's level of development. Contrary to expectations, we find that some types of regulation reduce corruption."

Uses ratings from *Economic Freedom of the World: 2000 Annual Report* as the main data source for institutional variables.

**Grubel, Herbert G. (1998).** "Economic Freedom and Human Welfare: Some Empirical Findings." *Cato Journal* 18, 2 (Fall): 287–304.

The paper compares economic freedom to income, growth, unemployment in the OECD, the UN Human Development Index, life expectancy, literacy, poverty, and income distribution. It finds that "economic freedom does not have a cost in terms of income levels, income growth, unemployment rates, and human development."

*Economic Freedom of the World: 1997 Annual Report* is the main data source for institutional variables.

**Gwartney, James, Randall Holcombe, and Robert Lawson (1998).** "The Scope of Government and the Wealth of Nations." *Cato Journal* 18, 2 (Fall): 163–90.

The paper examines the effect of the size of government in OECD countries upon economic growth. This paper draws on the authors' Joint Economic Committee Study, *The Size and Functions of Government and Economic Growth*.

Makes reference to the general conclusions regarding economic freedom and income and growth as published in *Economic Freedom of the World: 1975–1995* and *Economic Freedom of the World: 1997 Annual Report*.

**Gwartney, James, Robert Lawson, and Randall Holcombe (1999).** "Economic Freedom and the Environment for Economic Growth." *Journal of Institutional and Theoretical Economics* 155, 4: 1–21.

This study examines the relationship between economic freedom and economic growth. The authors find that economic freedom is a "significant determinant of economic growth, even when human and physical capital, and demographics are taken into account." The authors also test for causality. They find that increases in economic freedom lead to higher economic growth but not that higher economic growth leads to higher economic freedom.

Uses summary ratings from *Economic Freedom of the World: 1997 Annual Report* as one of a number of institutional variables.

**Hanke, Steve H., and Stephen J.K. Walters (1997).** "Economic Freedom, Prosperity, and Equality: A Survey." *Cato Journal* 17, 2 (Fall): 117–46.

The article compares several institutional indexes for content and explanatory power: Gerald Scully's studies, The Fraser Institute's *Economic Freedom of the World*, Freedom House's *Economic Freedom Indicators*, The Heritage Foundation's *Indices of Economic Freedom*, The International Institute for Management Development's *World Competitiveness Yearbook 1996*, The World Forum's *Global Competitiveness Report 1996*. Compares liberty and prosperity, equality and foreign policy implications. They find that economic freedom is positively correlated with GNP per capita.

*Economic Freedom of the World: 1975–1995* is used as one variable in a comparison of a number of institutional variables.

**Islam, Sadequil (1996).** "Economic Freedom, per Capita Income and Economic Growth." *Applied Economics Letters* 3: 595–97.

Examines the effect of economic freedom on income and growth in high-, middle-, and low-income country sets and finds that economic freedom is significant for a sample of all countries but only in some subsets.

Uses the precursor to *Economic Freedom of the World*, "Measuring Economic Freedom," by James Gwartney, Walter Block and Robert Lawson, a chapter in Stephen Easton and Michael Walker (eds.), *Rating Global Economic Freedom* (Vancouver: The Fraser Institute, 1992). "Measuring Economic Freedom" is the main data source for institutional variables.

**Johnson, James P., and Tomasz Lenartowicz (1998).** "Culture, Freedom and Economic Growth: Do Cultural Values Explain Economic Growth?" *Journal of World Business* 33, 4: 332–56.

The paper discusses which cultural values are associated with economic freedom, drawing on two international quantitative cultural indexes.

Uses the summary ratings from *Economic Freedom of the World: 1975–1995* as one of a number of institutional variables.

**Ludovic, Comeau (2003).** “The Political Economy of Growth in Latin America and East Asia: Some Empirical Evidence.” *Contemporary Economic Policy* 21, 4 (October ): 476–89.

“This article examines the historical records of poor economic performance of Latin America compared to East Asia’s relative success in the 1970s and 1980s. This study shows that the respective sociopolitical and institutional environment of the two regions was also an important factor contributing to their economic outcomes. Using data for selected countries in both regions, the results confirm the hypothesis of a negative direct (efficiency) effect of sociopolitical instability on growth, with an additional indirect (accumulation) effect through investment, irrespective of a country’s location. Policies adopted by governments, particularly to control inflation and foreign indebtedness and to enhance economic freedom and human capital accumulation, appear crucial for stability. Such policies influenced economic performance through both the direct and the indirect channels.”

Uses summary ratings from *Economic Freedom of the World: 1975–1995* as the main data source for institutional variables.

**Mahoney, P.G. (2001).** “The Common Law and Economic Growth: Hayek Might Be Right.” *Journal of Legal Studies* 30 (June): 503–25.

“Recent finance scholarship finds that countries with legal systems based on the common law have more developed financial markets than civil-law countries. The present paper argues that finance is not the sole, or principal, channel through which legal origin affects growth. Instead, following Hayek, I focus on the common law’s association with limited government. I present evidence that common-law countries experienced faster economic growth than civil-law countries during the period 1960–92 and then present instrumental variables results that suggest that the common law produces faster growth through greater security of property and contract rights.”

Uses some components of economic freedom from *Economic Freedom of the World: 1975–1995*.

**Mbaku, John Mukum (1998).** “Constitutional Engineering and the Transition to Democracy in Post-Cold War Africa.” *The Independent Review* 2, 4 (Spring): 501–17.

Discusses the constitutional guarantees necessary to secure economic freedom and why such guarantees are important. Focuses on Africa.

Makes reference to the general conclusions of *Economic Freedom of the World: 1975–1995* regarding economic freedom and income and growth.

**Mbaku, John Mukum, ed. (1999).** *Preparing Africa for the Twenty-First Century: Strategies for Peaceful Coexistence and Sustainable Development*. Aldershot, UK and Brookfield, VT: Ashgate.

Chapter 6, “A Balance Sheet of Structural Adjustment in Africa: Towards a Sustainable Development Agenda” (John Mukum Mbaku) and chapter 12, “Making the State Relevant to African Societies” (John Mukum Mbaku) emphasize the constitutional guarantee of economic freedoms as the single most important way both to generate the wealth that Africans need to meet the challenges of the new century and to deal more effectively with the continent’s colossal debt.

Makes reference to the general conclusions of *Economic Freedom of the World: 1975–1995* regarding economic freedom and income and growth.

**Nelson, Michael A., and Ram D. Singh, (1998). "Democracy, Economic Freedom, Fiscal Policy and Growth in LDCs: A Fresh Look." *Economic Development and Cultural Change* 46, 4 (July): 677–96.**

The study examines the effect of democracy on economic growth after controlling for a number of variables for the size of government and institutions. The study finds that it is not the redistributive policies of democratic governments that hinder development in developing countries but the lack of economic freedom.

Uses the precursor to *Economic Freedom of the World*, "Measuring Economic Freedom," by James Gwartney, Walter Block, and Robert Lawson, in Stephen Easton and Michael Walker (eds.), *Rating Global Economic Freedom* (Vancouver: The Fraser Institute, 1992). The summary ratings of "Measuring Economic Freedom" are used as one variable in a comparison of a number of variables for institutions and the size of government.

**Norton, Seth W. (1998). "Poverty, Property Rights, and Human Well-Being: A Cross-National Study. *Cato Journal* 18, 2 (Fall): 233–45.**

The paper compares property rights to indicators of development and determines that the "well-being of the world's poorest inhabitants [is] sensitive to the cross-national specification of property rights." The paper shows that well-specified property rights enhance the well-being of the world's most impoverished.

*Economic Freedom of the World: 1997 Annual Report* and the Heritage Foundation's *Indices of Economic Freedom* are the main data source for institutional variables.

**Norton, Seth W. (1998). "Property Rights, the Environment, and Economic Well-Being." In Peter J. Hill and Roger E. Meiners (eds.), *Who Owns the Environment* (Rowman & Littlefield): 37–54.**

Investigates whether countries with better property rights have better performance on environmental measures.

Uses the summary ratings of *Economic Freedom of the World: 1975–1995* as one of four measures used as proxies for property rights.

**Paldam, Martin (2003). "Economic Freedom and the Success of the Asian Tigers. An Essay on Controversy." *European Journal of Political Economy* 19, 3 (September): 453–77.**

"The term 'tigers' refers to a group of four to five East Asian countries that joined the rich Western countries after less than 50 years of "miraculous" growth. Controversies surround the attempt to explain how the successes were achieved. This paper surveys the discussion and uses the index published in *Economic Freedom of the World* to address the main controversy, which is the role of the state in the rapid growth that took place. After a discussion of likely biases, the data are considered. Three of the five countries have a level of regulation much like other rich countries while two have been as close to *laissez faire* as any country in the world. All are much more "market-friendly" than the LDCs that they left behind. The extent of *laissez faire* can, however, be only one aspect of the miracle."

**Park, Walter G., and Juan Carlos Ginarte (1997). "Intellectual Property Rights and Economic Growth." *Contemporary Economic Policy* 15 (July): 51–61.**

The authors have compiled an index of intellectual property rights, and examine its effects on growth and the factors of production (investment, schooling, and R&D). "The paper finds that IPRs affect economic growth indirectly by stimulating the accumulation of factor inputs like R&D and physical capital."

Uses summary ratings of *Economic Freedom of the World: 1975–1995* as a control variable for market institutions in the analysis.

**Scully, G.W. (2002). "Economic Freedom, Government Policy and the Trade-Off between Equity and Economic Growth." *Public Choice* 113, 1–2 (October): 77–96.**

"This study investigates the role that economic freedom plays in economic growth and in the distribution of market income, the role of government policy in advancing economic progress and in promoting income equality, and the effect that the rate of economic progress has on the distribution of market income. Structural and reduced form models are estimated that reveal that economic freedom promotes both economic growth and equity, and that there is a positive but relatively small trade-off between growth and income inequality."

Uses summary ratings and the components from *Economic Freedom of the World: 1975–1995* as the main data source for institutional variables.

**Sturm, J.E., and J. De Haan (2001). "How Robust Is the Relationship between Economic Freedom and Economic Growth?" *Applied Economics* 33, 7 (June): 839–44.**

"Using various indicators for economic freedom, it is shown that increases in economic freedom are robustly related to economic growth. This conclusion holds even if the impact of outlying observations is taken into account. The level of economic freedom is not related to growth."

Uses summary ratings from *Economic Freedom of the World: 1975–1995* as the main data source for institutional variables.

**Vamvakidis, Athanasios (1998). "Explaining Investment in the WAEMU [West African Economic and Monetary Union]." Working paper WP/98/99. International Monetary Fund.**

Relates differences in investment as a share of GDP within the West African Economic and Monetary Union to differences in economic freedom using fixed and random-effects models across time.

*Economic Freedom of the World: 1975–1995* is the main data source for institutional variables.

**Vásquez, Ian (1998). "Official Assistance, Economic Freedom, and Policy Change: Is Foreign Aid Like Champagne?" *Cato Journal* 18, 2 (Fall): 275–86.**

Argues that foreign aid is propping up countries that are not economically free. Mr Vásquez also tests the notion that aid agencies target pro-growth policies. He finds that for the countries where economic freedom declines or does not improve, foreign aid actually increases (19 of 20 cases). As well, in over one half of these countries GDP per capita declines.

Makes reference to the general conclusions of *Economic Freedom of the World: 1997 Annual Report* regarding economic freedom and income and growth.

**Vega-Gordillo, Manuel, and José L. Álvarez-Arce (2003). "Economic Growth and Freedom: A Causality Study." *Cato Journal* 23, 2 (Fall): 199–215.**

"The dynamic relationships estimated strongly suggest that economic freedom fosters economic growth. The impact of political freedoms on economic growth is much less clear. However, based on the evidence, it is plausible to say that political freedoms do not have to be postponed. Furthermore, the dynamic relationships estimated with the Kiviet method indicate that intensified democracy may result in faster growth and greater economic freedom. They also indicate that economic prosperity makes democratization easier. Our findings, therefore, are closer to Friedman's belief than to Lipset's: freedom is a key component in any attempt to improve economic and social well-being."

Uses ratings from *Economic Freedom of the World: 2001 Annual Report* as the main data source for institutional variables.

**Voigt, Stefan (1998). Making Constitutions Work: Conditions for Maintaining the Rule of Law. *Cato Journal* 18, 2 (Fall): 191–208.**

Makes reference to the general conclusions of *Economic Freedom of the World: 1975–1995* regarding economic freedom and income and growth and discusses conditions under which the rule of law can be maintained.

**Wu, Wenbo, and Otto A. Davis (1999). “The Two Freedoms in a Growth Model.” *Journal of Private Enterprise* 14, 2: 115–43.**

The paper develops a theoretical model describing the impact that economic and political freedoms might have upon economic growth, then estimates the relative impact of the two on growth in the world as a whole and for subsets of developing and developed nations.

Summary ratings from *Economic Freedom of the World: 1975–1995* provide a key institutional variable.

**Wu, Wenbo, and Otto A. Davis (forthcoming). “Two Freedoms, Economic Growth and Development: An Empirical Study.” *Public Choice*.**

“The main results are: given economic freedom, the rate of economic growth is independent of political freedom and the level of income; given the level of income, political freedom is independent of economic freedom and the growth rate. The analysis suggests the fundamental effects of economic freedom in fostering economic growth and a high level of income as the condition of a high degree of political freedom.” The article also uses principle component analysis to weight the results published in *Economic Freedom of the World*.

*Economic Freedom of the World: 1975–1995* and Freedom House’s *Economic Freedom Indicators* on political rights and civil liberties are the main data sources for institutional variables.