

TECHNICAL NOTE

Overview

Data in *Figure 1* are at current national prices. Data for the OECD countries come from Tanzi and Schuknecht 1995, with updates from OECD, various years. The countries included are Austria, Belgium, France, Germany, Italy, Japan, the Netherlands, Norway, Spain, Sweden, Switzerland, the United Kingdom, and the United States. Data for the developing countries come from IMF, various years (b). Developing countries include low- and middle-income countries as defined by the World Bank; the countries included vary across the period.

The regional indexes in the left panel in *Box 2* are derived from averages of credibility indexes for the countries in the region. On construction of the credibility index see “The private sector survey” below and the Brunetti, Kisunko, and Weder background papers.

The other two panels in *Box 2* are based on regressions reported in Table TN1. The GDP growth regression follows the instrumental variable (IV) methodology, using the Freedom House Index of Political Rights (Freedom House, various issues) as an instrument for the level of credibility. The regression for the share of investment in GDP reports ordinary least-squares (OLS) results. The credibility index is taken from the Brunetti, Kisunko, and Weder background paper (a). The index is normalized such that the level for the high-income OECD countries equals one. The source for the remaining variables is the Commander, Davoodi, and Lee background paper.

The methodology used to generate the two right-hand panels in *Box 2* is routinely used in multiple regression analysis and is used throughout the Report unless stated otherwise. The height of the vertical bar associated with the medium category is the value of the dependent variable obtained by evaluating the estimated regression at the sample mean of all the right-hand-side terms (for example, the constant term, credibility, initial income, initial

education, and policy distortion in Table TN1). The heights of the other two bars are the values of the dependent variable obtained by evaluating the estimated regression at the sample mean of all the right-hand-side variables except the variable of interest (credibility in Table TN1), which is evaluated at one standard deviation above the sample mean for the high category and one standard deviation below the sample mean for the low category.

In figures where a bar diagram is based on a simple correlation (for example, the top left panel of *Figure 3* in the Overview), the following methodology is used unless otherwise stated. Countries in the sample are ranked according to their values for the variable on the horizontal axis. The low, medium, and high categories are then defined as follows. The medium category includes countries within one standard deviation of the sample mean, and the height of the bar is the average for those countries. The remaining countries, in the upper and lower tails of the distribution, then make up the high and low categories, respectively, and again the bar height is the average for the countries in the category.

The top left panel in *Figure 3* is based on a simple correlation between a policy distortion index (averages for 1984–93) and a corruption index (1996 data). The correlation coefficient is 0.53 with a *t*-statistic of 3.79. The policy distortion index is taken from the Commander, Davoodi, and Lee background paper. Higher values of the index mean more distorted policies. The corruption index is taken from the private sector survey conducted for this Report (see below). See the technical note for *Figure 5* for the construction of the policy distortion index.

The top right panel in *Figure 3* is based on a regression, reported in Table TN2, of an index of corruption on an index of predictability of the judiciary (higher values mean greater predictability), controlling for initial GDP per capita and education (data from the World Bank data

Table TN1 Regressions of growth and investment on level of credibility and other variables

Independent variable	Regression coefficient	
	Growth in GDP per capita (IV method)	Investment-GDP ratio (OLS method)
Constant	-9.550** (4.14)	-36.841*** (9.03)
Level of credibility (0 worst, 1 best)	13.44** (6.34)	17.54** (7.53)
Log of initial GDP per capita	-0.048 (0.77)	5.025** (1.43)
Log of initial mean years of schooling	-0.255 (0.55)	-1.109 (1.85)
Policy distortion	-0.256 (0.64)	0.625 (1.51)
Adjusted R ²	0.264	0.674
No. of observations	33	33

*** Significant at the 1 percent level.
** Significant at the 5 percent level.
Note: Numbers in parentheses are standard errors.

base). Data on level of corruption and predictability of the judiciary were taken from the private sector survey (see below). The statistical methodology for generating the bars is described in the technical note to Box 2.

The bottom left panel in Figure 3 is derived from a regression reported by Evans and Rauch 1996. The dependent variable is corruption, data for which are taken from various issues of the *International Country Risk Guide*, a publication of Political Risk Services, as compiled by the IRIS Center, University of Maryland (see also Keefer and Knack 1995), and rescaled so that higher values indicate more corruption. The regression includes a constant term and, as independent variables, real GDP per capita and a merit-based recruitment index. Higher values of this index indicate that a greater proportion of higher-level officials in the core economic agencies entered the civil service through a formal examination system, and that a higher proportion of those who did not enter through examinations have university or postgraduate degrees. The statistical methodology for generating the bars is described in the technical note to Box 2.

The bottom right panel in Figure 3 shows the relation between, on the one hand, civil service wages relative to manufacturing wages and, on the other, the index of corruption from the *International Country Risk Guide*. The overall correlation coefficient was 0.65 with a *t*-statistic of 3.61. Data are taken from the Van Rijckeghem and Weder background paper.

Table TN2 Regression of level of corruption on predictability of the judiciary and crime and theft

Independent variable	Regression coefficient
Constant	-7.63*** (0.703)
Predictability of judiciary	-0.59*** (0.10)
Log of initial GDP per capita in 1990	-0.51*** (0.162)
Log of 1990 secondary school enrollment	0.39 (0.185)**
Adjusted R ²	0.803
No. of observations	59

*** Significant at the 1 percent level.
Note: Numbers in parentheses are standard errors. Estimation is by the OLS method.

The correlation coefficient for the data in Figure 4 is -0.35, with a *t*-statistic of -3.65.

Figure 5 is from the Commander, Davoodi, and Lee background paper and is based on the IV regression, with the interaction term, reported in TN3. The data are from both World Bank sources and the Summers-Heston world tables (National Bureau of Economic Research 1997). The state variables are the logarithm of initial GDP per capita at 1985 international prices, educational attainment (as measured by the logarithm of mean years of schooling among the working-age population), the population growth rate, and the logarithm of the share of investment in GDP at 1985 international prices. The control variables include the logarithm of the share of government consumption in GDP (government size) at 1985 international prices, a policy distortion index, a measure of the quality of bureaucracy or institutional capability, the average percentage change in the terms of trade, and decade and regional dummies. The regression with the interaction term estimates the combined effect of government size and bureaucracy on growth of GDP per capita.

The institutional capability variable is a composite index of measures of the quality of government and draws on Knack and Keefer 1995 and Mauro 1995, among others. This evaluation is put together from a set of responses by foreign investors that focus on the extent of red tape involved in any transaction, the regulatory environment, and the degree of autonomy from political pressure. Although responses by foreign investors are likely to be biased, these series are the only currently available large-scale, cross-country evaluations of the way in which government bureaucracies function. All responses have been rescaled to range from zero to one, with higher scores

Table TN3 Ordinary least-squares and instrumental variable regressions with growth of GDP per capita as the dependent variable

Independent variable	OLS method		IV method	
	Without interaction term	With interaction term	Without interaction term	With interaction term
Constant	0.171*** (0.022)	0.161*** (0.024)	0.167*** (0.027)	0.136*** (0.038)
Dummy variable for 1974-83	-0.015*** (0.003)	-0.015*** (0.003)	-0.015*** (0.004)	-0.014*** (0.004)
Dummy variable for 1984-93	-0.017*** (0.004)	-0.016*** (0.004)	-0.017*** (0.004)	-0.016*** (0.004)
Initial GDP per capita	-0.019*** (0.003)	-0.019*** (0.003)	-0.021*** (0.003)	-0.021*** (0.003)
Initial schooling	0.003 (0.003)	0.003 (0.003)	0.003 (0.003)	0.003 (0.003)
Population growth	-0.154 (0.192)	-0.209 (0.192)	-0.260 (0.204)	-0.304 (0.203)
Investment-GDP ratio	0.009*** (0.003)	0.009*** (0.003)	0.008** (0.003)	0.007** (0.003)
Government size	-0.016*** (0.004)	-0.022*** (0.008)	-0.023*** (0.008)	-0.038*** (0.015)
Institutional capability (0 worst, 1 best)	0.017* (0.009)	0.041 (0.027)	0.027*** (0.010)	0.085* (0.044)
Government size \cdot Institutional capability		0.014 (0.014)		0.033 (0.024)
Policy distortion	-0.006*** (0.002)	-0.006*** (0.002)	-0.005*** (0.002)	-0.005*** (0.002)
Terms-of-trade changes	0.034 (0.040)	0.034 (0.040)	0.042 (0.042)	0.044 (0.042)
Latin America dummy variable	-0.017*** (0.004)	-0.017*** (0.004)	-0.015*** (0.004)	-0.015*** (0.004)
Sub-Saharan Africa dummy variable	-0.030*** (0.006)	-0.030*** (0.006)	-0.028*** (0.006)	-0.028*** (0.006)
Socialist dummy variable	-0.008 (0.006)	-0.008 (0.006)	-0.013** (0.005)	-0.013** (0.005)
No. of observations	271	271	258	258
R ²	0.5196	0.5213	^a	^a

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Note: Growth in GDP per capita is at 1985 international prices. Standard errors, corrected for heteroskedasticity, are in parentheses. ^a The R² is not an appropriate measure of goodness of fit with instrumental variable regressions.

indicating better bureaucracies. The policy distortion index is obtained by principal component analysis of three key indicators: the degree to which an economy is open (as measured by the share of trade in GDP), the degree to which a country's currency has been overvalued (as measured by the black market premium on the exchange rate), and the degree to which local prices have departed from international prices. Higher values of the index indicate greater policy distortion.

The data for Figure 5 were pooled so as to exploit the information in ten-year averages covering the periods 1964-73, 1974-83, and 1984-93. Both OLS and IV regressions are reported in Table TN3. The OLS and the

IV estimates are very close; the discussion concentrates on the latter. The instruments for the policy distortion index and the investment share of GDP are their own lagged values from five years previously. The instrument for the government size variable is the prediction from the IV regression for government size reported in the Commander, Davoodi, and Lee background paper. All other variables in the regression were treated as exogenous.

The state variables all have the predicted signs. The coefficient on the initial income term indicates a conditional convergence rate of 2.1 percent per year, which is close to the 2.6 percent reported by Barro and Sala-i-Martin 1995. Human capital formation, as given by years of schooling,

affects growth positively, but the effect is not statistically significant. The investment rate, on the other hand, affects growth quite significantly. Population growth exerts a negative effect on GDP growth per capita, whereas the terms-of-trade variable has a positive effect. Both, however, are insignificant. There is an unambiguously negative, and statistically significant, effect from government consumption spending. A one-standard-deviation increase in government consumption is associated with a decline of 0.65 percentage point per year, which is close to the 0.7 percentage point reported by Barro and Sala-i-Martin 1995. There is also an unambiguously negative growth effect of policy distortion, which is significant at the 1 percent level. This indicates that policy distortions, as measured by the index used here, will have a predictably negative effect on growth. However, the size of that effect, as given by the coefficient on the policy term (and controlling for other variables) is not that large, at least relative to the government size variable (0.5 percentage point per year). By contrast, the institutional capability variable exerts a sizeable, positive, and significant effect on growth. Similarly, interacting the government consumption term with the institutional capability variable—an attempt to coax out the implications of high values of the two variables occurring simultaneously—yields a positive coefficient. When evaluating the consequences of government for growth, it is not simply size that is relevant. Bad policies, as represented by overvalued currencies and pervasive trade restrictions, hold down a country's growth, while the quality of government can exert a positive effect on performance. And it is clear that countries and regions that have fared least well tend to do worst on all three indicators. It is the combination of government size and the quality of policy and institutions that seems to matter.

Chapter 2

In *Figure 2.2* the IV estimates from the growth regression reported in the Commander, Davoodi, and Lee background paper are used to decompose the sources of growth in Sub-Saharan Africa and East Asia over the period 1964–93. These sources (explained and unexplained) are added sequentially to GDP per capita in Sub-Saharan Africa in 1964.

See the technical note to Box 2 for details regarding the top two panels in *Figure 2.4*. The bottom panel in *Figure 2.4* is derived from the regression reported in Table TN4. The dependent variable is the country-average rates of return for a sample of 312 development projects financed by the World Bank. Project evaluation has been completed for the projects chosen. The data are from the World Bank's Operation and Evaluation (OED) data base. The independent variables are the change in the terms of trade over the period 1984–93, the policy distortion index for 1984–93, and an index of the level of gov-

ernment credibility. The terms-of-trade and policy distortion variables (see the note to *Figure 5* above) are from the Commander, Davoodi, and Lee background paper. Data on level of credibility are from the private sector survey conducted for this Report (see "The private sector survey" below). The regression also included a constant term.

Chapter 3

The data in *Figure 3.8* are simple averages of pensions, unemployment benefits, and family assistance expenditure shares in GDP across twenty-two OECD countries. The series for the years 1965–79 is constructed from data in ILO, various years. The 1980–93 data are from OECD 1996.

Chapter 5

In *Figure 5.5* the dependent variable, an index of bureaucratic capability, is the bureaucratic quality rating variable reported in the *International Country Risk Guide*, various issues, rescaled so that higher values signify higher bureaucratic quality. The independent variables are initial GDP per capita and an index of meritocracy. The regression also includes a constant term.

The correlation coefficient for the data in *Figure 5.7* is –0.37 with a *t*-statistic of –10.14. The countries represented are Botswana, Burkina Faso, Cameroon, Chad, Egypt, Gabon, the Gambia, Ghana, Kenya, Madagascar, Malawi, Mauritania, Mauritius, Morocco, Nigeria, Rwanda, Senegal, Somalia, Sudan, and Togo. The sample covers variation over time and across countries in pay and employment. The wage variable is the central government real average wage relative to real GDP per capita, both measured in local currency; the employment variable is central government employment relative to the total

Table TN4 Regression of rates of return on World Bank-financed projects on level of credibility and other variables

Independent variable	Regression coefficient
Constant	–7.080 (12.87)
Level of credibility (0 worst, 1 best)	35.55** (16.18)
Change in terms of trade, 1984–93	8.078 (31.07)
Policy distortion, 1984–93	2.481 (2.76)
Adjusted R ²	0.088
No. of observations	30

** Statistically significant at the 5 percent level.
Notes: Numbers in parentheses are standard errors. Estimation is by the OLS method.

population. Employment and nominal wages are taken from Kraay and Van Rijckeghem 1995. The real average wage is constructed by deflating total nominal wages by the product of the consumer price index and employment. Population, the consumer price index, and real GDP per capita are taken from the World Bank data base.

Chapter 6

Figure 6.1 is based on cross-country regression results presented in Table TN5. For the countries included and definitions of the corruption variables see "The private sector survey" below. The dependent variable, the investment-GDP ratio, is a simple average of the share of gross investment in GDP over the period 1990–94. The predictability of corruption is a combination of predictability of outcomes and of the size of the additional payment to be made. The regression controls for initial level of education (measured as the logarithm of secondary school enrollment in 1990), initial income (logarithm of 1990 GDP per capita, measured in PPP terms), and existing policy distortion. The policy distortion variable is taken from the Commander, Davoodi, and Lee background paper (see the technical note to *Figure 5*). Data on investment, education, and initial income were obtained from World Bank sources. The statistical methodology for constructing the figure is the same as for *Figure 5*. The level and predictability of corruption are important factors in determining the share of investment and are significant at the 5 percent level.

Chapter 7

The index of democracy in *Figure 7.1* is based on Polity III data developed by Jaggers and Gurr 1996; regional groupings follow standard World Bank classifications. The index is derived from "institutionalized democracy" and "institutionalized autocracy" indicators for each year from 1800 to 1994, for all independent countries with populations greater than 500,000 in the early 1990s (177 countries in all). The index is calculated by subtracting the latter indicator from the former. Each indicator consists of five components: competitiveness of political participation, regulation of political participation, competitiveness of executive recruitment, openness of executive recruitment, and constraints on the chief executive. Each of the components is scored according to Jaggers and Gurr 1995 (p. 472). Both indicators are additive on an eleven-point scale from 0 to 10. The advantage of using the difference between the two indicators is that it shows a regime type along a political continuum of which democracy (+10) and autocracy (–10) represent the two ends. The index of democracy is highly correlated with the Freedom House index of political rights and civil rights (Freedom House, various issues), with correlation

Table TN5 Regression of share of gross investment in GDP on level and predictability of corruption and other variables

Independent variable	Regression coefficient
Constant	19.523 (13.49)
Level of corruption	-5.814** (2.23)
Predictability of corruption	6.309** (2.62)
Log of secondary school enrollment in 1990	1.987 (2.18)
Log of initial GDP per capita in 1990	-1.119 (1.87)
Policy distortion	-1.959 (1.46)
Adjusted R ²	0.24
No. of observations	39

** Significant at the 5 percent level

Note: Numbers in parentheses are standard errors. Estimation is by the OLS method.

coefficients of 0.92 and 0.87, respectively, for the period 1973–94.

The figures in *Box 7.3* are based on simple correlations and do not control for other characteristics of the villages. However, the relationships still hold when these characteristics are controlled for. The data on social capital are from the Social Capital and Poverty Survey (SCPS), which was carried out in rural Tanzania in April and May 1995 as part of a larger World Bank participatory poverty assessment exercise. Expenditure data are from the same source, although that part of the survey covered households in only fifty-three of the eighty-seven clusters. The village-level social capital index is the average number of groups (for example, churches, women's groups, farmers' groups) to which respondents belonged, multiplied by an index of the average characteristics of those groups along three dimensions: kin heterogeneity, income heterogeneity, and group functioning. The data on school quality are from the Human Resource Development Survey (HRDS), carried out in Tanzania in 1993, which can be matched at the cluster level with the eighty-seven clusters from the SCPS. The school quality index is a cluster-level average derived from respondents' answers to questions on the relative importance of five attributes of schools, and their assessment of the quality of their local school along those same five dimensions. The HRDS was a nationally representative survey of 5,000 households in Tanzania. The survey was a joint effort undertaken by the Department of Economics of the University of Dar es Salaam, the Government of Tanzania, and the World

Bank, and was funded by the World Bank, the Government of Japan, and the British Overseas Development Agency. See Ferreira and Griffen 1995.

Chapter 9

Figure 9.2 is based on the generalized least squares (GLS) regression reported in Table TN6. The regression captures the effects of initial conditions and institutional, demographic, and economic variables on welfare spending.

The dependent variable is government spending on pensions, unemployment, and family assistance as a share of GDP (see the technical note to Figure 3.8). Initial conditions are captured by the initial Gini index for income distribution (Deininger and Squire 1996) and the time elapsed since the start of the social security program in each country (U.S. Department of Health and Human Services 1994). The institutional variables include an indicator of bureaucratic efficiency (institutional capability, from the Commander, Davoodi, and Lee background paper) and three indicators of the political environment. Higher scores imply greater efficiency. Although efficient bureaucracies are more likely to curb fraud and abuse, they are also more likely to grant benefits to all eligible beneficiaries. Thus, the sign of the coefficient on the bureaucratic efficiency variable depends on the relative importance of these two effects. A positive coefficient implies that more efficient governments provide greater welfare coverage. Political environment indicators consist

of constitutional structure, type of government, and ideological orientation of the legislature (data for the last two are from Alesina and Perotti 1995). Constitutional structure is measured as the veto power given under the constitution to minorities and interest groups to block social legislation. Higher values of the index imply less obstructive capacity. A positive coefficient implies that countries with low veto power are more likely to indulge in welfare expansion. Government is classified into six types ranging from single-party to multiparty minority. Ideological orientation is classified as right-wing, right-center, balanced, left-center, or left-wing. A positive coefficient for government type implies that single-party governments are less prone toward expansionary policies; for ideological orientation it implies that left-wing governments are more prone to such policies. The percentage of population above 65 years of age (aging), number of children 14 years and under, unemployment rate, real GDP per capita, and inflation are taken from the World Bank's Social Indicators data base; OECD, various years; ILO 1986 and 1994; IMF, various years (b); and the World Bank Economic and Social Data Base. A positive coefficient is expected for the aging and unemployment rate variables. Finally, the more affluent the country, the bigger its welfare bill. This effect is picked up by a positive coefficient for real GDP per capita.

A new variable, "residual average welfare spending," is defined by subtracting, from the sample average of welfare spending, the constant term of the regression and the following term: (coefficient \times sample average of independent variables not significant at the 10 percent level or less). The contribution of each variable to welfare spending is obtained by multiplying the estimated coefficient on each variable by the sample average of that variable and dividing the result by residual average welfare spending. The reported decomposition of welfare spending is robust to retaining only those variables in the regression that were significant at the 10 percent level or better.

The back-of-the-envelope calculation for the reduction in distortions resulting from tax reform in Pakistan is based on the so-called Harberger triangle. The deadweight loss (DWL) equation is given by:

$$DWL = (0.5) \times (t^2) \times (1 - t)^{-1} \times \varepsilon_T \times TI$$

where:

- t = tax rate
- ε_T = compensated demand elasticity
- TI = taxable income.

The prereform tax rate used is 60 percent, and the post-reform rate 30 percent. The compensated demand elasticity used is 0.5, the same as in Feldstein 1995. The relevant

Table TN6 Regression of welfare spending on constitutional structure and other variables

Independent variable	Regression coefficient	Standard error
Constant	-6.37	4.229
Constitutional structure	4.40	2.189**
Aging	0.583	0.062***
Unemployment rate	0.361	0.029***
Type of government	0.227	0.063***
Efficiency of bureaucracy	1.76	0.521***
GDP per capita $\cdot 10^4$	0.94	0.495*
Ideology of government	-0.04	0.045
Inflation rate	0.01	0.017
No. of children $\cdot 10^3$	2.37	4.09
Starting year of program	-0.006	0.039
Gini index	-0.004	0.109
R^2	0.63	
No. of observations	365	

*** Significant at the 1 percent level.
 ** Significant at the 5 percent level.
 * Significant at the 10 percent level.
 Note: Estimation is by the generalized least squares method. The R^2 does not have all the properties of the OLS R^2 .

ratio of taxable income to GDP is 7.22 percent. Based on these figures, the deadweight loss reduction (prereform minus postreform) associated with a revenue-neutral reform is estimated at 1.4 percent of GDP.

The private sector survey

Why this survey?

A vast number of anecdotal reports document the harm done to private sector development by uncertainty about laws, policies, and regulations. Examples are De Soto 1989 on the problems of informal firms in Peru, the description by Klitgaard 1990 of the uncertainties of doing business in Equatorial Guinea, and the analysis of institutional uncertainty in Nicaragua by Borner, Brunetti, and Weder 1995.

Adequate data for such an analysis have been hard to come by, however. The private sector survey conducted for this Report sought to fill that gap by creating an internationally comparable data set, for a broad cross section of countries, on different aspects of institutional uncertainty as perceived by private entrepreneurs.

The survey questionnaire

The questionnaire first asks about some general characteristics of the responding firm. Five different dimensions are considered: size (fewer than 50 employees, between 50 and 200 employees, or more than 200 employees); the firm's line of business (manufacturing, services, or agriculture); its headquarters location (capital city, other large city, or small city or countryside); the presence or absence of foreign capital participation; and whether the firm exports its products.

The main part of the questionnaire consists of twenty-five multiple-choice questions, which are grouped in five sections, each with its own focus. The questionnaire is divided into the following five sections:

- *Predictability of laws and policies.* These questions seek to assess the uncertainties created by the lawmaking process.
- *Political instability and security of property.* These questions ask about the uncertainties that arise from both regular and irregular transfers of government power.
- *Government-business interface.* The questionnaire lists fifteen areas where the firm is confronted with government action and asks it to evaluate the degree to which each of these areas creates obstacles to doing business.
- *Law enforcement and bureaucratic red tape.* These questions focus on the degree of corruption and whether it is a predictable transactions cost or a source of uncertainty. A problem in analyzing the responses is, of course, firms' reluctance to openly admit that they pay bribes. In addition, the questionnaire asks directly whether uncertainties in dealing with the state have stifled planned investment projects, and what percentage

of senior management's time is spent dealing with legal requirements.

- *Uncertainty created by lack of government efficiency in providing services.* These questions concentrate on whether and how efficiently the government delivers certain basic services such as mail, health care, telephone service, and roads.

Implementation and results

The questionnaire was originally written in English. However, worldwide distribution required its translation into several major languages: French, German, Portuguese, Russian, and Spanish. Wherever possible the questionnaires were administered in one of these languages or in English. At times, however, it was vital to provide translations for a single country. This was done in the cases of Albania, Bulgaria, the Czech Republic, Hungary, Italy, Poland, the Slovak Republic, and Turkey.

The survey was implemented between August 1996 and January 1997. At its conclusion sixty-nine countries had participated. These include the following: *industrial countries*, Austria, Canada, France, Germany, Ireland, Italy, Portugal, Spain, Switzerland, the United Kingdom, and the United States; *South and Southeast Asia*, Fiji, India, and Malaysia; *Middle East and North Africa*, Jordan, Morocco, and the West Bank and Gaza; *Central and Eastern Europe*, Albania, Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Poland, the Slovak Republic, and Turkey; *Latin America and the Caribbean*, Bolivia, Colombia, Costa Rica, Ecuador, Jamaica, Mexico, Paraguay, Peru, and Venezuela; *Sub-Saharan Africa*, Benin, Cameroon, Chad, the Congo, Côte d'Ivoire, Ghana, Guinea, Guinea-Bissau, Kenya, Madagascar, Malawi, Mali, Mauritius, Mozambique, Nigeria, Senegal, South Africa, Tanzania, Togo, Uganda, Zambia, and Zimbabwe; *Commonwealth of Independent States*, Armenia, Azerbaijan, Belarus, Georgia, Kazakstan, the Kyrgyz Republic, Moldova, Russia, Ukraine, and Uzbekistan.

The companies selected ran the gamut of firm size, geographic location within the country, and type of business, and companies both with and without foreign capital participation were well represented. Questionnaires were sent by mail where possible, but were delivered by hand in some countries where mail delivery was unreliable. Table TN7 provides details on response rates. Considering other experience with mailed surveys, the high overall response rate for the mailed survey in developing countries (30 percent) is remarkable. The high rate can be attributed to two factors: the fact that the survey raised questions of great concern for local businesspeople, and the fact that the survey was sponsored by an international organization with considerable name recognition in developing countries.

Table TN7 Responses to the private sector survey by region

Region or group	No. of countries surveyed	No. of firms surveyed	No. of questionnaires returned			
			Average	Median	Minimum	Maximum
Industrial countries	11	254	23	20	14	56
South and Southeast Asia	3	139	46	45	41	53
Middle East and North Africa	3	109	36	42	15	52
CEE	11	771	70	70	46	114
Latin America and Caribbean	9	474	53	47	17	87
Sub-Saharan Africa	22	1,288	59	48	13	124
CIS	10	650	65	62	31	91
All developing countries	58	3,431	59	51	13	124
All countries	69	3,685	53	50	13	124

Because of budget and time constraints, in some countries the responding firms did not represent a random sample of those to which questionnaires had been distributed. In other countries, political and economic conditions allowed only limited geographical coverage. On average, however, the survey achieved its goal of fifty responses per country.

Almost half of the firms were small (fewer than fifty employees); the rest were divided more or less equally between the two larger firm sizes. The survey intended that the companies in the sample represent a variety of geographic locations within each country. Firms located in the capital city constituted about half of those responding. It is encouraging, however, that management of almost one-quarter of the firms was located in a small city or in the countryside.

The aggregate results, however, hide considerable variation within countries. The share of firms located in the capital city varies between 100 percent and 0 percent. Such variation can be explained by the distribution of private businesses over country territory. In some former republics of the Soviet Union more than half of registered businesses are in the capital. In other countries the socio-economic and political situation limited distribution of the questionnaire to the more remote parts. In some countries the unreliability of the mails made it infeasible to distribute questionnaires to remote places and have them returned in a timely fashion.

Services and manufacturing were represented about equally among respondents, but responses from agricultural enterprises were relatively few. This bias can be explained by geography: more than three-quarters of the surveyed firms were headquartered in the capital city or another large city, where few agricultural firms are located.

Firms were evenly distributed with respect to foreign capital participation and access to foreign markets. Two-thirds of the surveyed companies reported no foreign participation. The results therefore contrast with those of other earlier attempts at subjective measurement of coun-

tries' investment climate, which concentrated entirely on the perceptions of multinational firms.

Construction of the credibility indicator

The credibility indicator was designed as a broad measure of the reliability of the institutional framework as perceived by private entrepreneurs. It encompasses several different sources of uncertainty in the interaction of government and the private sector and summarizes these into one global indicator. The credibility index is constructed as the simple mean of the average answers to five subindicators, which is then normalized such that the index for the high-income OECD countries equals one:

- *Predictability of rulemaking*, or the extent to which entrepreneurs have to cope with unexpected changes in rules and policies, whether they expect the government to stick to announced major policies, the degree to which entrepreneurs are usually informed about important rule changes, and whether they have an opportunity to voice concerns when planned changes affect their business
- *Subjective perception of political instability*, or whether changes in government (constitutional or unconstitutional) are perceived to be accompanied by far-reaching policy surprises that could have serious effects on the private sector
- *Security of persons and property*, or whether entrepreneurs feel confident that the authorities will protect them and their property from criminal actions, and whether theft and other forms of crime represent serious problems for business
- *Predictability of judicial enforcement*, or the degree of uncertainty arising from arbitrary enforcement of rules by the judiciary, and whether such unpredictability presents a problem for doing business
- *Corruption*, or whether it is common for private entrepreneurs to have to make some irregular additional payments to get things done.