

Data Appendix: Description of Variables and Technical Concepts

Variables are grouped by subject matter in order of appearance in text. Except where indicated, all variables are cross-section measures by country for the latest available year.

Variable	Description	Source	Chapter(s)
Public Policies			
Overall Index of Quality of Public Policy	Average of six indicators describing the quality of public policies: (1) stability, (2) adaptability, (3) coordination and coherence, (4) enforcement and implementation, (5) public-regard- edness, and (6) efficiency. The index and all components and subcomponents are nor- malized on a scale of 1–4, with higher levels indicating better quality of public policies.	Stein and Tommasi (2005)	2, 6
1. Stability	Average of six components: (1) the standard deviation of the detrended Fraser Index of Economic Freedom, (2) the extent to which legal or political changes have undermined firms' planning capacity (GCR), (3) the extent to which new governments honor the contrac- tual commitments and obligations of previous regimes (GCR), (4) the capacity of the State to set and maintain priorities among conflict- ing objectives (SC Survey), (5) the extent to which governments ensure policy stabil- ity (SC Survey), and (6) the extent to which the State makes and maintains international commitments (SC Survey). Index on a scale of 1–4, with higher levels indicating greater policy stability.	Stein and Tommasi (2005), based on Fraser Institute (vari- ous years), World Economic Forum's <i>Global Competitive- ness Report</i> (GCR) (various years) and State Capabilities (SC) Survey (a sur- vey of more than 150 experts in 18 coun- tries in Latin America conducted for this report; see Box 6.1)	2, 6
2. Adaptability	Average of two components: (1) the extent to which there is innovation when policies fail (SC Survey) and (2) the extent to which governments ensure policy adaptability (SC Survey). Index on a scale of 1–4, with higher levels indicating higher policy adaptability.	Stein and Tommasi (2005), based on State Capabilities (SC) Survey	2, 6
3. Coordination and coherence	Average of two components: (1) the extent to which new policies are consistent with existing policies (SC Survey) and (2) whether different policymakers operating in the same policy domain (or related policy domains) coordinate their actions effectively (SC Sur- vey). Index on a scale of 1–4, with high- er levels indicating more coordination and coherence of public policies.	Stein and Tommasi (2005), based on State Capabilities (SC) Survey	2, 6

Variable	Description	Source	Chapter(s)
4. Implementation and enforcement	Average of four components: (1) the extent of enforcement of the minimum wage (GCR), (2) the extent of control of tax evasion (GCR), (3) the consistency of environmental regulation (GCR), and (4) the extent to which the State ensures effective implementation of public policies (SC Survey). Index on a scale of 1–4, with higher levels indicating better enforcement and implementation of public policies.	Stein and Tommasi (2005), based on World Economic Forum's <i>Global Competitiveness Report</i> (GCR) (various years) and State Capabilities (SC) Survey	2, 6
5. Public-regardness	Average of four components of policy stability: (1) the extent to which public officials tend to favor the well connected in their policy decisions (GCR), (2) the extent to which social transfers effectively reach the poor as opposed to the rich (GCR), (3) the ability of the State to impose losses on powerful actors (SC Survey), and (4) the extent to which the government represents diffuse, unorganized interests, in addition to concentrated, organized interests (SC Survey). Index on a scale of 1–4, with higher levels indicating that public policies are more public-regarding.	Stein and Tommasi (2005), based on World Economic Forum's <i>Global Competitiveness Report</i> (GCR) (various years) and State Capabilities (SC) Survey	2, 6
6. Efficiency	Average of two components: (1) whether the composition of public spending is wasteful (GCR) and (2) whether resources are targeted where most effective (SC Survey). Index on a scale of 1–4, with higher levels indicating higher policy efficiency.	Stein and Tommasi (2005), based on World Economic Forum's <i>Global Competitiveness Report</i> (GCR) (various years) and State Capabilities (SC) Survey	2, 6
Political Parties			
Party System Institutionalization Index	Following Mainwaring and Scully (1995), this is an aggregate index which is an average of four component measures: (1) the stability of inter-party competition, (2) the extensiveness of parties' roots in society, (3) the legitimacy of parties and elections, and (4) the strength of party organizations. Index on a scale of 0–100, with higher levels indicating more institutionalized party systems.	Jones (2005)	3

Variable	Description	Source	Chapter(s)
1. Stability of inter-party competition	Average of two indicators: (1) the volatility of votes (percentage of valid votes) and (2) the volatility of seats (percentage of seats), for the two most recent lower house (or national assembly) elections. Volatility is measured following Pedersen (1983), with higher levels indicating higher levels of volatility.	Jones (2005)	3
2. Extensiveness of parties' roots in society	Average of two indicators: (1) the percentage of the population reporting some form of identification with a political party (LB) and (2) 100 minus the percentage of legislators who believe that political parties are distant from society (PELA).	Jones (2005), based on data from Latinobarometer (LB) (2003) and Proyecto de Elites Latinoamericanas (PELA) survey (2005)	3
3. Legitimacy of parties and elections	Average of two indicators: (1) the legitimacy of parties, measured as the combination of the percentage of citizens who stated that political parties were indispensable (LB 2003) and the percentage of the population that had "a great deal of" or "some" confidence in political parties (LB 2004) and (2) the legitimacy of elections, measured as the combination of how respondents rated the elections in their country on a scale from 1 (<i>clean</i>) to 5 (<i>not clean</i>) (LB 2000) and to what extent respondents agreed with the statement that election offers voters a real choice between parties and candidates on a scale from 1 (<i>strongly agree</i>) to 4 (<i>strongly disagree</i>).	Jones (2005), based on data from Latinobarometer (LB) (2000, 2003, 2004)	3
4. Strength of party organizations	Average of two components: (1) party age and (2) party continuity. Party age is the average of the percentage of parties holding at least 10 percent of the seats in the lower house (or national assembly) that as of 2004 had been in existence for at least 10 years and (2) the percentage of such parties that as of 2004 had been in existence for at least 25 years. Party continuity is based on a question from a survey (PELA 2005) that asked legislators whether they considered their party organization to be continuous or merely an electoral vehicle.	Jones (2005), based on Mainwaring (1998, 1999) and Proyecto de Elites Latinoamericanas (PELA) (2005)	3

Variable	Description	Source	Chapter(s)
Programmatic Parties Index	<p>This index measures the extent to which parties are programmatic. This in turn is derived from three components: (1) the level of programmatic politics among party supporters (electorate), (2) the level of programmatic politics among the party elite (legislators), and (3) the extent of electoral volatility in the country (see <i>Party volatility in congress</i>). The following equation is used to calculate the index from the components:</p> $\text{Prog. Parties} = (\text{Prog. Electorate} + \text{Prog. Elite}) - \text{Electoral Volatility}$ <p>The index is constructed on a scale of 0–8, with higher levels indicating more programmatic parties.</p>	Jones (2005), based on data from the Latinobarometer (2002, 2003, 2004) and the Proyecto de Elites Latinoamericanas (PELA)	3
Ideological self-placement of parties	Legislators from different parties are asked to place their parties on an ideological scale from 1 (<i>Left</i>) to 10 (<i>Right</i>).	Jones (2005), Saiegh (2005), based on data from the Proyecto de Elites Latinoamericanas (PELA) survey (2002)	3
Effective number of legislative parties	Following Laakso and Taagepera (1979), this is a measure of legislative fragmentation in the lower house (or national assembly), following the two most recent legislative elections. It is calculated by taking the inverse of the sum of the squares of all parties' seat shares. If, for example, there were three parties competing that received close to an equal share of the vote, then the value of the index would be close to 3. But if two of the three parties received about 45 percent of the seats each, and the third party received only 10 percent, then the value would be about 2.4. The index attempts to capture the fact that despite both having three parties, the functioning of the latter system is closer to that of a two-party system, whereas the former functions more purely like a three-party system.	Jones (2005)	3, 11
Presidential party's chamber contingent	Average percentage of seats held by the president's party in the lower house (or national assembly) in the two most recent legislative elections.	Saiegh (2005), Jones (2005)	3

Variable	Description	Source	Chapter(s)
Proportionality of the design of the electoral system	This index measures the extent to which the electoral system, given its design, would be expected to allocate seats in a proportionate manner; that is, the extent to which the parties' share of legislative seats corresponds to the parties' share of the vote. The index is constructed on a scale of 1–5, where 1 = <i>majority system</i> (average district magnitude [ADM] = 1), 2 = <i>low proportionality</i> (ADM = 2–4), 3 = <i>moderate proportionality</i> (ADM = 4–10), 4 = <i>high proportionality</i> (ADM = 10–20), 5 = <i>very high proportionality</i> (ADM = 20–national district).	Authors' calculations based on Payne and others (2002)	3
Type of government	Governments are classified by looking at two dimensions: (1) whether they have majority or minority in congress and (2) whether they belong to a single party or a coalition. Using this criterion, 98 democratic governments in 18 Latin American countries between 1978 and 2005 were coded from 1 to 6, where 1 = <i>single-party majority in all legislatures</i> , 2 = <i>near single-party majority in all legislatures (45 percent and above)</i> , 3 = <i>stable coalition majority</i> , 4 = <i>coalition or single-party majority for a significant part of the presidential term (50 percent or more) or near coalition majority for most of the term</i> , 5 = <i>coalition or single-party majority for less than half the term</i> , and 6 = <i>minority governments (only ad hoc or very short-lived coalitions, if any)</i> .	Authors' compilation	3, 6
Party Centralization Index	This is an aggregate index calculated as the simple sum of its six individual components: (1) candidate nomination, (2) electoral system, (3) presidential elections, (4) autonomous governors, (5) intra-party democracy, and (6) presidential primaries. The index is constructed on a scale of 6–18, with higher levels indicating more highly centralized party systems.	Jones (2005)	3
1. Candidate nomination	Assessment of the party's control over the nomination of legislative candidates. Index on a scale of 1–3, according to who principally makes the nomination decision: 1 = <i>individual candidates</i> , 2 = <i>regional party leaders</i> , and 3 = <i>national party leaders</i> .	Jones (2005), based on Alcántara Sáez and Freidenberg (2001)	3

Variable	Description	Source	Chapter(s)
2. Electoral system	Assessment of the electoral system for legislative elections, based on the type of electoral districts (national, regional, single-member, or some mixture thereof) and the presence or absence of preference voting (closed list vs. open list). Added to the resulting number is 0.5 in those cases in which a fused vote is utilized for the election of the president and the legislature as well as those cases in which there exists a national threshold that a party must cross in order to obtain some legislative seats. The index is constructed on a scale of 1–3, with higher levels indicating a more centralized arrangement of the electoral system.	Jones (2005)	3
3. Presidential elections	Assessment of the timing of presidential and legislative elections. Index on a scale of 1–3, according to the extent to which presidential and legislative elections are held concurrently: 1 = <i>in fewer than one-third of the cases</i> , 2 = <i>in one-half of the cases</i> , and 3 = <i>always</i> .	Jones (2005)	3
4. Autonomous governors	Assessment of the autonomy possessed by regional officials. Index on a scale of 1–3, where 1 = <i>governors possess an important degree of political and administrative autonomy</i> , 2 = <i>governors possess limited political and administrative autonomy</i> , and 3 = <i>there are no directly elected governors</i> .	Jones (2005)	3
5. Intra-party democracy	Measurement of the extent of members' participation in parties' decision making processes. Based on a survey question (PELA 2005) that asked legislators to evaluate the extent of internal democracy in their parties. From these responses an index was constructed on a scale of 1–3, with higher levels indicating systems that are less democratic in the decision making process.	Jones (2005), based on Proyecto de Elites Latinoamericanas (PELA) (2005)	3
6. Presidential primaries	Assessment of the extent to which direct primary elections have been used to choose the major parties' candidates in recent presidential elections. The index is constructed on a scale of 1–3, with higher values indicating that a smaller number of major parties held democratic primaries.	Jones (2005), based on Alcántara Sáez (2002), Carey and Polga-Hecimovich (2004), and Freidenberg and Sánchez López (2002).	3

Variable	Description	Source	Chapter(s)
Party System Nationalization Index	This index shows the party system nationalization scores (PSNS) for Latin American countries based on the votes in the lower house elections held closest to 2002. Following Jones and Mainwaring (2003), the PSNS is calculated as the sum over all parties of 1 minus the Gini coefficient for the distribution of each party's vote (its party nationalization score [PNS]), multiplied by its share of the national valid vote.	Jones (2005), based on Jones and Mainwaring (2003)	3
Legislatures			
Legislative success rate	Measures the percentage of executive legislative initiatives that are approved by the legislature.	Saiegh (2005)	3
Reelection rates	Average percentage of legislators in the lower house (national assembly) that are reelected in the following legislature.	Saiegh (2005) and authors' compilation	3
Congress Capabilities Index	This is an aggregate index calculated as the simple average of the following eight components: (1) confidence in congress, (2) effectiveness of lawmaking bodies, (3) average experience of legislators, (4) percentage of legislators with university education, (5) number of committee memberships per legislator, (6) committee strength, (7) whether congress is a good place to build a career, and (8) technical expertise of legislators. All components are rescaled to a scale of 1–3, such that the aggregate index is on a scale of 1–3, with higher levels indicating better congressional capabilities of legislators.	Authors' compilation based on Latinobarometer (1996–2004), World Economic Forum (2005), Proyecto de Elites Latinoamericanas (PELA) (various years), and Saiegh (2005)	3, 6
1. Confidence in congress	Average percentage of respondents who stated they had “a lot of” or “some” confidence in congress.	Latinobarometer (1996–2004)	3, 6
2. Effectiveness of lawmaking bodies	Average score given by business executives to the question “How effective is your national parliament/congress as a lawmaking and oversight institution?” Index on a scale of 1 (<i>very ineffective</i>) to 7 (<i>very effective</i>).	World Economic Forum (2005)	3

Variable	Description	Source	Chapter(s)
3. Average experience of legislators	<p>Assessment of the average years of experience of legislators (E), calculated on the basis of the reelection rate of legislators (r) and the average length of the legislative term (D). The equation is as follows:</p> $E = \frac{D}{2} + \sum_{i=1}^{10} r^i D$ <p>For the cases of Dominican Republic, Nicaragua, and Venezuela, because there were no available data for the reelection rate, reelection rate values were estimated on the basis of a regression of the reelection rate of legislators (for the available countries) on the percentage of new legislators (PELA 2002).</p>	Saiegh (2005), authors' compilation, and Proyecto de Elites Latinoamericanas (PELA) (2002)	3
4. Legislators with university education	Percentage of legislators with a university education.	Proyecto de Elites Latinoamericanas (PELA) (2002)	3
5. Committee specialization	Average number of committee memberships per legislator.	Saiegh (2005)	3
6. Committee strength	Qualitative assessment of the strength of the committees by Saiegh (2005), based on the number of committees, their jurisdictions, and the overlap with other ministries from the executive. Other sources included the country studies from the Political Institutions, Policymaking Processes, and Policy Outcomes project of the IDB's Latin American Research Network. Index on a scale of 1–3, where 1 = <i>low</i> , 2 = <i>medium</i> , and 3 = <i>high</i> .	Saiegh (2005) and authors' compilation	3
7. Place to build career	Qualitative assessment on whether congress is a good place to build a career by Saiegh (2005), based on results from the PELA survey and the country studies from the Political Institutions, Policymaking Processes, and Policy Outcomes project of the IDB's Latin American Research Network. Index on a scale of 1–3, where 1 = <i>low</i> , 2 = <i>medium</i> , and 3 = <i>high</i> .	Saiegh (2005), Proyecto de Elites Latinoamericanas (PELA) (2005), and authors' compilation	3

Variable	Description	Source	Chapter(s)
8. Technical expertise	Qualitative assessment on the technical expertise of legislators by Saiegh (2005), based on results from the PELA survey and the country studies from the Political Institutions, Policymaking Processes, and Policy Outcomes project of the IDB's Latin American Research Network. Index on a scale of 1–3, where 1 = <i>low</i> , 2 = <i>medium</i> , and 3 = <i>high</i> .	Saiegh (2005), <i>Proyecto de Elites Latinoamericanas (PELA)</i> (2005), and authors' compilation	3
Party volatility in congress	This is the Pedersen index of electoral volatility, derived by adding the absolute net change in percentage of seats, in the lower house (or national assembly), for each party from one election to the next, then dividing by two.	Monaldi and others (2005), based on Payne and others (2002)	11
Share of ordinary laws initiated by the legislature	This represents the percentage of all the ordinary laws approved in a year that were initiated into the legislative process by members of the legislature (as opposed to the executive or in a very few cases the supreme court). Ordinary laws are the regular laws that can be initiated by legislators (as opposed to other legislative decisions, like the appointment of ambassadors, that have to be initiated by the executive or the supreme court).	Monaldi and others (2005)	11
Presidents			
Constitutional powers of the president	This index is the average of three variables: (1) proactive powers, (2) reactive powers, and (3) plebiscite powers. Index on a scale of 0–1, with higher numbers representing greater power.	United Nations Development Programme (UNDP) (2005)	3
1. Proactive powers	These are powers that contribute to the president's ability to unilaterally change the status quo. They have two components: (1) decree and agenda-setting powers (whether the president has the power to directly make laws by issuing decrees) and (2) budgetary powers (whether the president has the power to prepare the budget with few interventions from the congress). Aggregate index on a scale of 0–1, with higher numbers representing greater powers of the president.	United Nations Development Programme (UNDP) (2005)	3

Variable	Description	Source	Chapter(s)
2. Reactive powers	These are powers that allow the president to oppose efforts by the legislature to change the status quo. They have three components: (1) package veto (power of the president to block the enactment of a law approved by the congress to which he objects), (2) partial veto (power of the president to veto particular provisions of an approved bill to which he objects), and (3) exclusive initiative (relates to cases in which the constitution gives the president the exclusive right to introduce legislation in specific policy areas). Aggregate index on a scale of 0–1, with higher numbers representing greater powers of the president.	United Nations Development Programme (UNDP) (2005)	3
3. Plebiscite powers	These are powers by which the president can convoke a plebiscite or referendum. Index on a scale of 0–1, with higher numbers representing greater power to convoke a plebiscite without restrictions.	Payne and others (2002), based on data from United Nations Development Programme (UNDP) (2005)	3
Legislative powers of the presidents	See <i>Constitutional powers of the president</i> .		
Partisan powers of the presidents	See <i>Presidential party's chamber contingent</i> .		
Constitutional interruptions	Cases in which either presidents or members of congress do not complete the term for which they were elected.	Chasquetti (1999) and authors' compilation	6
Size of president's coalition	Percentage of seats controlled by the parties in the president's coalition in congress over the period 1984–2002 (monthly averages).	Mejia Acosta (2004)	11
Volatility in the presidential vote	This is the Pedersen index of presidential electoral volatility, derived by adding the absolute net change in percentage of presidential votes for each party from one election to the next, then dividing by two.	Monaldi and others (2005), based on Payne and others (2002)	7

Variable	Description	Source	Chapter(s)
Cabinets			
Cabinet stability	Inverse of cabinet instability, which is measured as the average number of different individuals that served in a given ministry from 1988 to 2000.	Martínez-Gallardo (2005b)	4, 6
Fraction of ministers and top-level political appointees in civil service	Average of an index constructed on the basis of responses to the question “Of political appointees to higher official positions (roughly the top 500 positions in the core economic agencies), what proportion are likely to already be members of the higher civil service?” Index on a scale of 1–3, where 1 = <i>less than 30 percent</i> , 2 = <i>30–70 percent</i> , and 3 = <i>more than 70 percent</i> .	Rauch and Evans (2000)	6
Bureaucracy			
Index of Civil Service System Development	Average of three indicators of the bureaucracy: (1) the Bureaucratic Merit Index, (2) the Bureaucratic Functional Capacity Index, and (3) the Bureaucratic Efficiency Index. Index on a scale of 0–100, with higher levels indicating more developed civil service systems.	Authors’ compilation based on IDB’s Network on Public Policy Management and Transparency (www.iadb.org/int/DRP/Ing/Red5/transpmain.htm)	4
1. Bureaucratic Merit Index	Measures the degree to which effective guarantees of professionalism in the civil service are in place and the degree to which civil servants are effectively protected from arbitrariness, politicization, and rent-seeking. Index on a scale of 0–100, with higher levels indicating more autonomous bureaucratic systems.	Authors’ compilation based on IDB’s Network on Public Policy Management and Transparency	4
2. Bureaucratic Functional Capacity Index	Measures the degree to which the bureaucracy has salary compensation systems and systems for evaluating the performance of public officials. Index on a scale of 0–100, with higher levels indicating systems with higher technical capacities and more incentives for performance.	Authors’ compilation based on IDB’s Network on Public Policy Management and Transparency	4

Variable	Description	Source	Chapter(s)
3. Bureaucratic Efficiency Index	Measures the degree to which the bureaucracy is efficient in assigning human capital, given a fiscal policy constraint. Index on a scale of 0–100, with higher levels indicating more efficient bureaucratic systems.	Authors' compilation based on IDB's Network on Public Policy Management and Transparency	4
Bureaucracy size	Percentage of total population employed in the public sector.	Authors' compilation based on IDB's Network on Public Policy Management and Transparency	4
Judiciary			
Tenure of supreme court judges	Average tenure (years) of supreme court judges for the period 1960–1995.	Henisz (2000)	4
Independence of the Judiciary Index (WEF)	Measures the degree to which the judiciary is independent of the political influence of members of government, citizens, or firms. Index on a scale of 1 (<i>heavily influenced</i>) to 7 (<i>entirely independent</i>).	World Economic Forum (2004)	4
De facto judicial independence (Feld and Voigt)	Simple average of eight components, each of which is coded between 0 and 1 or normalized to vary between 0 and 1: (1) Effective average term length of the members of the highest court; (2) Deviations between actual term length and that which would be expected given legal setting; (3) Have members of the highest court been removed before the end of their terms? (4) Number of times the number of judges has been changed since 1960; (5) Have incomes of judges at least remained constant since 1960? (6) Has the budget of the highest court at least remained constant in real terms since 1960? (7) How often have the relevant articles of the constitution (or the law on which the highest court is based) been changed since 1960? and (8) In how many cases has one of the other government branches remained inactive when its action was necessary for a decision of the highest court to become effective?	Feld and Voigt (2003)	4, 7

Variable	Description	Source	Chapter(s)
Unions			
Union coverage	Workers affiliated with unions as a percentage of the economically active population.	McGuire (1997)	5
Macro-economic Variables			
GDP per capita growth	Average per capita GDP growth (in U.S. dollars at purchasing power parity) between 1980 and 2002.	World Bank (various years)	6
Human Development Index	Combines measures of life expectancy at birth and adult literacy, the combined gross enrollment ratio for primary, secondary, and tertiary schools, and a measure of income GDP per capita (in U.S. dollars at purchasing power parity), in order to measure a country's achievement in terms of human development. In this study we used the change in the value of the index between 1980 and 2002.	United Nations Development Programme (UNDP) (various years)	6
Poverty Reduction Index	The inverse of the change in the poverty rate between 1980–90 and 1995–2000. The poverty rate is measured as the percentage of the population that has an income of less than 1 U.S. dollar at purchasing power parity a day.	World Bank (various years)	6
Aggregate Welfare Index (Sen)	This is an aggregate measure of welfare that combines GDP per capita at purchasing power parity with Sen's inequality index (equal to the mean times [1 minus the Gini coefficient]). See Lambert (1993) for technical details. For this study, we used the average of the index for the period 1990–2002.	Gasparini (2004)	6
Aggregate Welfare Index (Atkinson's)	This is an aggregate measure of welfare that combines GDP per capita at purchasing power parity with Atkinson's inequality index (which takes a constant elasticity of substitution [CES] function with a given parameter of inequality aversion). See Lambert (1993) for technical details. For this study, we used the average of the index for the period 1990–2002.	Gasparini (2004)	6

Variable	Description	Chapter(s)
Technical and Statistical Concepts		
Cluster analysis	<p>Cluster analysis is a technique used to identify homogenous groups of observations. Using this technique it is possible to classify observations with similar characteristics into different subgroups.</p> <p>This document follows Anderberg (1973) and uses K-means cluster analysis (KMC). KMC is based on <i>nearest centroid sorting</i>, which consists of assigning to a given cluster the observations that are the least distant from the center of the cluster (<i>centroid</i>). As the number of clusters is defined <i>ex ante</i> and clusters are assigned iteratively, the groupings are identified solely based on the distances between observations, and not by selection on the part of the researcher.</p> <p>For this particular study, cluster analysis was used to classify countries according to different variables (key features of public policies, political variables, etc.). For the case of the Overall Index of Quality of Public Policy, the clustering was performed excluding Chile, whose score was significantly higher than those of the rest of the countries in the sample. Because of its high score, Chile was placed in a separate category, <i>very high</i>. The rest of the countries were then classified, using three clusters, into the <i>high</i>, <i>medium</i>, and <i>low</i> categories.</p>	3, 6
Correlation	<p>Correlation analysis is a statistical technique that can show whether and how strongly pairs of variables are related. The correlation coefficient can range between -1 and 1 and is a measure of the degree of linear relationship between two variables. A correlation coefficient of 1 indicates that two variables always move together in the same direction, in which case they are said to be perfectly correlated. A correlation coefficient of -1 indicates that two variables always move together, but in the opposite direction, in which case they are said to be perfectly negatively correlated. A correlation coefficient of 0 indicates that a pair of variables move independently of one another, with no association between the movement of one and the movement of the other. The correlation coefficient r between two variables x and y can be calculated as follows:</p>	6

$$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{n(\sum x^2) - (\sum x)^2} \sqrt{n(\sum y^2) - (\sum y)^2}}$$

where n is the number of observations.

Variable	Description	Chapter(s)
	<p>It is possible to test whether a correlation coefficient is significantly different from zero by computing the t-statistic of the coefficient and then comparing the computed value with the t-statistic tabulations that are available in most books of statistical analysis. To use a t-statistics table, it is necessary to know the degrees of freedom (in this case $n - 2$) and choose a confidence level (usually 5 percent, but 10 percent and 1 percent are also commonly used). If the computed value is higher than the tabulated value, then it is possible to say that the correlation coefficient is significantly different from zero with the chosen level of confidence.</p> <p>The t-statistic is computed as follows:</p> $t = \frac{r \sqrt{n-2}}{\sqrt{1-r^2}}$ <p>where r is the correlation coefficient and n is the sample size.</p>	
Partial correlation	<p>Partial correlation is a statistical technique that can show whether and how strongly pairs of variables are related, while controlling for the effect of other variables. In order to compute the partial correlation between x and y, while controlling for a third variable z, it is necessary to perform a regression of x on z and then recover the residuals of this regression (i.e., the component of x that cannot be explained by z). Next it is necessary to perform a regression of y on z and then recover the residuals of this second regression (i.e., the component of y that cannot be explained by z). The correlation between these two sets of residuals will yield the partial correlation (controlling for z) between x and y.</p> <p>In this study, partial correlations were performed to isolate the correlation between two variables from a country's level of economic development. Economic development was defined as GDP per capita in 1980, measured in U.S. dollars evaluated at purchasing power parity.</p>	6

