Public sector performance, prestige and promotion

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Unlocking the Human Potential for Public Sector Performance

World Public Sector Report 2005

Public Sector Performance, Prestige and Promotion (background paper)

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Introduction and summary of findings

The technical appendix provides quantitative analysis that complements the text of the preceding parts of the report, with the key findings summarized in the executive summary. The analysis reported in this appendix consists entirely of linear multiple regressions applied to cross-country data. This technique allows a researcher to estimate what can be interpreted as the independent effect of each variable on an outcome of interest, controlling for the effects of all other relevant variables. What is actually measured, however, is the partial correlation between two variables, and correlation is not causation. Good design, along with a dose of common sense, is necessary if statistical tests are to yield useful, meaningful results as opposed to spurious, nonsensical correlations. The "outcomes" (dependent variables) of interest for the present report are presented in table 1.

Correlation is not causation

Table 1.
Dependent variables

Dependent variable	Description	Source	Years
QUALITY	Skills of the bureaucracy	QUALITY1: ICRG	1984-1990
		QUALITY2: SCS	1990, 1999, 2002
INTEGRITY	Level of corruption	INTEGRITY1: ICRG	1984-1990
		INTEGRITY2: SCS	1990, 1999, 2002
PRESTIGE	Attraction to university grads	UNU/R&E	1970-1990
PROMOTION	Promotion of civil servants to senior political posts	UNU/R&E	1970-1990

The sources of data for the first four variables are surveys of expert opinion from the International Country Risk Guide (ICRG)[1], the State Capacity Survey (SCS)[2] and a survey first carried out for 35 countries by Rauch and Evans[3] and then extended by UNU[4] to an additional 16 countries (UNU/R&E) (see "Survey questions and coding"). Of these 51 countries, a total of 45 are developing countries (23 in Africa, 9 in Asia and 13 in Latin America and the Caribbean). All these data are analysed in cross sections rather than time series. This is dictated in part by the paucity of time-series data and partly by the fact that differences between countries are large while values change very slowly over time: inter-country variation is much greater than inter-temporal variation. The structural variables used to "explain" inter-country differences in outcomes are presented in table 2.

Inter-country variation is much greater than inter-temporal variation

Table 2.
Structural variables

Structural variable	Description	Source	Years
CAREER	Promotion procedures (profesional state bureaucracy)	UNU/R&E	1970-1990
MERIT	Merit as criterion for hiring, promotion and replacement	SCS	1990, 1999, 2002
SALARY	Salaries relative to private sector	UNU/R&E	1970-1990
BRIBES	Tips and bribes	UNU/R&E	1970-1990
EXAM	Use of entrance examination	UNU/R&E	1970-1990
DEGREE	University degree in lieu of exam	UNU/R&E	1970-1990
NPM	New public management	UNU/R&E	1970-1990

Data for each of these variables, with the exception of MERIT, are from the unique UNU/R&E Survey. Surveys of a larger number of countries for later years provide useful data on outcomes but contain information only for MERIT: the extent to which a bureaucracy is run professionally rather than by a system of patronage. Data on size of the public sector and corresponding data on public sector wages are available for more than 60 countries, but there is little overlap with the 51 countries of the UNU/R&E Survey. In addition, the questions of the UNU/R&E Survey refer to the years 1970-1990 whereas the wage and employment data are for the years 1990-2003.

In measuring the effect of structural variables on outcomes, it is very important to control for per capita income. Countries with high incomes tend to have a large pool of human capital, which usually implies a skilled and efficient civil service that rates high in integrity (less corruption) but pays low wages relative to those in the private sector because of the existence of a highly developed private sector. It also tends not to be very attractive – independent of wage levels – as a career choice for university graduates or as a pool of talent for appointment to senior political posts. The report looks at the effect of differences in structural variables on outcomes, holding per capita income constant and controlling also for the effects of other structural variables:

It is important to control for income, when measuring the effect of different variables on outcome

Career and merit

Professionalism in the civil service – controlling for per capita income and other variables – is an excellent predictor of both the quality and the integrity (absence of corruption) of public service, and its effects are consistently positive. Somewhat surprisingly, however, it has no apparent effect on prestige of public service, on the probability that civil servants are selected for appointment to senior political posts or on average wages in the public sector.

Professionalism predicts the quality and integrity of the public service

Salary

Legal remuneration (salary plus perquisites) of senior public officials relative to their counterparts in the private sector has some positive effect on bureaucratic quality and a much stronger positive effect on integrity. This variable also increases the prestige or attraction of a public sector career, but not in the 23 African countries surveyed. Sur-

Salaries have some effect on quality, and a much stronger effect on integrity

prisingly, there is no significant association at all between legal remuneration of top civil servants and their success in securing promotion to high-level political office.

Bribes

The extra-legal remuneration (tips and bribes) of public officials is related negatively to measures of integrity, but this is true by definition so it is a spurious correlation. More meaningful is the absence of any significant effect of this variable on the quality of bureaucracy in the public sector. For the 51-country sample as a whole, this variable has no significant effect on the prestige of public service, but splitting the sample into two groups reveals that the effect is absent only for the 23 African countries; for the remaining 28 countries in the sample, the effect of tips and bribes on prestige is significant and negative. For promotion to senior political posts, the African/non-African dichotomy is even greater: the effect of extra-legal remuneration is negative, as expected, for the 28 non-African countries, but it has no significant effect for the 23 African countries. This is a disturbing finding, for it implies that university graduates in African countries are indifferent to the presence of opportunities to supplement their legal income with tips and bribes in public sector jobs.

There is no significant correlation between bribes and public service quality

Graduates in Africa are indifferent to the presence of bribes

Exam and degree

Use of examinations for entrance into the civil service is not a very successful explanatory variable. There is weak evidence that entrance examinations have a positive impact on bureaucratic quality and much stronger evidence that they improve the probability that civil servants are selected for promotion to senior political posts. There is no evidence of any association between examinations and integrity or between examinations and the prestige of a civil service career. This poor result may be due to the fact that the design of the statistical test does not allow for the possibility of relying on university credentials in lieu of examinations to screen applicants. Information on the number of degree holders among those who do not sit an entrance examination is available only for the original 35 countries surveyed by Rauch and Evans. When each of these variables (entrance examination and university degree) is entered separately in the "prestige" regression for the 35 countries, neither is significant. In contrast, each variable is highly significant when both are entered simultaneously. The direction of their impact, however, is very different: positive for entrance examinations and negative for university degrees. This seems counter-intuitive at first glance, but it is possible that university graduates, other things being equal, might prefer to work in a bureaucracy that contains relatively few university educated persons, which makes their own training and credentials all the more valuable.

There is weak evidence that entrance examinations have a positive impact on the quality of the civil service

New public management

New public management (NPM) is measured indirectly as mobility of high-level personnel between the public and private sectors. This captures an important effect of NPM, which, by rewarding functions in the public sector in the same manner as they are rewarded in the private sector, stimulates movement back and forth between the two sectors. In contrast, the rewards and functions of senior officials in a traditional, career-based civil service are very different from their counterparts in the private sector, with little consequent movement of personnel. This variable is not a significant determinant of quality or integrity of the civil service for the countries in the sample. It is, however, a

NPM has a negative impact on the prestige of a public sector career

significant determinant of the prestige of a public sector career, and its effect is negative, but weaker and less significant for African than for non-African countries. NPM also has a negative effect on the probability that civil servants are promoted to high political office, but this is true only for the non-African countries in the sample, not for the 23 African countries, where the effect is essentially zero.

NPM is not a significant determinant of the quality and integrity of the civil service

Bureaucratic performance and structure

In a seminal paper, Rauch and Evans[5] found professionalism in the civil service (recruitment and promotion by merit rather than patronage) to be a statistically significant determinant of bureaucratic performance. Because of the small size of their sample, they were unable to clearly establish the importance of other variables, such as salary levels and career stability. As mentioned, the present report builds on this work by analysing data from the UNU expansion of the R&E survey from 35 to 51 countries and by looking at other surveys that cover large numbers of countries but lack the rich detail of the unique UNU/R&E Survey. The statistical technique of linear multiple regression (ordinary least squares) is used to measure the partial correlation of structural variables with two types of bureaucratic performance: quality of service and the integrity of public officials who provide that service.

By focusing on the quality of public service and the integrity of public officials the impact of different variables is tested

Measures of performance

As measures of the performance of public sector bureaucracies, the report draws on ratings by the International Country Risk Guide (ICRG) of "strength and expertise to govern" (QUALITY1) and corruption in government (INTEGRITY1). In addition, ratings of the State Capacity Survey (SCS) for efficiency of the civil service (QUALITY2) and overall levels of corruption (INTEGRITY2) are used. These are coded in various ways, but a high score always indicates better performance (table 3).

Table 3.
Measures of bureaucratic performance

Variable	Indicator	Score	Coded	Survey
QUALITY1	High scores indicate that the "bureaucracy has the strength and expertise to govern without drastic changes in policy or interruptions in government services".	..	0-4	ICRG
QUALITY2	High scores indicate an efficient civil service with excellent administrative and technical skills.	Average score for questions 13, 16 and 17	0-10	SCS
INTEGRITY1	Low scores indicate "actual or potential corruption in the form of excessive patronage, nepotism, job reservations, 'favour-for-favours', etc.".	..	0-6	ICRG
INTEGRITY2	Low scores indicate high overall corruption within the state.	Score for question 15	0-10	SCS

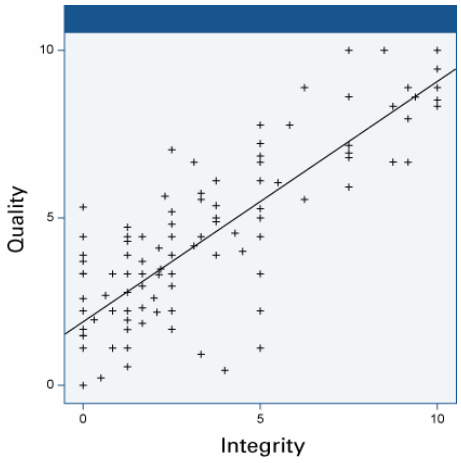
Note: Two dots (..) signify proprietary data.

The two measures of performance (QUALITY and INTEGRITY) are correlated – a good performance in terms of efficiency tends to be accompanied by a good performance in terms of low levels of corruption – but the correlation is far from perfect. This is clear from the scatter of QUALITY2 versus INTEGRITY2 displayed in scatter plot 1.

Efficiency tends to be accompanied by low levels of corruption

The scatter plot also contains a regression line with a constant term (intercept) of 1.9 and slope equal to 0.7: QUALITY = 1.9 + 0.7 INTEGRITY. This is the straight line that minimizes the sum of the squared vertical distance of each observation from the line. Its positive slope indicates that the correlation is positive, i.e., an increase in integrity of officials is associated with an increase in quality of service. More specifically, the regression line predicts that a very corrupt civil service, with an integrity score of zero, will have a quality rating of 1.9 and each point increase on the integrity index will, on average, increase the quality rating by 0.7 points. (The two variables are measured on the same 0-10 scale.)

Scatter plot 1.
Quality and integrity



Note: Plot of QUALITY2 against INTEGRITY2 in 1999 (129 countries).

The R-squared for this regression is 0.711, indicating in this instance that cross-country variation in INTEGRITY "explains" 71.1 per cent of observed variation in QUALITY. With a perfect fit, all points would lie on the straight line and the R-squared would be equal to 1.00. The imperfection of the fit is obvious from examination of scatter plot 1. Twenty-eight of the 129 government bureaucracies score zero in integrity; their quality of service ranges from zero to 5.3, with twelve exceeding the predicted QUALITY score of 1.9. At the other extreme, ten bureaucracies score the maximum 10 in integrity; their scores in quality of service range from 8.3 to 10.

An increase in the integrity of officials is associated with an increase in the quality of services

Measures of structure

Various measures of bureaucratic structure are listed in table 4 along with their median (mid-point in the distribution) score.

CAREER is an index for professionalism devised by Rauch and Evans.[6] A high score indicates that a country at the highest levels has a professional civil service rather than a system of political appointments and patronage.

MERIT is an alternative rating by the SCS and is the only structural variable from a source other than the UNU/R&E Survey. MERIT differs from CAREER not only because the source is different but also because the score refers to professionalism in the hiring and promotion of civil servants in general, not just top officials.

Table 4.
Measures of bureaucratic structure

Variable	Indicator	Score	Coded	Median	Survey
CAREER	High values indicate a professional state bureaucracy rather than a patronage system.	Equal-weight index of questions 6, 7, 8, 10 and 11 each normalized to the 0-1 range.[a]	0-1	0.47	UNU/R&E
MERIT	High scores indicate professionalism rather than patronage (merit as a determinant).	Score for question 14	0-10	1.67[b]	SCS
SALARY	High scores indicate that legal remuneration of senior public officials is high compared to managers in private sector with comparable training and responsibilities.	Score for question 14	1-5	1.75	UNU/R&E
BRIBES	High scores reflect importance of "bribes and other extra-legal perquisites".	Score for question 15 less question 14	0-4	0.67	UNU/R&E
EXAM	High scores indicate that many senior officials enter the civil service via a formal examination system.	Score for question 4	1-4	2.0	UNU/R&E
NPM	High scores indicate that senior officials intersperse private with public sector careers.	Average score, reversed, of questions 12 and 13[c]	1-4	2.5	UNU/R&E

Notes:
[a] CAREER = [(4-Q6)/3 + (Q7-1)/2 +(Q8-1)/3 +(Q10-1)/3 + (Q11-1)]/5.
[b] 45 countries.
[c] NPM = (5-Q12+5-Q13)/2.

SALARY is the response to question 14 of the UNU/R&E Survey and indicates the legal remuneration (base pay plus perquisites) of senior government officials compared to managers in the private sector who have comparable training and responsibilities. Country scores for this indicator range from 1 (less than 50 per cent of comparable private sector remuneration) to 5 (higher than private sector). The median response was 1.75 and the simple average (mean) was 2.15, indicating that in the majority of countries surveyed, salaries and perquisites of senior public officials are far below those of their counterparts in the private sector.

In the majority of countries surveyed, salaries and perquisites of senior public officials are far below those of their counterparts in the private sector

BRIBES is the score for question 15 (total remuneration of public officials compared to private sector, including "bribes and other extra-legal perquisites") less the score for question 14 (legal remuneration). This variable is an attempt to capture the quantitative importance of extra-legal remuneration. A value of zero suggests little or no extra-

legal income, whereas higher values (up to 4) imply increasing importance of extra-legal tips and bribes relative to legal income.

EXAM is taken directly from the Rauch and Evans survey question that asks what proportion of senior officials enters the civil service by examination.

NPM is an attempt to capture the presence of "new public management" in a country's civil service. Managers operating under the NPM model can be expected to move easily between the public and private sectors, since the work and rewards are much the same in the two types of employment. In a traditional, career-based civil service, there is little movement to and from the private sector. NPM measures mobility between the public and private sectors, so it is an indirect measure of new public management.

The variable NPM is an attempt to capture the presence of "new public management" in a country's civil service

As noted earlier, all structural variables, with the exception of MERIT, are from the unique UNU/R&E Survey of 51 countries, 45 of which are developing countries (23 from Africa, 9 from Asia and 13 from Latin America and the Caribbean). Respondents were asked to describe the bureaucracy of each country in the period 1970-1990. (For details, see annex.)The performance variables - QUALITY and INTEGRITY - are also the product of surveys of expert opinion but are more subjective. They cover the period from 1984 in the case of one source (ICRG) and from 1990 in the case of the other source (SCS). There are far more than 51 observations for the performance variables and for one of the structural variables (MERIT), but the regression analysis is limited to the common denominator of the variables for performance, structure and control, which can be as small as 44 observations (table 5).

Table 5.
Number of observations available for measures of bureaucratic performance and structure

Variable	Survey	1970-1990	1984-1990	1990	1999	2002
QUALITY1	ICRG	..	130	130	140	140
QUALITY2	SCS	..	..	129	129	97
INTEGRITY1	ICRG	..	130	130	140	140
INTEGRITY2	SCS	..	..	129	129	97
CAREER	UNU/R&E	51	..	..	..	..
MERIT	SCS	..	..	129	129	97
SALARY	UNU/R&E	51	..	..	..	..
BRIBES	UNU/R&E	51	..	..	..	..
EXAM	UNU/R&E	51	..	..	..	..
NPM	UNU/R&E	51	..	..	..	..

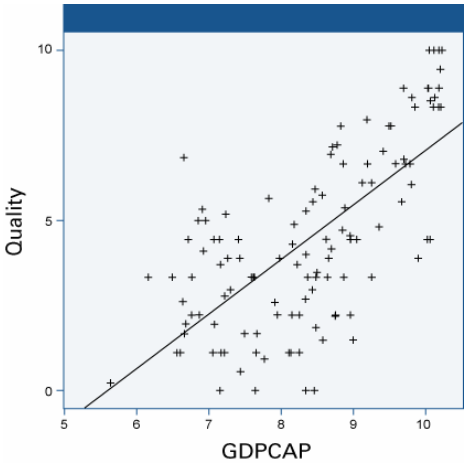
Notes: The actual number of observations that can be used in regressions is often lower because of a missing control variable (GDPCAP) and because of incomplete overlap of country coverage. Two dots (..) signify no data.

Control variables

The analysis also looks at the effect of a particular variable on performance, controlling for the effects of other variables. In other words, the focus is on partial rather than simple correlation. For bureaucratic performance, it is very important to control for per capita income. In the analysis reported here, the measure of income is per capita GDP at international prices (purchasing power parity). The natural logarithm is used rather than the raw figure because it provides a better fit to the data and because the implicit assumption – that it is percentage rather than absolute changes in income that matters – seems reasonable (see scatter plots 2 and 3 for plots of QUALITY and INTEGRITY against the logarithm of per capita GDP for the year 1999).

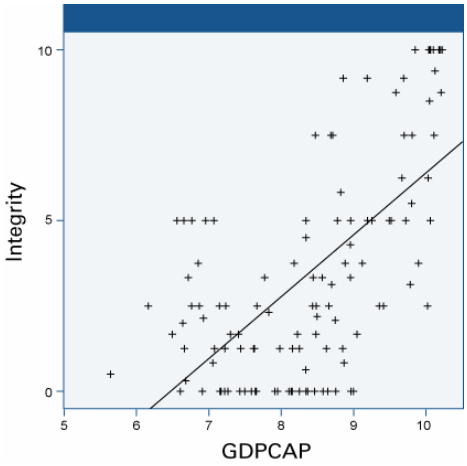
The analysis also looks at the effect of a particular variable on performance

Scatter plot 2.
Quality and GDPCAP



Note: Plot of QUALITY2 against GDPCAP in 1999 (121 countries).

Scatter plot 3.
Integrity and GDPCAP



Note: Plot of INTEGRITY2 against GDPCAP in 1999 (121 countries).

In some regressions, dummy variables control for fixed regional effects: after accounting for the effect of differences in per capita GDP and other variables, countries located in Africa, for example, might tend to have bureaucracies of higher (or lower) INTEGRITY and QUALITY compared to countries in other regions of the world.

Explanatory variables – structural as well as control variables – are retained in most cases only if the relevant regression coefficient differs significantly from zero at the 90 per cent level of confidence. Using this level of confidence means that it is possible to accept a coefficient as significant when, as frequently as one time out of ten, there is in fact no systematic relationship between the explanatory variable and the dependent variable.

Determinants of bureaucratic quality

Table 6 reports the results of regression analyses for the two measures of bureaucratic quality, using data for the countries included in the UNU/R&E Survey. Since

CAREER and MERIT are different measures of the same structural characteristic (professionalism rather than patronage), they never enter a regression together.

Table 6.
Determinants of bureaucratic quality (UNU/R&E Survey)

Dependent variable	QUALITY1 (1984-1990)	QUALITY1 (1984-1990)	QUALITY2 (1990)	QUALITY2 (1990)	QUALITY2 (1990)
Intercept	-3.208	-2.448	-10.524	-8.008	-7.363
GDPCAP	0.550***	0.509***	1.460***	1.161***	1.119***
	(0.136)	(0.166)	(0.300)	(0.264)	(0.300)
CAREER	1.680***		4.357***		
	(0.593)		(1.348)		
MERIT		0.159***		0.412***	0.413***
		(0.058)		(0.090)	(0.090)
SALARY			0.588**	0.563***	0.521**
			(0.294)	(0.208)	(0.246)
BRIBES					-0.085
					(0.244)
EXAM				0.419**	0.405**
				(0.189)	(0.174)
NPM					-0.037
					(0.361)
Observations	50	44	45	45	45
R-squared	0.342	0.416	0.494	0.646	0.647

Note: GDPCAP is log of GDP per capita (PPP) in 1980.

Heteroskedasticity-consistent standard errors are in parentheses below each estimated coefficient.

*** = significantly different from zero at the 99 per cent level of confidence
** = significantly different from zero at the 95 per cent level of confidence

The coefficient of the control variable, GDPCAP, is positive and highly significant in each equation. Its size indicates that, holding other variables constant, a doubling of per capita income, from, say, $1,000 to $2,000, or from $5,000 to $10,000, increases QUALITY1 by more than a third of a point on a five-point scale. Similarly, a doubling of per capita income increases QUALITY2 by as much as a full point on an eleven-point scale. (Since GDPCAP is measured in natural logarithms, its coefficient must be multiplied by 0.693, the logarithm of 2, to find the effect of a doubling of income.) None of the regional dummies were significant in any regression, so they are not included in the regression equations.

GDP per capita is positively correlated with bureaucratic quality

Of the structural variables, only CAREER and MERIT perform consistently well as variables to account for cross-country differences in bureaucratic quality. Each coefficient is large and significant at the 99 per cent level of confidence, indicating that the presence of a professional civil service is associated with high skills and efficiency. SAL-

Only professionalism accounts for cross-country differences in bureaucratic quality across the board

ARY, the legal remuneration of high public officials relative to their counterparts in the private sector, is statistically significant only in the QUALITY2 regressions.

EXAM is significant only in the QUALITY2 equation, and only when professionalism in the civil service is measured by MERIT rather than CAREER. This reflects in part a strong co-linearity between EXAM and CAREER, but, more importantly, it is a consequence of poor measurement.

The original Rauch and Evans Survey question was "Approximately what proportion of the higher officials (those who hold roughly the top 500 positions in the core economic agencies) in these agencies enter the civil service via a formal examination system?" This was followed by the question "Of those that do not enter via examinations, what proportion have university or post-graduate degrees?" The UNU extension of the survey to 16 African countries omitted the second question. This is unfortunate, as there is no way of knowing, for those 16 countries, the extent to which university graduation might be substituting for entrance examinations in the screening of applicants to senior civil service posts.

The coefficients of BRIBES and NPM never achieve statistical significance. The equation in the last column of table 6 reports a typical result: both coefficients are negative, but they are small and not significantly different from zero. Neither extra-legal remuneration nor new public management has any systematic relationship with the quality and efficiency of the public sector, at least not by these measures.

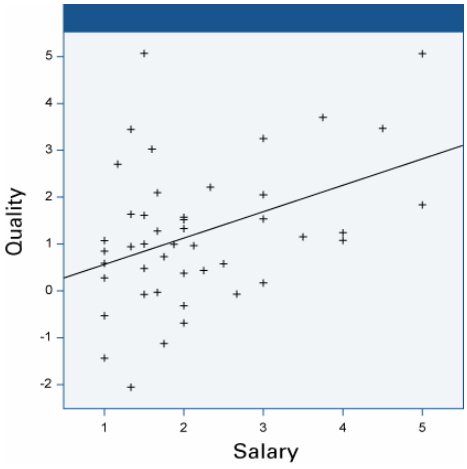
Bureaucratic quality and efficiency is dependent on neither tips and bribes, nor the interspersion of public and private sector careers

An examination of residuals reveals that the results are not driven by "outliers", that is, unusual observations that can have a profound effect on estimated coefficients. This is clear from the plot of QUALITY2 against SALARY in scatter plot 4.

What is also clear is that the residual – the vertical distance from the observed rating of QUALITY2 to the regression line – tends to be lower the larger the value of SALARY. This violates a basic assumption of the least squares model, which is that residual is totally random, unrelated to variables in the regression.

Violation of this assumption is a common problem with cross-country regressions, particularly when the sample contains very dissimilar countries. For this reason, all the statistical tests reported are based on estimates of standard errors corrected for heteroskedasticity (non-random variance).

Scatter plot 4.
Quality and salary



Note: Plot of QUALITY2 against SALARY in 1990, controlling for GDPCAP, MERIT and EXAM (45 countries).

Data on bureaucratic performance are available for an expanded sample of countries but, regrettably, with little corresponding information on structural characteristics of these bureaucracies. In fact, the only structural variable available is MERIT. Table 7 reports the results of regressing QUALITY1 and QUALITY2 on MERIT, controlling for per capita income and regional dummies in three cross-sections – 1990, 1999 and 2002 – with as many as 121 observations.

Table 7.
Determinants of bureaucratic quality (ICRG and SCS surveys)

Dependent variable	QUALITY1 (1990)	QUALITY1 (1999)	QUALITY1 (2002)	QUALITY2 (1990)	QUALITY2 (1999)	QUALITY2 (2002)
Intercept	-4.326	-2.213	-1.733	-2.373	-6.348	-3.498
GDPCAP	0.699***	0.473***	0.506***	0.632***	1.066***	0.844***
	(0.130)	(0.074)	(0.093)	(0.168)	(0.139)	(0.126)
MERIT	0.150***	0.143***	0.071***	0.582***	0.536***	0.453***
	(0.033)	(0.023)	(0.027)	(0.054)	(0.043)	(0.048)
AFRICA	0.812***	-0.309**	-0.857***		1.031***	
	(0.238)	(0.152)	(0.294)		(0.306)	
ASIA			-0.610**			
			(0.249)			
LATINAMERICA			-0.872***			-1.179***
			(0.275)			(0.441)
TRANSITION			-0.846***			
			(0.307)			
Observations	97	107	81	121	121	90
R-squared	0.592	0.695	0.680	0.688	0.758	0.695

Note: GDPCAP is log of GDP per capita (PPP) in 1990 for the 1990 regressions, in 1999 for the other four regressions.

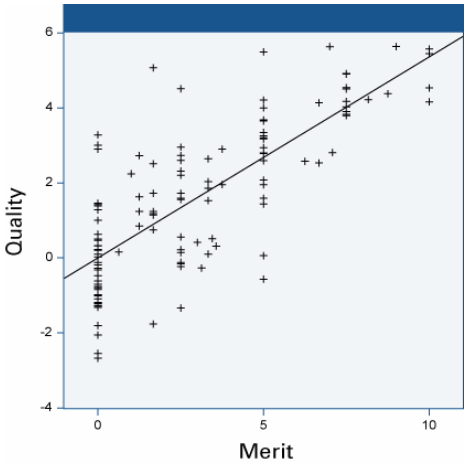
Heteroskedasticity-consistent standard errors are in parentheses below each estimated coefficient.

*** = significantly different from zero at the 99 per cent level of confidence
** = significantly different from zero at the 95 per cent level of confidence

The coefficients of GDPCAP and MERIT are positive and highly significant in all six regressions. The dummy for AFRICA is statistically significant in four of the six regressions; its sign is positive in two equations and negative in the other two, so it is most likely capturing the effect of omitted structural variables.

In any event, no policy implications should be ascribed to the sign of the coefficient of the dummy for AFRICA or other regions. The dummies for ASIA, Latin America and the Caribbean (LATINAMERICA), and transition economies (TRANSITION) are significant in the 2002 QUALITY1 regression, and each coefficient has a negative sign. The LATINAMERICA dummy is also statistically significant and negative in the 2002 QUALITY2 regression.

Scatter plot 5.
Quality and merit



Scatter plot 5 contains a typical plot for these results: QUALITY2 against MERIT in 1999 after controlling for the effects of GDPCAP and AFRICA. The scatter plot shows clearly that the findings are not due to the influence of outliers and that the residual tends to be smaller, the larger the value of MERIT.

Note: Plot of QUALITY2 against MERIT in 1999 (121 countries), controlling for GDPCAP and AFRICA.

Determinants of integrity

Table 8 reports findings for a second dimension of performance – integrity – using data for countries included in the UNU/R&E Survey.

Table 8.
Determinants of bureaucratic integrity (UNU/R&E Survey)

Dependent variable	INTEGRITY1 (1984-1990)	INTEGRITY1 (1984-1990)	INTEGRITY2 (1990)	INTEGRITY2 (1990)	INTEGRITY2 (1990)
Intercept	-4.756	-3.786	-13.122	-10.483	-5.464
GDPCAP	0.809***	0.723***	1.637***	1.310***	0.892**
	(0.147)	(0.180)	(0.391)	(0.383)	(0.356)
CAREER	1.285**		1.836		
	(0.611)		(1.936)		
MERIT		0.114**		0.382***	0.397***
		(0.054)		(0.150)	(0.133)
SALARY	0.354***	0.368**	1.217***	1.160***	0.782**
	(0.115)	(0.151)	(0.394)	(0.337)	(0.372)
BRIBES					-0.846**
					(0.347)
Observations	50	44	45	45	45
R-squared	0.515	0.492	0.408	0.490	0.550

Note: GDPCAP is log of GDP per capita (PPP) in 1980. The coefficient of BRIBES is significantly negative in all equations; the variable is omitted because it is related by definition to measures of INTEGRITY, thus not a true "explanatory" variable.

Heteroskedasticity-consistent standard errors are in parentheses below each estimated coefficient.

*** = significantly different from zero at the 99 per cent level of confidence
** = significantly different from zero at the 95 per cent level of confidence

Neither EXAM nor NPM was statistically significant in any regression nor were any of the regional dummies. The coefficient of the control variable (GDPCAP) is large and statistically significant in each regression. The coefficient of CAREER is positive as expected, but it is statistically significant (at the 95 per cent level) only in the INTEGRITY1 regression. The coefficient of MERIT is significant in the INTEGRITY1 *and* the INTEGRITY2 regressions. SALARY performs very well as an explanatory variable; its coefficient is positive and statistically significant in all four regression equations. BRIBES appears to be a highly significant explanatory variable, but this result is spurious since BRIBES in essence is an alternative measure of the absence of integrity. BRIBES is included in the last column of table 8 only as an example to show that this does not affect the sign or significance of other explanatory variables.

Professionalism is significant in determining integrity of the public service

Salaries also explain variations in the level of integrity

Table 9 reports three regressions for each of the same two measures of integrity for a larger sample of countries.

Table 9.
Determinants of bureaucratic integrity (ICRG and SCS surveys)

Dependent variable	INTEGRITY1 (1990)	INTEGRITY1 (1999)	INTEGRITY1 (2002)	INTEGRITY2 (1990)	INTEGRITY2 (1999)	INTEGRITY2 (2002)
Intercept	1.852	1.322	-1.017	-2.743	-7.478	-9.294
GDPCAP	0.251*	0.189	0.411***	0.576***	1.030***	1.377***
	(0.150)	(0.128)	(0.077)	(0.220)	(0.202)	(0.230)
MERIT	0.116***	0.141***	0.108***	0.679***	0.692***	0.463***
	(0.041)	(0.047)	(0.024)	(0.076)	(0.061)	(0.068)
AFRICA	-0.856**	-0.730***			0.958**	1.160**
	(0.384)	(0.244)			(0.445)	(0.547)
ASIA	-1.667***	-0.492**	-0.949***			-0.909*
	(0.309)	(0.234)	(0.207)			(0.547)
LATINAMERICA	-1.329***		-0.551**			
	(0.375)		(0.220)			
TRANSITION			-0.732***			
			(0.211)			
Observations	97	107	81	121	121	90
R-squared	0.501	0.355	0.576	0.576	0.712	0.601

Note: GDPCAP is log of GDP per capita (PPP) in 1990 for the 1990 regressions, in 1999 for the other four regressions.

Heteroskedasticity-consistent standard errors are in parentheses below each estimated coefficient.

*** = significantly different from zero at the 99 per cent level of confidence
** = significantly different from zero at the 95 per cent level of confidence
* = significantly different from zero at the 90 per cent level of confidence

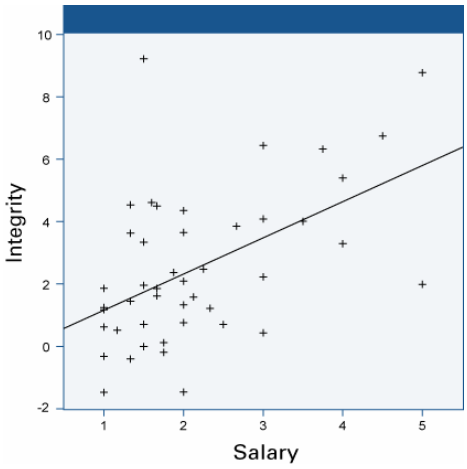
The large sample is revealing, but it is important to note that all structural variables except one are missing from these equations, the exception being MERIT. It is unfortunate that it is not possible to test or control for the effects of SALARY in these

equations. The coefficient of GDPCAP in all regressions is positive, as expected, but it is barely significant at the 90 per cent level of confidence in the INTEGRITY1 (1990) regression, and only at the 85 per cent level in the INTEGRITY1 (1999) regression. This is owing to inclusion of regional dummies, which pick up some of the effects of differences in per capita income. With all dummy variables removed (not shown), the size of the coefficient on GDPCAP increases and becomes significant at the 99 per cent level of confidence. In the four other equations, GDPCAP is highly significant with or without inclusion of regional dummies. The dummy for Africa is significant in four equations with two positive and two negative signs, a finding that is difficult to interpret and that most likely is spurious. The dummy for Asia is also significant in four of the six equations, but it has a consistently negative coefficient. The dummy for Latin America and the Caribbean (LATINAMERICA) is significant with a negative sign in two regressions. The dummy for transition economies (TRANSITION) is significant in one regression, with a negative sign.

From a policy perspective, the most important finding of the regressions reported in table 9 is the consistently positive coefficient for MERIT even controlling for the effects of per capita income. In each equation, the coefficient is large and different from zero at the 99 per cent level of confidence. This is convincing evidence that a professional state bureaucracy follows higher ethical standards than bureaucracies that base recruitment and promotion on nepotism and patronage. This finding is robust and is not a product of the influence of outliers, as is evident from the plot in scatter plot 7 of a typical relationship, INTEGITY2 (1999) against MERIT, controlling for GDPCAP and AFRICA. Scatter plot 6 shows a typical scatter diagram from one of the regressions of table 8, that of INTEGRITY2 against SALARY in 1990, controlling for GDPCAP and MERIT.

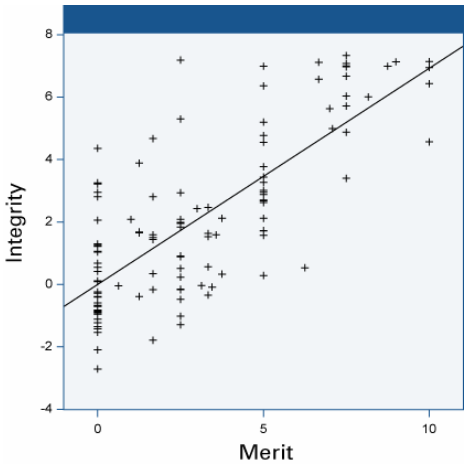
A professional state bureaucracy follows higher ethical standards

Scatter plot 6.
Integrity and salary



Note: Plot of INTEGRITY2 against SALARY in 1990 (45 countries), controlling for GDPCAP and MERIT.

Scatter plot 7.
Integrity and merit



Note: Plot of INTEGRITY2 against MERIT in 1999 (121 countries), controlling for GDPCAP and AFRICA.

Prestige of a public sector career

What accounts for inter-country variation in the attractiveness of a career in the civil service?

Many governments face difficulties in hiring and retaining well-educated civil servants, a problem that is often associated with low prestige of public service.[7] Some governments find the task of recruitment more difficult than others. What accounts for this inter-country variation in the attractiveness of a career in civil service?

The last two questions of the UNU/R&E Survey (Q19 and Q20 – see annex) provide information that can be used to address this question. The survey questions dealt with attractiveness of a public sector career to graduates of elite universities and to members of the educated middle class who were not able to attend elite schools.

The responses to the two questions were quite different. In fact, there is little correlation between the two. (The correlation coefficient, r, which takes a value of 0 when there is no correlation and unity when two series are perfectly correlated, has a value of only 0.112.) In other words, knowledge of how a country scores on question 19 or question 20 provides no indication about how it scores on the other question.

Question 19 proved more useful than question 20 for statistical analysis, but the sum of responses to the two questions proved even more useful, so these are the results reported here. Nonetheless, similar conclusions can be reached using only responses to question 20 or (especially) question 19.

The dependent variable for the regression equations, labelled PRESTIGE, is the average of responses to survey questions 19 and 20, recoded so that a higher value is associated with greater attractiveness of a career in the public sector (table 10). The median (mid-point) value of this variable is 2.3, and its range is from 1 to 4.

Table 10.
Measuring the prestige of a public service career

Variable	Definition	Coded	Median	Survey
PRESTIGE	Average score, reversed, of questions 19 and 20. High scores indicate that university graduates consider a public sector career to be "the best possible career option".	1-4	2.3	UNU/ R&E
DEGREE	Score for question 5 of the original survey, limited to 35 countries. High scores indicate that a large proportion of senior civil servants who enter without writing an exam possess a university degree.	1-4	3.33	UNU/ R&E

Detailed results of the regression analysis are reported in table 11. For the full sample, the only significant variables are GDPCAP (negative coefficient), NPM (positive coefficient) and the AFRICA dummy (negative coefficient). Removing the AFRICA dummy from the equation lowers the coefficient of determination (R-squared) and affects the size, but not the statistical significance, of the other explanatory variables.

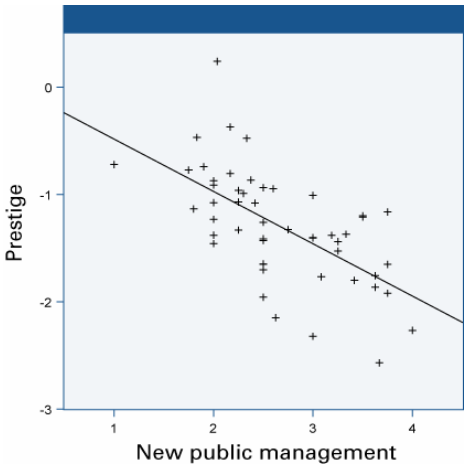
Splitting the sample into two parts – Africa and non-Africa – reveals profound differences. The equation fits very poorly the 23 African countries, with coefficients significant at the 90 per cent level of confidence only for GDPCAP and NPM.

In contrast, for the rest of the world (28 mainly developing countries), the coefficients of GDPCAP and NPM are significant at the 99 per cent level, and coefficients of two additional explanatory variables (SALARY and BRIBES) are statistically significant at the 95 per cent level of confidence.

The negative coefficient for GDPCAP in both sets of countries is evidence that a career in the public sector is more attractive the lower the per capita income of a country, presumably because low-income countries offer fewer opportunities for employment in their underdeveloped private sectors.

The negative coefficient on NPM suggests that, after controlling for effects of other variables, public sectors run by the rules of new public management are less attractive to recent university graduates (see also scatter plot 8).

Scatter plot 8.
Prestige and NPM



Note: Plot of PRESTIGE against NPM in 1970-1990 (51 countries), controlling for GDPCAP, SALARY, BRIBES and AFRICA.

For non-African countries, the attractiveness of a career in the public service suffers from bribes, …

For non-African countries only, the coefficient of SALARY is significantly positive and that of BRIBES is negative. This indicates, as expected, that higher salaries increase the attraction of public service employment and that reliance on income from extra-legal tips and bribes decreases the attractiveness of a career in public service.

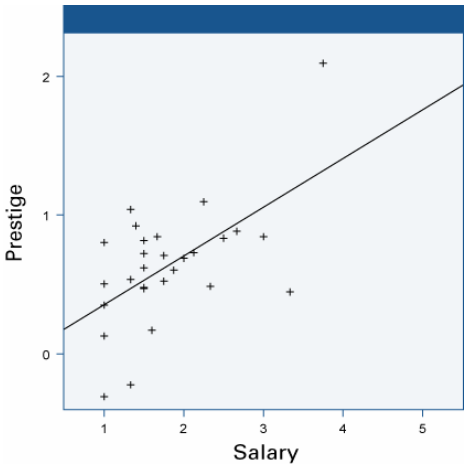
… and benefits from adequate remuneration, …

The significant, positive coefficient of SALARY for 28 non-African countries contrasts with a coefficient close to zero for 23 African countries. It is clear from scatter plots 9 and 10 that this result is not driven by outliers. These scatter diagrams plot PRESTIGE against SALARY, controlling for the effects of GDPCAP, NPM and BRIBES.

PRESTIGE clearly increases with SALARY for the non-African sample, whereas in the African sample, there is no apparent relationship between the two variables. It is puzzling that legal remuneration has no effect on the attractiveness of public sector employment in the African countries of this sample. The analysis offers no explanation for the finding.

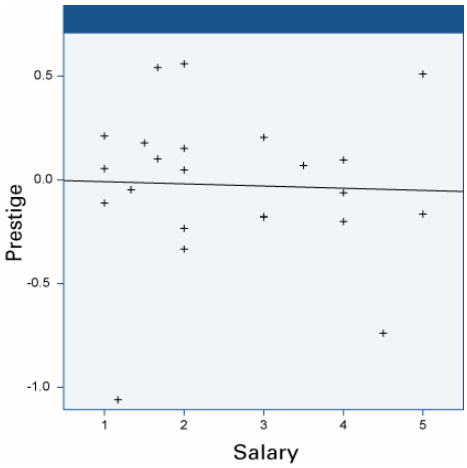
… yet for African countries, adequate remuneration does not improve the prestige of public service career, …

Scatter plot 9.
Prestige and salary (non Africa)



Note: Plot of PRESTIGE against SALARY in 1970-1990 (28 non-African countries), controlling for GDPCAP, NPM and BRIBES.

Scatter plot 10.
Prestige and salary (Africa)



Note: Plot of PRESTIGE against SALARY in 1970-1990 (23 African countries), controlling for GDPCAP, NPM and BRIBES

… and bribes are not a deterrent in seeking a career in the public service

Even more surprising and disturbing is the finding that the level of BRIBES has no effect on the attractiveness of employment in the civil service in African countries. Other things equal, high levels of extra-legal payments would be expected to impact negatively on the attractiveness of a career in the public sector, at least for university graduates with high ethical standards.

None of the responses to other questions in the UNU/R&E Survey were significant determinants of PRESTIGE, neither in regressions using data for all countries nor in separate regressions for the non-African and African groups.

The lack of significance for EXAM is unexpected since one would expect recruitment by merit to enhance the prestige and attraction of a civil service career for university graduates. A possible reason for this result is that data on another, related variable is missing for the 16 African countries surveyed by the UNU. This variable is question 5 (see ":Survey questions and codings"): the proportion of entrants into high levels of the civil service without examination who hold a graduate or post-graduate university degree.

This variable is available for the original Rauch and Evans sample of 7 African and 28 non-African countries. It is labelled DEGREE in table 11 and is scored from 1 (less than 30 per cent) to 4 (more than 90 per cent). The median score for the 35 countries is a high 3.33.

Table 11.
Determinants of the prestige of a public service career

	Full sample		Africa	Rest of world	Original sample
Constant	6.368	5.460	4.868	7.958	7.310
GDPCAP	-0.342***	-0.245***	-0.223*	-0.572***	-0.406***
	(0.099)	(0.096)	(0.113)	(0.124)	(0.122)
SALARY	0.072	0.013	-0.010	0.351**	0.370***
	(0.087)	(0.086)	(0.081)	(0.159)	(0.127)
BRIBES	-0.058	-0.089	-0.051	-0.175**	-0.169**
	(0.057)	(0.058)	(0.063)	(0.081)	(0.084)
EXAM					0.213***
					(0.079)
DEGREE					-0.377***
					(0.144)
NPM	-0.488***	-0.438***	-0.303*	-0.502***	-0.505***
	(0.093)	(0.094)	(0.165)	(0.098)	(0.079)
AFRICA	-0.364**				
	(0.182)				
Observations	51	51	23	28	35
R-squared	0.475	0.422	0.241	0.708	0.748

Note: The dependent variable is PRESTIGE. GDPCAP is log of GDP per capita (PPP) in 1980.

Heteroskedasticity-consistent standard errors are in parentheses below each estimated coefficient.

*** = significantly different from zero at the 99 per cent level of confidence
** = significantly different from zero at the 95 per cent level of confidence
* = significantly different from zero at the 90 per cent level of confidence

Addition of DEGREE to the regression equation does, indeed, transform the coefficient of EXAM into one that is statistically significant at the 99 per cent level of confidence. Other things (including DEGREE) being equal, the existence of entrance examinations enhances the prestige and attraction of a career in public service.

The existence of entrance examinations enhances the prestige of a career in the public service

The coefficient of DEGREE is also highly significant, but its sign is negative. Given the independent effect of EXAM, a higher proportion of university graduates among those who enter the civil service without writing an examination makes a civil service career *less* attractive to university graduates. This seems counter-intuitive at first glance, but on reflection, it is understandable that university graduates might prefer a work environment where the university educated are few in number, which makes their credentials more valuable and visible.

Civil service career is less attractive where many graduates enter without an examination

It is important to emphasize that this negative effect of DEGREE is only true controlling for EXAM, since countries that require examinations of a large proportion of candidates to the civil service also tend to require university degrees of those who bypass

the examination system. (The correlation between EXAM and DEGREE is positive and statistically significant, with r = 0.61.)

Promotion of civil servants to high-level political posts

The PRESTIGE regressions looked at factors that influence the attractiveness *to university graduates* of a civil service career. The regressions in this section measure the attractiveness *to politicians* of civil servants for placement in high-level political posts. The dependent variable is PROMOTION, the probability that high-level political appointees are chosen from the ranks of the civil service (table 12).

Table 12.
Measuring the propensity to promote civil servants to high-level political posts

Variable	Definition	Coded	Median	Survey
PROMOTION	Score for question 7: "Of political appointees to these [high] positions, what proportion are likely to already be members of the higher civil service?"	1-3	2.0	UNU/ R&E

In the regressions, only one control variable (GDPCAP) and three structural variables (BRIBES, EXAM, NPM) were statistically significant in any sample at the 90 per cent level or higher (see table 13). Of these negative results, perhaps the most surprising was SALARY, the response to question 4 of the R&E Survey (legal remuneration of high-level public sector officials compared with their counterparts in the private sector). One might expect high salaries to result in easier recruitment of talented persons, hence greater promotion from the ranks of the civil service to higher political posts. This was not evident for this sample of 51 countries. The second column of table 13 reports the regression results for the full sample of 51 countries.

Two of the explanatory variables – EXAM and NPM – are statistically significant at the 99 per cent level. The coefficient of EXAM is positive and that of NPM (new public management) is negative. This is a clear indication that a traditional, career-oriented, merit-driven civil service is attractive to politicians as a source of candidates for placement in high-level political posts.

A career-oriented, merit-driven civil service is attractive to politicians as a source of candidates for placement in high-level political posts

An analysis of the residuals of this equation reveals that one country – Botswana – is an outlier that has a high propensity to promote civil servants to political posts (PROMOTION=3) but has the characteristics of a country expected to exhibit a low level of promotion from the ranks of civil servants. Removing Botswana from the sample causes the coefficient of BRIBES to become significant, but only at the 90 per cent level of confidence and with a positive rather than the expected negative sign. The coefficient of GDPCAP has the expected negative sign (politicians in high-income countries have access to more private sector talent), but it is small and not statistically significant.

Table 13 also reports the regression results for three sub-samples: non-Africa (28 countries), Africa (23 countries) and Africa without Botswana (22 countries). The regression for the non-African sample, made up largely of developing countries from Asia and Latin America, is quite good and easily understood. Each of the four coefficients has the expected sign and is significant at the 95 per cent level of confidence or better. For the African sub-sample, however, only the coefficient of BRIBES is significant (at the 95 per cent level), and its sign is positive rather than negative. Removing an outlier (Botswana) from the sample causes the positive coefficient of BRIBES to increase in both size and significance, and the positive coefficient of EXAM becomes significant at the 90 per cent level of confidence.

Table13.
Determinants of promotion of civil servants to high-level political posts

	Full sample	Full sample less outlier	Non-Africa	Africa	Africa less outlier
Constant	2.940	2.646	4.234	2.003	2.359
GDPCAP	-0.115	-0.105	-0.208**	-0.059	-0.120
	(0.109)	(0.113)	(0.090)	(0.229)	(0.228)
BRIBES	0.137	0.170*	-0.168**	0.247**	0.284***
	(0.095)	(0.093)	(0.077)	(0.098)	(0.099)
EXAM	0.305***	0.345***	0.289***	0.161	0.214*
	(0.081)	(0.073)	(0.096)	(0.134)	(0.125)
NPM	-0.278***	-0.254**	-0.359**	0.006	-0.045
	(0.102)	(0.101)	(0.139)	(0.179)	(0.199)
Observations	51	50	28	23	22
R-squared	0.424	0.493	0.741	0.322	0.464

Notes:
The dependent variable is PROMOTION. The outlier that was removed in two regressions is Botswana GDPCAP is log of GDP per capita (PPP) in 1980.

Heteroskedasticity-consistent standard errors are in parentheses below each estimated coefficient.

*** = significantly different from zero at the 99 per cent level of confidence
** = significantly different from zero at the 95 per cent level of confidence
* = significantly different from zero at the 90 per cent level of confidence

The dichotomy between African and non-African countries with respect to the effect of BRIBES on PROMOTION is astounding. In the non-African sample of countries, extra-legal income received by high-level public officials diminishes the probability that they will be appointed to political posts. In the 23 African countries, the effect of BRIBES is precisely the opposite: politicians' attraction to civil servants and corruption in senior ranks of the civil service go hand in hand.

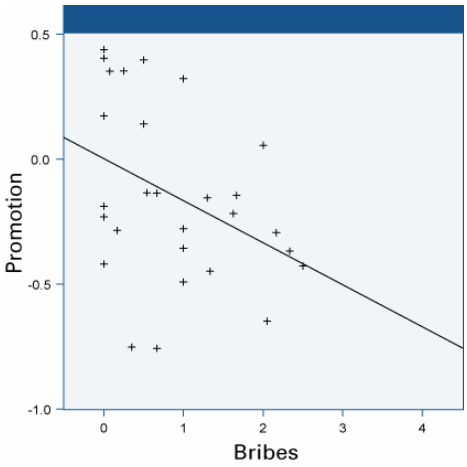
In non-African countries, bribes received by senior officials diminishes the probability that they will be appointed to political posts, …

… whereas the opposite holds true for African countries

As can be seen from scatter plots 11 and 12, this finding is not the result of outliers. In fact, the measure of income from tips and bribes is very crude. Some of the many "zero" observations might well be positive if the measures were finer, and the dis-

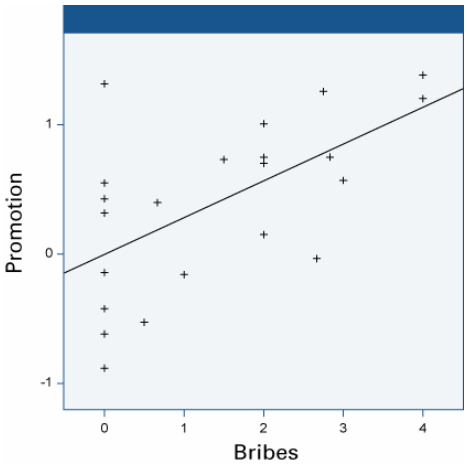
tribution of observations up and down the zero axis makes it difficult, indeed, to produce a significant slope for the relationship between BRIBES and PROMOTION.

Scatter plot 11.
Promotion and bribes (non Africa)



Note: Plot of PROMOTION against BRIBES in 1970-1990 (28 non-African countries), controlling for GDPCAP, NPM and EXAM.

Scatter plot 12.
Promotion and bribes (Africa)



Note: Plot of PROMOTION against BRIBES in 1970-1990 (22 African countries), controlling for GDPCAP, NPM and BRIBES

Survey questions and coding

United Nations University/Rauch and Evans Survey

Rauch and Evans[8] surveyed international expert opinion for 35 developing countries. The number of expert survey respondents was between three and five for each country, except Morocco, Thailand and Uruguay, where two experts responded (table 15).

The United Nations University (UNU), with the help of the African Economic Research Consortium (AERC), surveyed an additional 16 African countries and included many of the same, or similar, questions as those in the earlier Rauch and Evans questionnaire. The number of expert survey respondents was between four and six (table 16). In addition, UNU surveyed Eritrea but did not report the results. It also surveyed three countries already included by Rauch and Evans (Kenya, Nigeria and Tunisia). Both surveys refer to the period 1970-1990.

A major difference between the two surveys is that Rauch and Evans relied largely on international experts and always on persons with no vested interest in the bureaucracy of the country examined, whereas UNU-AERC used exclusively local experts, nearly always high-ranking civil servants or civil servants who had recently retired.[9] The number of possible responses to each question varies, but in no case is it greater than five. UNU scaled all responses to a number between 0 and 10. This scaling has been reversed in order to combine the two surveys.

The following questions were drafted by Rauch and Evans. Changes in wording made in the UNU survey, where important, are noted after each question. Average responses, by country, are reported in table 15.

Q4: EXAM				
Question 4	Approximately what proportion of the higher officials (those who hold roughly the top 500 positions in the core economic agencies) in these agencies enter the civil service via a formal examination system?			
Answers	Less than 30%	30-60%	60-90%	More than 90%
Codes	1	2	3	4

Q5: DEGREE				
Question 5	Of those that do not enter via examinations, what proportion has university or post-graduate degrees?			
Answers	Less than 30%	30-60%	60-90%	More than 90%
Codes	1	2	3	4

Note:
The UNU survey did not include this question. Instead, it asked a very different question: "Of those that do enter via examinations, what proportion have university or post-graduate degrees?" Therefore, the coding for this question is not reported for UNU countries in tables 15 and 16.

Q6: CAREER (1)				
Question 6	Roughly how many of the top levels in these agencies are political appointees (e.g., appointed by the President or Chief Executive)?			
Answers	None	Just agency chiefs	Agency chiefs and vice-chiefs	All of top 2 or 3 levels
Codes	1	2	3	4

Q7: CAREER (2) and PROMOTION			
Question 7	Of political appointees to these [top political] positions, what proportion is likely to already be members of the higher civil service?		
Answers	Less than 30%	30-70%	More than 70%
Codes	1	2	3

Q8: CAREER (3)				
Question 8	Of those promoted to the top 2 or 3 levels in these agencies (whether or not they are political appointees), what proportion come from within the agency itself (or its associated ministry(ies) if the agency is not itself a ministry)?			
Answers	Less than 50%	50-70%	70-90%	Over 90%
Codes	1	2	3	4

Q10: CAREER (4)				
Question 10	What is roughly the modal number of years spent by a typical higher-level official in one of these agencies during his career?			
Answers	1-5 years	5-10 years	10-20 years	Entire career
Codes	1	2	3	4

Q11: CAREER (5)				
Question 11	What prospects for promotion can someone who enters one of these agencies through a higher civil service examination early in his/her career reasonably expect? Assuming that there are at least a half dozen steps or levels between an entry-level position and the head of the agency, how would you characterize the possibilities for moving up in the agency? [NB. more than one may apply.]			
Proposition	1) In most cases, will move up one or two levels but no more.	2) In most cases, will move up three or four levels, but unlikely to reach the level just below political appointees.	3) If performance is superior, moving up several levels to the level just below political appointees is not an unreasonable expectation.	4) In at least a few cases, could expect to move up several levels within the civil service and then move up to the very top of the agency on the basis of political appointments.
Answers	If 3 and/or 4 are circled, but not 1 and not 2		Otherwise	
Codes	2		1	

Q12: NPM (1)				
Question 12	How common is it for higher officials in these agencies to spend substantial proportions of their careers in the private sector, interspersing private and public sector activity?			
Answers	Normal	Frequent but not modal	Unusual	Almost never
Codes	1	2	3	4

Q13: NPM (2)				
Question 13	How common is it for higher officials in these agencies to have significant post-retirement careers in the private sector?			
Answers	Normal	Frequent but not modal	Unusual	Almost never
Codes	1	2	3	4

Q14: SALARY and BRIBES (1)					
Question 14	How would you estimate the salaries (and perquisites, not including bribes or other extra-legal sources of income) of higher officials in these agencies relative to those of private sector managers with roughly comparable training and responsibilities?				
Answers	Less than 50%	50-80%	80-90%	Comparable	Higher
Codes	1	2	3	4	5

Note:
The UNU survey asked this question in two parts: base salary, then legal perquisites. The coding reported for UNU countries in tables 15 and 16 is an estimate of the sum of the two.

Q15: BRIBES (2)					
Question 15	If bribes and other extra-legal perquisites are included what would the proportion be?				
Answers	Less than 50%	50-80%	80-90%	Comparable	Higher
Codes	1	2	3	4	5

Note:
The UNU survey asked this question in three parts: base salary, legal fringe benefits, then tips and bribes. The coding reported for UNU countries in tables 15 and 16 is an estimate of the sum of the three parts.

Q19: PRESTIGE (1)				
Question 19	Among graduates of the country's most elite university/ies, is a public sector career considered:			
Answers	The best possible career option	The best possible option for those whose families are not already owners of substantial private enterprises	The best option for those who are risk averse	Definitely a second best option relative to a private sector career
Codes	1	2	3	4

Q20: PRESTIGE (2)				
Question 20	Among members of the educated middle class who are not in a position to attend the most elite universities is a public sector career considered:			
Answers	The best possible career option	The best possible option for those whose families are not already owners of substantial private enterprises	The best option for those who are risk averse	Definitely a second best option relative to a private sector career
Codes	1	2	3	4

State Capacity Survey

The State Capacity Survey, which was part of the Political Instability Task Force Project, was conducted in the years 1990, 1999 and 2002.[10] The respondents (table 14) are experts with extensive knowledge of the politics of one or more countries. All are residents of the United States and none are employees of the Government of the United States.

Table 14.
State Capacity Survey responses

	1990	1999	2002
Countries	129	129	97
Respondents	369	369	225

Of the 32 questions in the survey, five are of interest for the present report.[11] For each question, experts were asked to select an answer ranging from categories such as "very well suited" to

"seriously deficient". Besides the option of "Don't know", each question had three to four possible answers. All answers were then converted to a scale from 0 to 10, from "worst" to "best". The five questions are:

Q13: QUALITY2 (1)					
Question 13	Rate the administrative and technical skills of the country's civil service (occupying middle and higher management roles)				
Answers	Very well suited to the task of governing	Adequate to the task of governing	Somewhat deficient for the task of governing	Seriously deficient for the task of governing	Don't know

Q16: QUALITY2 (2)					
Question 16	Rate the efficiency of the country's national bureaucracies overall.				
Answers	*Efficient:* most assigned tasks implemented effectively (e.g., tasks are for the most part completed on time and within budget)	*Adequate:* some implementation difficulties but no major problems	*Problematic:* frequent difficulties in implementing assigned tasks	*Crisis:* most tasks not implemented effectively (in addition to overruns and delays, some vital tasks not getting done)	Don't know

Q17: QUALITY2 (3)					
Question 17	Rate the administrative and technical skills of the country's civil service (occupying middle and higher management roles)				
Answers	*Efficient:* most assigned tasks implemented effectively (e.g., tasks are for the most part completed on time and within budget)	*Adequate:* some implementation difficulties but no major problems	*Problematic:* frequent difficulties in implementing assigned tasks	*Crisis:* most tasks not implemented effectively (in addition to overruns and delays, some vital tasks not getting done)	Don't know

Q14: MERIT)				
Question 14	By what criteria are civil servants in government agencies hired, promoted, and replaced?			
Answers	Consistently professional criteria, based on training, expertise, and performance	Mostly professional criteria, based on training, expertise, and performance	Mostly other criteria, including personal, ideological, patronage considerations, etc.	Don't know

Q15: INTEGRITY2				
Question 15	Rate the severity of overall corruption within the state.			
Answers	Low	Modest	Severe	Don't know

Technical data

Table 15.
Responses for 51 countries (UNU/R&E Survey data)

Country	Survey	N	Q4	Q5	Q6	Q7	Q8	Q10	Q11	Q12	Q13	Q14	Q15	Q19	Q20
Argentina	R&E	3	1.00	3.00	2.67	1.00	1.00	1.33	1.67	1.50	1.67	1.00	3.33	4.00	3.33
Botswana	UNU	5	1.00	..	3.00	3.00	4.00	3.50	2.00	4.00	1.00	3.00	3.00	2.00	3.00
Brazil	R&E	4	1.75	3.75	3.75	2.13	2.00	1.50	1.25	1.75	1.88	2.50	2.58	2.83	2.83
Cameroon	UNU	5	3.00	..	3.00	3.00	2.00	2.00	2.00	3.00	3.00	2.00	4.00	3.00	2.00
Chile	R&E	4	1.75	3.50	3.25	1.50	1.25	1.67	1.50	1.75	1.75	1.50	1.67	3.25	2.75
Colombia	R&E	4	1.00	3.00	3.25	1.25	1.25	1.50	1.00	1.25	1.50	1.75	1.75	3.25	3.00
Costa Rica	R&E	3	2.00	3.33	4.00	2.00	1.33	3.00	1.50	2.00	1.33	2.67	2.67	2.50	3.00
Côte d'Ivoire	R&E	3	2.00	3.00	3.67	3.00	3.00	2.67	1.67	2.33	3.00	2.00	4.75	2.00	2.33
Dominican Republic	R&E	5	1.00	1.60	3.60	1.00	1.00	1.30	1.20	1.00	1.00	1.00	3.50	4.00	3.40
Ecuador	R&E	3	1.00	3.33	3.33	1.33	1.33	1.33	1.50	1.33	1.33	1.33	2.00	4.00	4.00
Egypt	R&E	3	1.33	3.33	3.00	2.00	3.00	2.83	1.00	3.33	1.83	1.33	2.00	2.60	2.77
Ghana	UNU	4	4.00	..	3.00	3.00	2.50	2.00	2.00	3.00	2.00	3.00	5.00	4.00	1.50
Greece	R&E	5	2.60	3.60	3.00	1.60	2.60	2.80	1.60	3.40	2.80	1.40	1.75	3.30	1.70
Guatemala	R&E	4	1.00	3.00	3.50	1.00	1.50	2.27	1.67	1.38	1.13	1.33	2.67	3.50	3.25
Haiti	R&E	4	1.00	1.25	3.75	1.50	1.00	1.43	1.50	1.25	1.25	2.25	3.88	2.25	2.00
Hong Kong[a]	R&E	3	3.00	4.00	2.00	2.00	1.90	1.67	1.33	4.00	2.00	3.33	3.33	3.00	3.00
India	R&E	3	4.00	4.00	3.00	3.00	2.33	1.00	2.00	4.00	1.67	1.33	3.00	1.50	1.33
Israel	R&E	3	3.33	3.67	3.50	2.50	2.67	2.50	1.67	2.33	1.50	1.50	1.75	3.50	3.50
Kenya	R&E	3	1.00	3.33	2.83	2.33	2.00	2.33	1.00	3.00	1.00	1.17	4.00	3.67	4.00
Malawi	UNU	4	1.00	..	4.00	3.00	3.00	1.00	2.00	3.00	2.00	5.00	5.00	4.00	1.00
Malaysia	R&E	3	3.00	3.33	2.17	1.50	2.33	2.67	2.00	3.00	1.00	2.00	2.67	3.17	2.50
Mali	UNU	6	4.00	..	2.50	3.00	3.00	1.00	2.00	3.00	1.50	3.50	5.00	3.00	2.00
Mauritius	UNU	5	1.00	..	2.00	1.00	1.00	2.00	2.00	3.00	2.00	3.00	3.00	4.00	2.00
Mexico	R&E	4	1.00	3.75	3.00	2.00	2.00	2.33	2.00	3.50	2.50	3.00	5.00	2.50	2.83
Morocco	R&E	2	2.50	2.50	4.00	2.50	2.50	2.50	2.00	2.00	2.00	1.50	3.50	3.00	2.50
Mozambique	UNU	4	1.00	..	3.50	2.00	2.00	2.00	1.50	2.00	1.00	5.00	5.00	3.50	1.00
Namibia	UNU	6	3.00	..	3.00	1.00	1.00	1.00	1.50	3.00	2.00	4.50	4.50	3.00	4.00
Niger	UNU	4	2.00	..	4.00	3.00	3.00	1.00	2.00	2.00	1.50	1.00	5.00	3.50	2.50
Nigeria	R&E	3	2.33	2.67	3.50	2.00	1.93	1.67	1.33	1.67	1.33	1.00	3.00	3.17	2.17
Pakistan	R&E	3	3.00	3.00	3.33	2.50	2.00	3.33	1.67	3.33	2.33	1.00	2.00	2.00	1.67
Peru	R&E	5	1.00	3.20	3.60	1.40	1.60	1.80	1.75	2.25	1.75	1.75	2.75	3.50	2.25
Philippines	R&E	4	2.25	3.75	3.00	1.25	1.50	1.25	1.75	1.50	1.25	1.88	3.93	4.00	2.50
Portugal	R&E	4	2.00	3.75	3.00	2.25	2.75	3.38	1.25	2.75	2.75	1.50	2.00	3.75	2.25
Republic of Korea	R&E	3	2.67	3.67	3.00	2.67	3.00	2.67	2.00	3.33	1.67	2.33	3.33	2.00	3.67
Senegal	UNU	4	2.50	..	2.25	2.50	2.00	2.00	2.00	3.00	3.00	2.00	5.00	4.00	1.50
Singapore	R&E	4	3.33	3.75	2.00	2.33	2.33	2.75	2.00	3.25	2.68	3.75	3.75	1.30	1.33
South Africa	UNU	4	1.00	..	4.00	2.00	1.00	1.70	2.00	4.00	4.00	4.00	4.00	3.00	2.00
Spain	R&E	5	3.80	3.80	3.40	3.00	3.40	2.90	1.80	3.00	2.40	1.70	1.67	2.80	2.60
Sri Lanka	R&E	5	3.20	3.80	2.30	2.80	3.00	3.00	1.60	3.60	2.80	1.60	2.90	2.70	1.88

Country (con't)	Survey	N	Q4	Q5	Q6	Q7	Q8	Q10	Q11	Q12	Q13	Q14	Q15	Q19	Q20
Syrian Arab Republic	R&E	4	1.00	2.67	3.50	1.67	2.00	3.27	1.00	3.33	1.67	1.00	3.17	3.25	3.00
Taiwan Province of China	R&E	4	3.75	4.00	3.13	2.75	3.50	3.50	1.75	3.50	3.00	2.13	2.67	2.38	2.13
Thailand	R&E	2	3.00	4.00	1.50	3.00	3.00	3.75	1.50	2.75	2.50	1.50	2.00	1.25	3.00
Togo	UNU	4	1.00	..	3.00	3.00	3.00	2.00	1.00	3.00	3.00	1.00	5.00	3.00	2.00
Tunisia	R&E	5	3.25	4.00	2.50	2.25	3.00	1.63	1.60	2.80	2.00	1.70	1.67	3.13	2.25
Turkey	R&E	4	3.25	4.00	2.75	2.00	2.75	3.25	2.00	2.75	2.00	1.00	2.00	4.00	3.25
Uganda	UNU	5	3.00	..	4.00	2.00	2.00	2.00	2.00	3.00	2.00	4.00	5.00	3.00	2.00
United Republic of Tanzania	UNU	5	3.00	..	4.00	2.00	2.00	2.00	2.00	3.00	3.00	2.00	2.00	2.00	3.00
Uruguay	R&E	2	2.00	3.00	3.25	2.00	3.00	2.00	2.00	1.50	1.00	1.50	1.50	3.50	3.00
Zaire[b]	R&E	3	1.00	2.00	3.67	1.67	1.00	1.00	1.00	3.33	3.00	1.67	4.33	2.50	1.00
Zambia	UNU	4	1.00	..	4.00	1.00	1.50	1.00	2.00	3.00	2.50	2.00	2.00	3.00	1.50
Zimbabwe	UNU	4	1.00	..	4.00	1.00	1.00	3.00	2.00	3.00	2.50	4.00	4.50	3.50	1.50

Notes:
N = Expert responses to survey questions. Two dots (..) signify data not available.

[a] Hong Kong Special Administrative Region of China as of 1 July 1997.
[b] Democratic Republic of the Congo as of 17 May 1997.

Table 16.
Regression variables for 51 countries (UNU/R&E Survey data)

Country	GDPCAP (1980)	QUALITY1	QUALITY2	INTEG-RITY1	INTEG-RITY2	PRESTIGE	PROMO-TION	CAREER	MERIT	SALARY	BRIBES	EXAM	NPM
Argentina	9.27	2.00	3.33	3.95	0.83	1.33	1.00	0.24	1.67	1.00	2.33	1.00	3.42
Botswana	8.14	3.00	6.66	4.19	9.17	2.50	3.00	0.83	6.67	3.00	0.00	1.00	2.50
Brazil	8.76	3.00	3.89	3.92	2.08	2.17	2.13	0.28	1.00	2.50	0.08	1.75	3.19
Cameroon	7.66	2.92	3.89	2.14	0.00	2.50	3.00	0.60	5.00	2.00	2.00	3.00	2.00
Chile	8.60	2.08	7.77	3.05	10.00	2.00	1.50	0.26	0.00	1.50	0.17	1.75	3.25
Colombia	8.37	3.00	3.89	3.00	1.25	1.88	1.25	0.13	2.50	1.75	0.00	1.00	3.63
Costa Rica	8.60	2.00	5.83	5.00	7.50	2.25	2.00	0.36	7.50	2.67	0.00	2.00	3.33
Côte d'Ivoire	7.83	3.00	5.55	2.89	2.50	2.83	3.00	0.60	5.12	2.00	2.75	2.00	2.33
Dominican Republic	7.98	2.00	..	3.00	..	1.30	1.00	0.09	..	1.00	2.50	1.00	4.00
Ecuador	8.35	2.00	5.55	3.00	5.00	1.00	1.33	0.22	0.00	1.33	0.67	1.00	3.67
Egypt	7.79	1.86	3.78	1.95	4.50	2.32	2.00	0.42	3.00	1.33	0.67	1.33	2.42
Ghana	7.09	1.23	4.81	2.51	4.17	2.25	3.00	0.63	3.33	3.00	2.00	4.00	2.50
Greece	9.38	2.02	..	4.21	..	2.50	1.60	0.47	..	1.40	0.35	2.60	1.90
Guatemala	8.31	0.00	0.00	2.00	0.00	1.63	1.00	0.28	0.00	1.33	1.33	1.00	3.75
Haiti	7.01	0.00	1.33	0.69	1.50	2.88	1.50	0.20	0.83	2.25	1.63	1.00	3.75
Hong Kong[a]	9.44	2.71	..	5.00	..	2.00	2.00	0.40	..	3.33	0.00	3.00	2.00
India	7.06	2.92	5.55	2.81	2.12	3.58	3.00	0.56	5.00	1.33	1.67	4.00	2.17
Israel	9.34	2.99	6.22	5.00	5.63	1.50	2.50	0.53	5.00	1.50	0.25	3.33	3.08
Kenya	7.12	2.77	4.07	2.86	0.00	1.17	2.33	0.37	1.67	1.17	2.83	1.00	3.00
Malawi	6.48	1.00	5.00	4.00	0.00	2.50	3.00	0.53	0.00	5.00	0.00	1.00	2.50
Malaysia	8.49	2.55	4.44	4.33	5.00	2.17	1.50	0.57	0.00	2.00	0.67	3.00	3.00
Mali	6.85	0.00	2.78	1.21	2.50	2.50	3.00	0.63	0.00	3.50	1.50	4.00	2.75
Mauritius	8.66	..	7.77	..	5.00	2.00	1.00	0.40	5.00	3.00	0.00	1.00	2.50
Mexico	8.94	1.65	2.96	3.00	1.67	2.33	2.00	0.52	0.00	3.00	2.00	1.00	2.00
Morocco	8.00	2.38	3.33	2.43	0.00	2.25	2.50	0.55	0.00	1.50	2.00	2.50	3.00
Mozambique	7.03	2.00	2.41	4.00	7.50	2.75	2.00	0.37	0.00	5.00	0.00	1.00	3.50
Namibia	8.39	2.00	8.52	3.00	9.17	1.50	1.00	0.17	5.00	4.50	0.00	3.00	2.50
Niger	7.03	3.00	3.33	3.93	2.50	2.00	3.00	0.53	5.00	1.00	4.00	2.00	3.25
Nigeria	7.10	1.17	2.06	1.95	0.00	2.33	2.00	0.31	0.00	1.00	2.00	2.33	3.50
Pakistan	7.05	1.89	0.00	1.86	0.00	3.17	2.50	0.55	0.00	1.00	1.00	3.00	2.17

Country (con't)	GDPCAP (1980)	QUALITY1	QUALITY2	INTEG-RITY1	INTEG-RITY2	PRESTIGE	PROMO-TION	CAREER	MERIT	SALARY	BRIBES	EXAM	NPM
Peru	8.50	1.00	1.66	2.95	1.25	2.13	1.40	0.31	1.25	1.75	1.00	1.00	3.00
Philippines	8.10	0.48	3.33	1.38	2.50	1.75	1.25	0.29	0.00	1.88	2.05	2.25	3.63
Portugal	9.11	2.01	6.80	4.38	7.50	2.00	2.25	0.52	7.08	1.50	0.50	2.00	2.25
Republic of Korea	8.47	3.02	7.22	2.12	3.75	2.17	2.67	0.68	5.00	2.33	1.00	2.67	2.50
Senegal	7.29	2.00	4.44	3.00	1.67	2.25	2.50	0.60	3.33	2.00	3.00	2.50	2.00
Singapore	9.35	3.50	10.00	5.29	10.00	3.68	2.33	0.67	5.00	3.75	0.00	3.33	2.04
South Africa	8.98	4.00	3.91	5.48	4.58	2.50	2.00	0.35	0.00	4.00	0.00	1.00	1.00
Spain	9.35	3.00	7.50	4.07	6.25	2.30	3.00	0.69	7.50	1.67	0.00	3.80	2.30
Sri Lanka	7.49	2.00	5.74	3.00	4.58	2.71	2.80	0.68	1.67	1.60	1.30	3.20	1.80
Syrian Arab Republic	8.00	0.92	2.78	1.92	0.63	1.88	1.67	0.32	0.00	1.00	2.17	1.00	2.50
Taiwan Province of China	8.68	3.07	6.66	4.00	4.38	2.75	2.75	0.72	5.00	2.13	0.54	3.75	1.75
Thailand	7.91	3.13	6.11	3.00	2.50	2.88	3.00	0.78	5.00	1.50	0.50	3.00	2.38
Togo	7.23	1.00	..	2.00	..	2.50	3.00	0.47	..	1.00	4.00	1.00	2.00
Tunisia	8.38	2.00	5.18	3.00	5.00	2.31	2.25	0.52	0.00	1.67	0.00	3.25	2.60
Turkey	8.36	2.00	4.16	2.73	0.63	1.38	2.00	0.65	1.25	1.00	1.00	3.25	2.63
Uganda	6.09	0.00	2.94	2.13	4.17	2.50	2.00	0.43	3.33	4.00	1.00	3.00	2.50
United Republic of Tanzania	6.41	0.00	0.00	3.18	0.00	2.50	2.00	0.43	0.00	2.00	0.00	3.00	2.00
Uruguay	8.99	1.00	..	3.00	..	1.75	2.00	0.55	..	1.50	0.00	2.00	3.75
Zaire[b]	6.58	0.75	1.33	0.00	0.00	3.25	1.67	0.09	0.00	1.67	2.67	1.00	1.83
Zambia	7.12	0.92	1.06	1.92	2.50	2.75	1.00	0.23	0.00	2.00	0.00	1.00	2.25
Zimbabwe	7.88	2.51	..	2.99	..	2.50	1.00	0.33	..	4.00	0.50	1.00	2.25

Notes:
GDPCAP is in logs, calculated from purchasing power parity GDP data in Heston, A., R. Summers and B. Aten (2002). Penn World Table Version 6.1. Center for International Comparisons at the University. Two dots (..) signify data not available.

[a] Hong Kong Special Administrative Region of China as of 1 July 1997.
[b] Democratic Republic of the Congo as of 17 May 1997.

Notes

1 International Country Risk Guide. Researcher's Dataset (1984-present). PRS Group. Available from http://www.prsgroup.com/icrg/icrg.html. The ICRG is proprietary data and is nondisclosable.

2 Bates, Robert H. and others (2003). Political instability task force report: phase IV findings. McLean, VA: Science Applications International Corporation.

3 Rauch, James E. and Peter Evans (2000). Bureaucratic structure and bureaucratic performance in less developed countries. *Journal of Public Economics*, vol. 75, No. 1 (January), pp. 49-71. See also Peter Evans and James E. Rauch (1999). Bureaucracy and growth: a cross-national analysis of the effects of "Weberian" state structures on economic growth. *American Sociological Review*, vol. 64, no. 5 (October).

4 Court, Julius, Petra Kristen and Beatrice Weder (1999). Bureaucratic structure and performance: first Africa survey results (draft of 20 December). Available from http://www.unu.edu/hq/academic/Pg_area4/pdf/unu-research.pdf

5 Rauch, James E. and Peter Evans (2000). Op. cit.

6 Rauch, James E. and Peter Evans (2000). Op. cit.

7 Organisation for Economic Co-operation and Development (2002). Public service as an employer of choice. Paris: OECD. Available from http://www.oecd.org/document/10/0,2340,en_2649_201185_2095050_1_1_1_1,00.html

8 Rauch, James E. and Peter Evans (2000). Bureaucratic structure and bureaucratic performance in less developed countries. *Journal of Public Economics*, vol. 75, No. 1 (January), pp. 49-71. See also Evans, Peter and James E. Rauch (1999). Bureaucracy and growth: a cross-national analysis of the effects of "Weberian" state structures on economic growth. *American Sociological Review*, vol. 64, no. 5 (October).

9 Court, Julius, Petra Kristen and Beatrice Weder (1999). Bureaucratic structure and performance: first Africa survey results (draft of 20 December). Available from http://www.unu.edu/hq/academic/Pg_area4/pdf/unu-research.pdf

10 Bates, Robert H. and others (2003). Political instability task force report: phase IV findings. McLean, VA: Science Applications International Corporation.

11 See Levy, Marc A. and Thomas M. Parris (2003). State Capacity Survey Database, version 2. McLean, VA: Science Applications International Corporation.