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**Risk in Globalization:
A Comparative Analysis of African and Asian Countries**

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Abstract:

In the aftermath of the events of September 11, there has been a growing re-assessment not just of measures to achieve national security, but also of the capacity of international trade and investment to achieve and sustain global increases in living standards. With a global economy already in adjustment from imbalances in domestic and international policies, the underlying question is how to generate sustainable economic growth based on the underlying model of globalization.

The conventional model of globalization is based on a set of five basic premises. First, competitive markets are more efficient than public sector intervention. Second, structural reforms are needed to achieve competitive markets. Third, international capital flows are essential to achieve sustainable economic growth. Fourth, G-7 country coordination of monetary and fiscal policy is essential to success. Fifth, globalization can help not just developing, but also transition and less developed economies to achieve sustained economic growth. Each of these assumptions carries varying levels of risk, not all of which are measured, and thus raising the question whether in the presence of risk, the conventional model of globalization can achieve sustainable economic growth.

To better understand why globalization appears to have worked better in some instances and less well so in others, we propose a quantitative model with explicit measures of risk to explain the behavior of a sample of African and East Asian economies. We find that while partial reforms may be necessary, they are insufficient to provide sustainable economic growth in the presence of risk. We identify a hierarchy of determinants that are essential to a comprehensive program of reform from which both African and Asian economies may benefit.

Introduction

For some time, a broad international consensus has supported the expansion of economic globalization. Building on the principle of comparative advantage, globalization offers both developed and developing countries the prospect of higher rates of economic growth as both product and factor markets engage in their most efficient uses¹. At the same time, globalization has met with mixed results, both in terms of economic growth and in terms of the global distribution of income, as has been noted in recent critiques (Stiglitz 2002; Easterly 2001)². This mixed picture is particularly striking if one compares the generally robust performance of East Asian economies with those in Sub-Saharan Africa, which has been the subject of much debate (The World Bank 2000, Morisset 2000, Ayittey 1998, Easterly and Levine 1997, Bates 1981)³. As is becoming clear, achieving sustainable benefits of globalization requires a set of institutions that are capable of providing good economic policy and political governance. In this paper, we examine the comparative determinants of policy and governance for a sample of East Asian and Sub-Saharan countries to explain the differential results of globalization, and from which constructive policy lessons may be derived. We place major emphasis on the role of risk in the allocation of resources⁴. In particular, we find that economic and political reform can succeed only when risk is more transparent and factored into institutional design and reform than has typically been the case up to now. In short, successful globalization is not just about what steps to take, but in what sequence of implementation.

Trends in Globalization

As a framework designed to generate increases in real per capita income, globalization places major emphasis on market forces for the allocation of resources. We illustrate below several principal indicators of globalization, which we then will use to analyze the differential performance of East Asian and Sub-Saharan African countries. We focus first on five input measures which then are placed in comparison to two basic output measures.

Trade is a key element in globalization. Table 1 shows the evolution of trade dependence by region for the past twenty years, the first ten of which coincided with the end of the Cold War period, and the latter as the first decade of the post-Cold War era.

Table 1
Global Trade Interdependence
 (Trade Share of PPP GDP)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
High income OECD	28.4	26.2	24.4	23.2	23.5	22.2	22.5	24.1	25.3	26.2
East Asia & Pacific	18.1	18.0	16.3	15.8	15.0	13.8	12.2	12.5	13.5	14.5
Sub-Saharan Africa	35.6	30.2	24.6	22.6	20.2	18.4	15.5	16.1	15.5	15.9
L.Am. & Caribbean	14.8	15.1	12.5	11.3	11.4	10.3	8.5	8.6	9.4	10.2
M.East & N.Africa	55.8	58.0	47.8	39.4	32.9	24.3	18.7	18.4	17.3	19.4
World	27.2	25.6	23.1	21.8	21.5	19.8	19.1	20.5	21.5	22.5

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
High income OECD	28.8	30.6	30.5	28.3	30.5	34.3	34.1	33.9	34.0	34.7
East Asia & Pacific	15.4	15.9	15.5	15.5	16.6	18.3	17.6	17.2	14.9	15.3
Sub-Saharan Africa	17.3	17.0	17.1	15.6	15.7	17.7	17.9	18.2	16.0	16.3
L.Am. & Caribbean	11.4	11.6	12.4	12.7	14.0	15.6	16.6	18.2	18.5	18.2
M.East & N.Africa	23.5	23.1	22.7	19.6	18.3	20.0	21.1	20.5	17.3	16.8
World	24.3	25.8	25.8	24.3	25.2	28.3	28.2	28.1	27.3	27.4

Source: The World Bank: *World Development Indicators 2001*

We note first of all that while there has not been any significant expansion of global trade dependence, there have been changes in various regions. High income OECD countries have done the most to expand their dependence on trade. In contrast, East Asia countries have largely kept their trade dependence below the world average, while Sub-Saharan African countries and Middle East and North African countries reduced their dependence from above the world average to below world average levels between 1980 and 1999. By this measure, higher income countries have expanded their commitment to international trade at a time when many developing regions of the world have either kept their dependence stable or have moved to reduce their commitment.

Globalization traditionally means combining expanded dependence on international trade with a reduction in public sector intervention. Table 2 measures the evolution of the fiscal burden across regions, which is defined as the ratio of tax revenues to GDP. Here we find the opposite pattern of trade dependence, namely, that there has been some effort to reduce public sector intervention in developing countries while the fiscal burden in high income OECD countries has actually increased.

Table 2
Fiscal Burden

(Tax Revenues as a Percent of GDP)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
High income OECD	20.3	20.9	21.2	20.6	20.6	21.0	21.2	21.9	21.7	21.8
East Asia & Pacific	20.3	18.4	17.6	16.8	16.2	15.3	15.7	14.5	13.8	12.3
Sub-Saharan Africa	21.6	17.8	21.2	19.2	18.8	19.7	19.5	19.5	21.5	23.0
L. Am. & Caribbean	15.9	16.0	15.9	16.1	14.6	15.6	15.7	14.9	13.4	13.4
World	19.5	20.0	20.4	19.9	19.8	20.2	20.3	20.7	20.5	20.5

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
High income OECD	21.9	23.7	23.3	23.3	25.2	25.5	25.9	26.3	25.8	25.9
East Asia & Pacific	11.0	10.5	10.4	10.0	11.8	11.7	11.7	12.1	9.3	10.3
Sub-Saharan Africa	21.3	21.1	19.4	19.5	19.2	20.3	20.6	19.3	19.7	19.8
L. Am. & Caribbean	16.0	14.5	15.0	16.4	17.1	17.2	17.0	17.0	17.0	17.0
World	20.4	21.8	21.5	21.6	22.9	23.2	23.6	23.8	23.7	23.8

Source: The World Bank: *World Development Indicators 2001*

For developing countries, reductions in public sector intervention can be traced to rising rates of default on debt along with the absence of efficient capital markets, while for high income countries, expanded public sector intervention can be traced to efforts to cushion the effects of increased dependence on trade. The most notable declines have been the shifts in public sector intervention in East Asia countries.

Despite weaknesses in the development of capital markets, developing countries have expanded their reliance on private market forces. We measure this emphasis in terms of financial flows to emerging markets in Figure 1, by the rising significant of foreign direct investment in Table 3, and by the market capitalization of listed companies on regional stock exchanges.

Figure 1

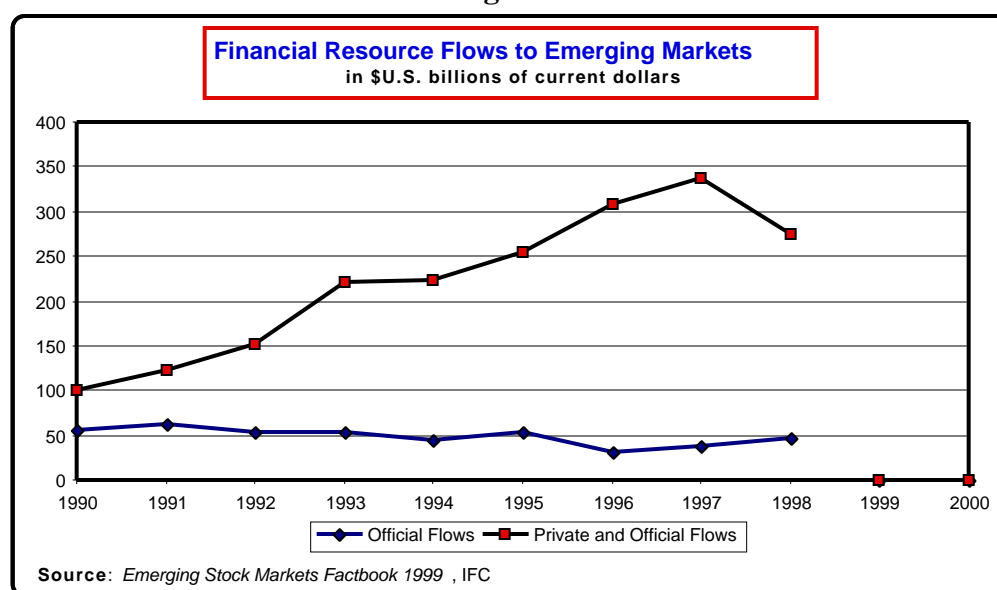


Figure 1 illustrates the role of private capital flows, both direct and portfolio, to emerging markets relative to official capital flows. This shift marks the relative decline in the client-state model that was so characteristic of developing country policy relations during the Cold War.

Annual rates of growth of FDI dependency vary significantly by region. Between 1980 and 1999, annual rates were, respectively for the regions above, 8.78%, 6.63%, -1.10%, 8.83%, -4.10%, and 7.71%. Sub-Saharan Africa and the Middle East and North Africa were the two regions with negative rates of growth, with the Middle East and North Africa experiencing the greatest rate of decline. Moreover, as with the profile of trade dependency noted in Table 1, we see in Table 3 that high income OECD countries have placed the greatest emphasis on FDI. Much of the variation can be attributed to differences in the extent and depth of capital markets, and the associated governance rules.

Table 3
Gross Foreign Direct Investment
(GFDI Share of PPP GDP)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
High income OECD	1.30	1.41	1.13	1.15	1.28	1.06	1.42	2.25	2.52	2.93
East Asia & Pacific	0.31	0.41	0.24	0.25	0.22	0.28	0.29	0.28	0.37	0.41
Sub-Saharan Africa	0.84	0.76	0.57	0.37	0.34	0.53	0.29	0.36	0.26	0.56
L.Am. & Caribbean	0.55	0.64	0.52	0.41	0.38	0.41	0.35	0.40	0.49	0.44
M.East & N.Africa	1.21	1.80	2.67	1.23	1.18	0.36	0.40	0.38	0.29	0.35
World	1.05	1.14	0.92	0.85	0.92	0.77	0.97	1.51	1.69	1.96

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
High income OECD	3.32	2.42	2.16	2.26	2.39	2.95	2.99	3.55	5.85	6.99
East Asia & Pacific	0.46	0.52	0.74	1.11	1.10	1.11	1.17	1.19	1.29	1.12
Sub-Saharan Africa	0.43	0.50	0.75	0.51	0.74	1.00	0.87	1.33	0.74	0.67
L.Am. & Caribbean	0.43	0.61	0.67	0.62	1.15	1.16	1.58	2.27	2.52	3.00
M.East & N.Africa	0.46	0.29	0.43	0.60	0.42	0.55	0.57	0.72	0.84	0.52
World	2.19	1.70	1.57	1.66	1.73	2.08	2.14	2.55	3.91	4.62

Source: The World Bank: *World Development Indicators 2001*

Our final input measure of globalization is the ratio of market capitalization to GDP. As globalization and a shift to market forces proceeds, one expects this ratio to rise. However, market capitalization rates have been influenced by erratic valuations, notably the global stock market bubbles of the 1990s and the fact that GDP growth has been uneven across regions. In East Asia countries, the market capitalization ratio reflects a genuine shift in emphasis on market forces, while for Sub-Saharan African countries, expanded market capitalization rates belied actual declines in GDP in some cases.

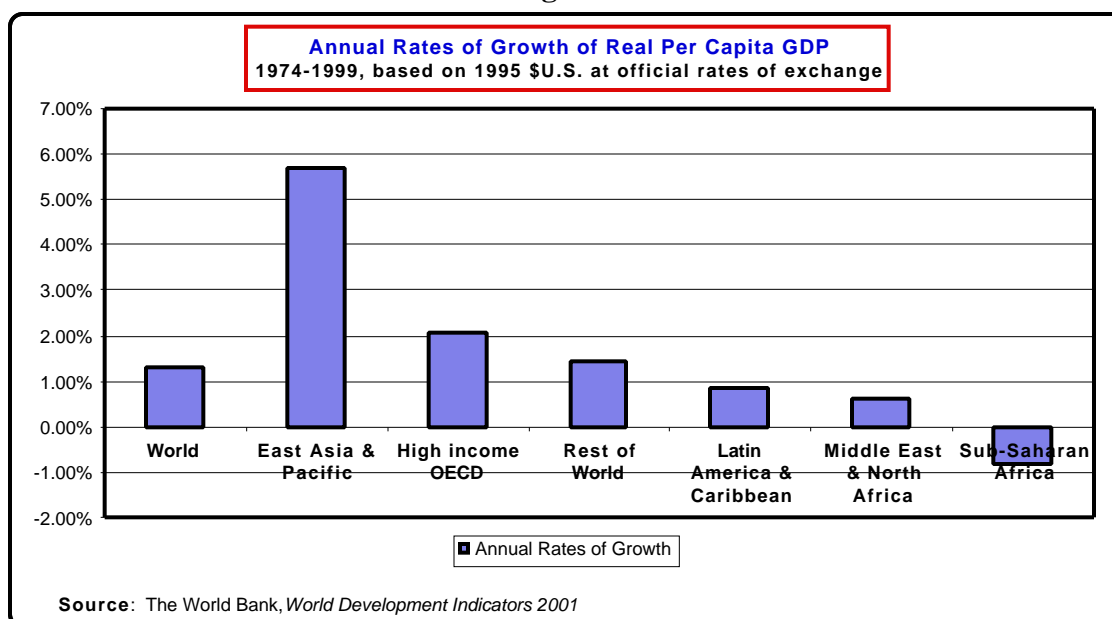
Table 4
Market Capitalization of Listed Companies
 (Percent of GDP)

	1988	1990	1992	1994	1996	1997	1998	1999	2000
High income OECD	67.6	55.1	51.2	62.4	76.7	91.8	109.7	137.4	122.8
East Asia & Pacific	21.5	24.3	27.9	47.5	43.0	22.1	33.2	52.4	41.8
Sub-Saharan Africa	37.2	55.2	52.0	119.9	110.7	102.8	80.3	121.0	98.6
L.Am. & Caribbean	7.6	7.7	21.0	29.9	27.0	30.9	20.5	29.7	24.7
M.East and N.Africa	23.7	26.2	29.0	19.4	24.6	29.0	27.7	33.9	30.7
World	62.2	50.7	46.8	58.9	69.4	79.3	93.2	119.0	105.3

Source: The World Bank: *World Development Indicators 2001*

On the output side, if globalization is successful, it should translate into higher rates of growth in per capita GDP across broad segments of the population. Figure 2 illustrates annual rates of growth of real per capita GDP by region. East Asia countries, where shifts to market-based policies have been the greatest, have enjoyed the highest rates of growth, followed by high income OECD countries and the rest of the world. In contrast, Latin American and Caribbean countries, along with Middle East and North African countries have lagged the world average, while Sub-Saharan African countries have experienced declines. It is the striking contrast in performance of East Asian countries with those in Sub-Saharan countries that we need to further examine.

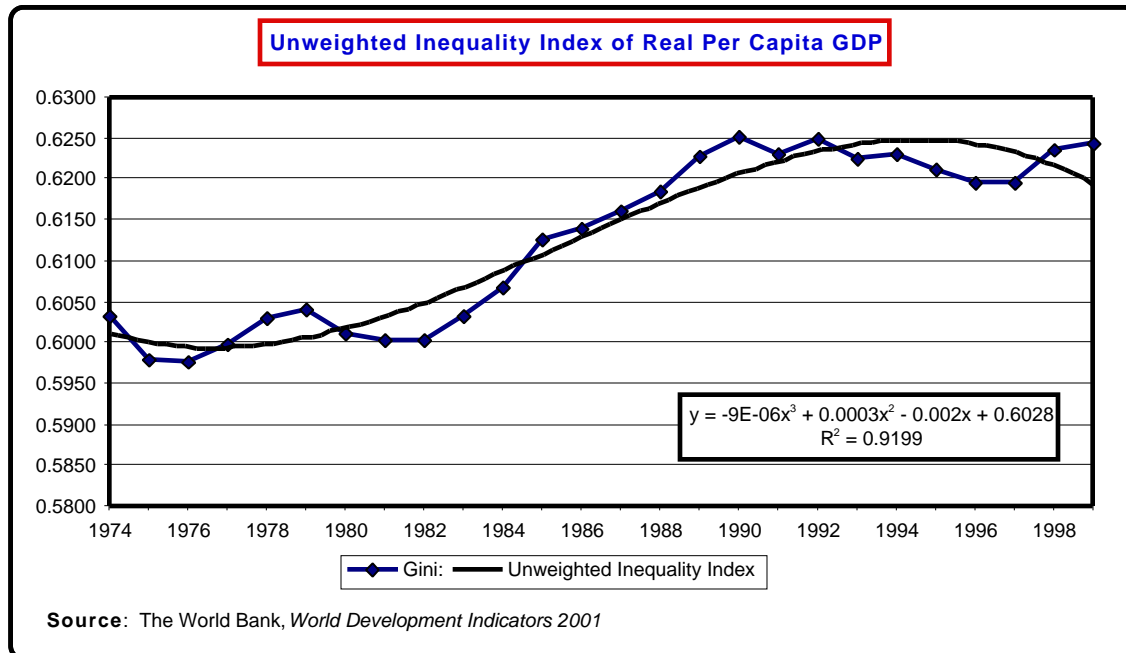
Figure 2



Our second output measure is the distribution of income across regions. If we take simple means, we find that there has been an increase in global inequality as globalization has proceeded⁵. Much of the increase in inequality reflects more rapid rates

of growth in per capita GDP among high income countries as international trade dependence has increased rather than declines in per capita incomes in other regions.

Figure 3



We note finally that while per capita GDP only reflects one dimension of development, we could make comparable findings with other benchmarks such as the Index of Human Development, or as a proxy, the evolution of life expectancy, as is shown in Table 5. Overall, there has been an increase in global life expectancy, reflecting investments in health, education, and in physical capital. However, the gap between the well-performing developing countries of East Asia and those in Sub-Saharan Africa has been widening. In fact, Sub-Saharan Africa is the only region of the world to experience a decline in life expectancy in recent years, due partly to the spread of HIV-AIDS, and partly to the kinds of resource mis-allocations to which we have already alluded.

Table 5
Evolution of Life Expectancy

	1960	1965	1970	1975	1980	1985	1990	1995	2000	Annual Rate of Change, 1960-1999
High income OECD	69.6	70.6	71.4	72.8	74.2	75.4	76.3	77.0	77.6	0.28%
East Asia & Pacific	39.2	53.4	59.3	62.2	64.5	66.3	67.4	68.2	68.6	1.42%
Sub-Saharan Africa	40.2	42.2	44.2	46.0	47.6	49.3	49.9	49.2	47.9	0.38%
Latin America & Caribbean	56.4	58.6	60.6	62.7	64.7	66.5	67.9	69.1	69.4	0.53%
Middle East & North Africa	47.4	50.0	52.8	55.8	58.6	62.0	64.6	66.5	67.2	0.90%
World	50.3	55.9	58.7	60.8	62.7	64.3	65.4	66.1	66.3	0.70%

Source: The World Bank: *World Development Indicators 2001*

Comparisons of East Asian and African Economies

While globalization offers the prospect for rising levels of per capita income, individual countries have adopted the standard set of policy prescriptions in varying degrees. Since East Asian countries have enjoyed remarkable increases in per capita income while countries in Sub-Saharan Africa have had some of the lowest rates of economic performance, we set out here a framework to explain these differences within the context of globalization. Our choice of variables is influenced by some of the standard references in the literature on globalization.

We use a pooled sample of cross-sectional and time series data for a sample of 11 East Asian countries and 40 African countries⁶. We use 1980, 1985, 1990, 1995, and 1999 as our five-year time periods, and draw on a data set that combines World Bank indicators with the Index of Economic Freedom compiled by the *Wall Street Journal*, along with indicators from the Economist Intelligence Unit and related sources⁷. Our sample contains 60 observations for Asian countries and 150 for African countries. Sample means and variable definitions are given below in Table 5, with first-order correlations given in Table 6.

Table 5
Variable Unweighted Means

	1980		1985		1990		1995		1999	
	Asia	Africa	Asia	Africa	Asia	Africa	Asia	Africa	Asia	Africa
RPCGDP	\$3,174	\$787	\$3,678	\$798	\$4,654	\$815	\$5,325	\$816	\$5,583	\$857
TRDEF	20.91	37.41	15.75	23.34	18.25	22.77	24.34	20.03	22.06	19.57
GNS	22.76	11.19	22.47	11.38	26.41	12.18	26.95	12.32	27.78	11.38
ICOR	12.26	27.96	13.42	25.05	7.69	30.05	7.74	29.58	10.00	32.81
FDIGDP	1.60	4.00	1.49	5.62	3.58	3.11	8.01	6.24	7.07	9.42
CURCON	5.24	3.86	5.35	3.91	5.40	3.93	7.35	5.13	7.54	5.67
AIDGNI	9.72	57.94	8.77	71.25	12.09	81.71	5.73	84.68	5.30	50.49
IRSPRD	2.45	10.55	8.07	16.67	7.50	21.32	7.82	25.05	5.66	20.31
JUDIND	4.98	4.35	4.17	4.04	3.89	4.24	6.28	5.33	5.87	5.31
CONREF	4.55	5.24	4.56	5.27	4.02	5.13	2.25	4.60	1.89	4.35
CONFRSK	4.80	5.98	4.63	6.10	4.41	6.12	2.21	5.43	1.92	5.47
BKLAR	9.32	14.90	9.07	19.80	9.01	19.71	9.70	13.53	9.66	8.55
PROPR	2.24	1.69	2.24	1.69	2.25	1.70	2.24	1.70	2.29	1.65
CCRISK	30.22	43.53	30.42	43.73	29.72	43.31	30.23	44.06	21.91	35.54
FISCBURD	13.83	18.46	13.51	18.32	14.08	17.82	14.5	16.69	13.43	16.83
REALINRAT	2.23	-4.05	8.37	1.29	5.58	5.46	5.04	4.92	7.5	13.09
DEBTSRAT	14.13	14.53	21.05	24.74	18.31	21.61	13.8	21.23	14.73	16.09
MILBURD	3.84	2.98	3.71	2.89	3.51	3.04	2.86	2.31	2.78	2.28

RPCGDP Real per capita GDP, measured in \$U.S. 1995 at official rates of exchange.

TRDEF Trade dependency, measured as the share of GDP in international trade

GNS Gross National Saving, all sources, as a percentage of GDP

ICOR Incremental capital output ratio

FDIGDP Foreign Direct Investment as a share of GDP

CURCON Index of currency convertibility, scaled from 1=lowest to 10=highest

AIDGNI The ratio of international official aid as a percentage of gross national income

IRSPRD Interest rate spread, measured as the difference between the domestic rate and LIBOR

JUDIND Index of judicial independence, scaled from 1=lowest to 10=highest

CONREF Index of contract repudiation risk, scaled from 1=lowest to 10=highest

CONFRSK Index of asset confiscation risk, scaled from 1=lowest to 10=highest

BKLAR Bank liquid reserves to asset ratio

PROPR Index of property rights, scaled from 1=lowest to 5=highest

CCRISK Country composite political, economic, and financial risk, scaled from 1=lowest to 100=highest

FISCBURD Fiscal burden, measured as the ratio of tax revenues to GDP

REALINRAT Real interest rate, based on local rates of inflation

DEBTSRAT Debt service ratio, measured as the ratio of debt service payments to exports of goods and services

MILBURD Military burden, measured as the percent of GDP devoted to military expenditures

The World Bank, *World Development Indicators 2001*

The World Bank, *World Development Indicators 2001*

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The World Bank, *World Development Indicators 2001*

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The Wall Street Journal, Index of Economic Freedom 2002

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ICRG and the World Bank

The World Bank, *World Development Indicators 2001*

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The World Bank, *World Development Indicators 2001*

Table 6
Asia Sample First-Order Correlations

	RPCGDP	TRDEP	GNS	ICOR	FDIGDP	CURCON	AIDGNI	IRSPRD	JUDIND	CONREP	CONFRSK	BKLAR	PROPRT	CCRISK	FISCBURD	REALINRAT	DEBTSRAT	MILBURD	
RPCGDP	1.0000																		
TRDEP	0.1401	1.0000																	
GNS	0.3694	0.3705	1.0000																
ICOR	-0.2316	-0.0473	-0.5015	1.0000															
FDIGDP	-0.0869	0.6878	0.2136	0.1766	1.0000														
CURCON	0.4833	0.6571	0.5595	-0.4370	0.4618	1.0000													
AIDGNI	-0.2871	-0.2990	-0.4706	0.8195	-0.0444	-0.4159	1.0000												
IRSPRD	-0.3020	-0.2365	-0.6619	-0.0405	-0.2462	-0.1256	-0.0243	1.0000											
JUDIND	0.5351	0.3200	0.4396	-0.5235	0.1536	0.3603	-0.5404	-0.4718	1.0000										
CONREP	-0.4705	-0.7014	-0.4879	0.4640	-0.5105	-0.6292	0.5944	0.3941	-0.8351	1.0000									
CONFRSK	-0.5630	-0.6124	-0.6933	0.3076	-0.4204	-0.5512	0.5211	0.6216	-0.8231	0.8335	1.0000								
BKLAR	-0.5191	-0.3179	-0.1636	0.1271	-0.1580	-0.3101	0.1146	0.4690	-0.4445	0.5980	0.3893	1.0000							
PROPRT	0.5978	0.5844	0.3028	-0.4293	0.2394	0.6031	-0.4529	-0.3402	0.6927	-0.8575	-0.6537	-0.7694	1.0000						
CCRISK	-0.6107	-0.3474	-0.4116	0.3765	-0.1264	-0.4062	0.6508	0.3767	-0.8444	0.7331	0.8460	0.3530	-0.6044	1.0000					
FISCBURD	-0.1006	0.6397	-0.1710	0.0177	0.5804	0.4451	-0.1505	0.5255	-0.1846	-0.2579	0.0154	0.0994	0.2021	0.0978	1.0000				
REALINRAT	-0.0346	-0.1601	-0.2398	-0.2695	-0.0775	0.2495	-0.2793	0.7233	-0.2651	0.2150	0.2924	0.4582	-0.3624	0.0597	0.3730	1.0000			
DEBTSRAT	-0.5275	-0.2436	-0.2366	0.3443	-0.3302	-0.3141	0.3712	0.0602	-0.4892	0.4073	0.4750	-0.0659	-0.1211	0.4661	-0.1592	-0.3224	1.0000		
MILBURD	-0.3906	-0.0691	-0.3871	-0.2494	0.0394	-0.2643	-0.1103	0.5451	-0.1912	0.1532	0.4130	0.2196	-0.2516	0.4306	0.2604	0.3098	-0.1695	1.0000	

Africa Sample First-Order Correlations

	RPCGDP	TRDEP	GNS	ICOR	FDIGDP	CURCON	AIDGNI	IRSPRD	JUDIND	CONREP	CONFRSK	BKLAR	PROPRT	CCRISK	FISCBURD	REALINRAT	DEBTSRAT	MILBURD	
RPCGDP	1.0000																		
TRDEP	0.1039	1.0000																	
GNS	0.3674	0.3317	1.0000																
ICOR	-0.2790	0.0850	-0.3766	1.0000															
FDIGDP	-0.0895	0.0392	0.0094	0.0263	1.0000														
CURCON	0.4176	0.1102	0.4154	-0.2303	0.0289	1.0000													
AIDGNI	-0.2342	-0.2438	-0.5039	0.3111	0.1367	-0.2698	1.0000												
IRSPRD	-0.0875	-0.1617	-0.1923	-0.0069	-0.0290	-0.0843	0.0279	1.0000											
JUDIND	0.3072	0.1619	0.2849	-0.0521	0.1368	0.2891	-0.0886	-0.2512	1.0000										
CONREP	-0.4271	-0.1356	-0.5476	0.4083	0.0034	-0.5760	0.4468	0.1899	-0.4746	1.0000									
CONFRSK	-0.3846	-0.1391	-0.5828	0.4255	-0.0143	-0.5279	0.3769	0.2240	-0.4132	0.8467	1.0000								
BKLAR	-0.1620	-0.1929	-0.2260	0.0619	-0.0391	-0.2732	0.2219	0.0206	-0.2942	0.2546	0.1681	1.0000							
PROPRT	0.5366	0.1517	0.3553	-0.3856	-0.0399	0.4405	-0.1832	-0.1807	0.2565	-0.4784	-0.4423	-0.0215	1.0000						
CCRISK	-0.5026	-0.1455	-0.5762	0.4274	-0.0518	-0.4740	0.4249	0.2342	-0.4378	0.6928	0.6787	0.2726	-0.4684	1.0000					
FISCBURD	0.0070	0.1230	-0.0077	0.2228	-0.0703	0.0055	-0.0889	-0.1001	-0.1718	0.0582	0.0885	0.1936	-0.0977	0.2762	1.0000				
REALINRAT	0.0020	-0.0047	0.0462	0.0784	0.0421	0.2657	0.0165	-0.5579	0.2205	-0.1761	-0.1189	-0.2453	0.0303	-0.1233	0.0466	1.0000			
DEBTSRAT	-0.1981	-0.0736	-0.1943	0.1428	0.0339	-0.0943	0.3700	0.0216	-0.0624	0.1876	0.0741	0.0327	-0.0264	0.1156	-0.0325	0.0220	1.0000		
MILBURD	-0.1281	0.0339	-0.0142	0.0917	-0.1171	-0.1349	-0.0172	-0.0480	-0.3699	0.2103	0.1723	-0.1123	-0.0935	0.1611	0.1337	-0.0510	-0.0462	1.0000	

Africa-Asia Joint Sample First-Order Correlations

	RPCGDP	TRDEP	GNS	ICOR	FDIGDP	CURCON	AIDGNI	IRSPRD	JUDIND	CONREP	CONFRSK	BKLAR	PROPRT	CCRISK	FISCBURD	REALINRAT	DEBTSRAT	MILBURD	
RPCGDP	1.0000																		
TRDEP	0.1030	1.0000																	
GNS	0.3669	0.3243	1.0000																
ICOR	-0.2835	0.0845	-0.3993	1.0000															
FDIGDP	-0.0925	0.0544	-0.0048	0.0482	1.0000														
CURCON	0.4251	0.1383	0.4156	-0.2385	0.0367	1.0000													
AIDGNI	-0.2329	-0.2345	-0.6008	0.3371	0.1514	-0.2618	1.0000												
IRSPRD	-0.0913	-0.1590	-0.2034	0.0070	-0.0212	-0.0832	0.0400	1.0000											
JUDIND	0.3306	0.1677	0.2891	-0.0776	0.1305	0.2970	-0.0954	-0.2462	1.0000										
CONREP	-0.4233	-0.1514	-0.5375	0.4006	-0.0054	-0.5700	0.4368	0.1692	-0.4877	1.0000									
CONFRSK	-0.3973	-0.1555	-0.5841	0.4199	-0.0184	-0.5268	0.3739	0.2270	-0.4412	0.8437	1.0000								
BKLAR	-0.1685	-0.1238	-0.2320	0.0743	-0.0324	-0.2656	0.2295	0.0270	-0.2894	0.2565	0.1720	1.0000							
PROPRT	0.5448	0.1897	0.3649	-0.3961	-0.0426	0.4576	-0.1980	-0.1832	0.3012	-0.4883	-0.4567	-0.0461	1.0000						
CCRISK	-0.5114	-0.1475	-0.5788	0.4413	-0.0354	-0.4647	0.4359	0.2392	-0.4658	0.6624	0.6851	0.2767	-0.4872	1.0000					
FISCBURD	0.0005	0.1325	-0.0184	0.2243	-0.0583	0.0189	-0.0787	-0.0929	-0.1690	0.0522	0.0890	0.1956	-0.0908	0.2730	1.0000				
REALINRAT	-0.0018	-0.0354	0.0337	0.0802	0.0455	0.2557	0.0228	-0.5461	0.1989	-0.1695	-0.1069	-0.2364	0.0119	-0.1088	0.0519	1.0000			
DEBTSRAT	-0.2092	-0.0748	-0.2036	0.1574	0.0373	-0.1021	0.3754	0.0269	-0.0781	0.1905	0.0868	0.0367	-0.0378	0.1341	-0.0302	0.0215	1.0000		
MILBURD	-0.1427	0.0253	-0.0106	0.0479	-0.1222	-0.1427	-0.0403	-0.0467	-0.3473	0.2049	0.1810	0.1019	-0.0914	0.1564	0.1273	-0.0452	-0.0583	1.0000	

A simple way to explain economic growth is in terms of a country's rate of saving and its incremental capital-output ratio. Since we are using a pooled sample based on observations for 1980, 1985, 1990, 1995, and 1999, we use OLS estimates for the following equation:

$$(1.) \text{RPCGDP} = f(\text{GNS}, \text{ICOR})$$

For our sample period, Table 7 confirms standard theory, namely that higher rates of saving lead to higher levels of real per capita income, as do lower capital-output ratios.

Table 7
Simple Growth Model⁸

	Joint	Asia	Africa
Intercept	921.21	-4492.49	644.88
GNS	157.66 (4.34)	394.33 (2.29)	77.90 (10.22)
ICOR	-63.86 (-2.34)	-96.90 (-0.78)	-25.47 (-4.31)
n	210	60.00	150.00
Adjusted R ²	0.1488	0.0943	0.4537
F	19.27	4.07	62.86
DW	1.92	2.08	2.02
Jarque-Bera	9386.95	164.47	76.01

We now postulate a standard globalization model, namely, that per capita income is a direct function of savings, trade dependence, foreign direct investment, and property rights, and depends negatively on the capital-output ratio, the fiscal burden, the debt service ratio, the international aid ratio, and the country composite risk index. Our estimating equation is:

$$(2.) \text{RPCGDP} = f(\text{GNS}, \text{ICOR}, \text{TRDEP}, \text{FDIGDP}, \text{FISCBURD}, \text{DEBTSRAT}, \text{AIDGNI}, \text{CCRISK}, \text{PROPRT}).$$

Regression results are shown in Table 8 for the pooled and dis-aggregated regional samples. For our pooled sample, we find several contradictions with established theory: the ICOR is positive, trade dependence is negative as is FDI, while the fiscal burden and aid are positive. When dis-aggregated by regional sub-sample, the capital-output ratio carries the expected negative sign but is statistically insignificant for Asian countries. Moreover, trade dependence and FDI still have a negative influence on real per capita GDP for both regions, and only in the African sample does aid carry the expected negative coefficient, and which is statistically insignificant. However, we find that property rights and country composite risk are the most important determinants of real per capita income, which suggests that the sequencing of policy measures is critical if globalization is to succeed. We thus reformulate our model in terms of policy sequence variables, i.e., that some of the variables in the standard globalization model are important determinants of given exogenous variables rather than operating directly on the real per capita GDP endogenous variable.

Table 8
Standard Globalization Model

	Joint	Asia	Africa
Intercept	2677.56	-874.73	2056.80
GNS	40.68 (0.99)	167.20 (1.12)	46.37 (5.39)
ICOR	9.30 (0.36)	-54.34 (-0.63)	-17.16 (-3.02)
TRDEP	-8.94 (-0.67)	-247.99 (-3.89)	4.94 (1.89)
FDIGDP	-60.21 (-1.68)	-1078.93 (-0.95)	-12.71 (-1.80)
FISCBURD	57.58 (2.32)	355.18 (1.58)	14.70 (3.23)
DEBTSRAT	-(64.04) (-3.02)	-(402.53) (-4.50)	-(3.82) (-0.94)
AIDGNI	(11.89) (1.64)	(188.83) (1.85)	-(0.54) (-0.40)
CCRISK	-(169.23) (-4.82)	-(232.27) (-2.58)	-(44.89) (-5.74)
PROPRT	(2675.28) (5.87)	(6170.24) (5.56)	(240.73) (2.08)
n	210	60.00	150.00
Adjusted R ²	0.403529	0.6695	0.6112
F	16.71	14.28	24.45
DW	2.06	1.80	2.25
Jarque-Bera	3755.00	2.39	49.67

To examine how policy sequences play a role in globalization, we next analyze key determinants of gross national savings, results for which are shown in Table 9. Our estimating equation is:

$$(3.) \text{GNS} = f(\text{AIDGNI}, \text{CCRISK}, \text{TRDEP}, \text{CURCON}, \text{IRSPRD})$$

Here we find that increased aid reduces the national saving rate, while trade dependency increases it, thus providing an indirect contribution to real per capita GDP. While statistically insignificant for Asia, reductions in country composite risk raise a country's national saving rate, as does an increase in currency convertibility. Reductions in interest rate spreads further raise a country's national savings rate, as gross rates of return across regions tend to equalize.

Table 9
Gross National Savings Equations

	Joint	Asia	Africa
Intercept	24.66	25.96	19.29
AIDGNI	-0.07 -(7.23)	-0.26 -(2.94)	-0.05 -(4.55)
CCRISK	-0.26 -(4.99)	0.01 (0.10)	-0.19 -(2.75)
TRDEP	0.07 (3.12)	0.03 (0.56)	0.10 (4.24)
CURCON	0.69 (2.70)	0.54 (1.78)	0.39 (0.95)
IRSPRD	-0.02 -(1.60)	-0.41 -(3.74)	-(0.01) -(0.92)

n	210	60.00	150.00
Adjusted R ²	0.5244	0.5274	0.3725
F	47.09	14.17	18.69
DW	1.72	1.85	1.77
Jarque-Bera	1.58	1.51	2.60

We now examine determinants of country capital-output ratios. Our estimating equation is:

$$(4.) \text{ICOR} = f(\text{AIDGNI}, \text{TRDEP}, \text{PROPRT}, \text{CCRISK}, \text{FISCBURD})$$

Results of equation 4. are given in Table 10. Here we find that increases in property rights lower the capital-output ratio, while increases in aid, trade dependency, risk, and the fiscal burden ratio increase the ratio. The interesting exception in this is trade dependency. Ordinarily one would expect that an increase in trade dependency would lower a country's capital-output ratio. Since the coefficients in the sub-samples are not statistically significant, we do not treat this finding as important.

Table 10
ICOR Equations

	Joint	Asia	Africa
Intercept	16.04	3.68	31.61
AIDGNI	0.06 (3.92)	0.48 (3.48)	0.02 (1.01)
TRDEP	0.11 (3.33)	0.05 (0.60)	0.04 (1.17)
PROPRT	-4.96 (-4.16)	-1.86 (-1.14)	-6.29 (-3.90)
CCRISK	0.22 (2.42)	-0.11 (-0.85)	0.10 (0.92)
FISCBURD	0.15 (2.31)	0.64 (2.09)	(0.09) (1.38)
n	210	60.00	150.00
Adjusted R ²	0.3106	0.2466	0.1309
F	19.83	4.86	5.49
DW	1.48	1.91	1.47
Jarque-Bera	168.55	565.48	108.59

In each of the preceding regressions country composite risk is a statistically significant and economically substantial determinant of economic growth variables. Since this index is a synthetic composite, we examine its determinants. We expect increases in confiscation risk (CONFRSK) the fiscal burden ratio (FISCBURD), international aid (AIDGNI), and the interest rate spread (IRSPRD) to increase country composite risk. In turn, we expect increases in judicial independence, property rights, and currency convertibility to lead to reductions in country composite risk. Our estimating equation is given as:

$$(5.) \text{CCRISK} = f(\text{CONFRSK}, \text{FISCBURD}, \text{AIDGNI}, \text{AIDGNI}, \text{JUDIND}, \text{PROPRT}, \text{IRSPRD}, \text{CURCON}).$$

Results of regressions of these variables on country composite risk are reported in Table 11.

Table 11
Country Composite Risk Equations

	Joint	Asia	Africa
Intercept	31.20	21.86	34.44
CONFRSK	2.01 (6.38)	2.15 (3.01)	1.71 (4.73)
FISCBURD	0.21 (5.22)	-0.17 (-0.57)	0.21 (5.16)
AIDGNI	0.05 (5.21)	0.30 (2.07)	0.04 (4.03)
JUDIND	-0.75 (-2.90)	-0.52 (-0.89)	-0.78 (-2.68)
PROPRT	-2.21 (-2.82)	-3.06 (-1.91)	-(0.60) (-0.58)
IRSPRD	(0.03) (2.12)	(0.32) (1.56)	(0.03) (2.19)
CURCON	-(0.49) (-1.71)	(1.02) (1.83)	-(1.02) (-2.64)
n	210	60.00	150.00
Adjusted R ²	0.6161	0.5672	0.5099
F	48.92	12.05	23.14
DW	1.75	2.15	1.50
Jarque-Bera	4.80	12.99	3.18

With the exception of currency convertibility and the fiscal burden ratio for Asia, we find that variables conform to their expected signs. Property rights remain as the economically most substantial variable, followed by confiscation risk.

In our capital-output ratio and risk equations, property rights are statistically significant and economically substantial. While property rights are not readily reducible to a simple quantitative index, we examine some of the key determinants for our joint and separate sub-samples, results of which are reported in Table 12. Our estimating equation is given as:

$$(6.) \text{PROPRT} = f(\text{FISCBURD}, \text{GDIGDP}, \text{MILBURD}, \text{REALINRAT}, \text{CONREP}, \text{AIDGNI}, \text{CONFRSK}, \text{JUDIND})$$

Results for Asia are more complete than those for Africa. They underline the importance of contract repudiation risk (CONREP) and judicial independence (JUDIND) as important determinants. Increases in the fiscal burden may reflect differences in budgetary priorities, including an independent judiciary, which contribute to Asian property rights, where this does not hold true for African countries. Increases in FDI reduce property rights in Asia, which may explain the tendency for Asian countries to

resist the use of FDI as a means of raising per capita GDP, but this depends as much as anything on how property rights are upheld in the presence of increased FDI. Reductions in the military burden also increase property rights, although this may not be universally true. Reductions in real interest rates and in international aid tend to increase property rights, reflecting expanded emphasis on investment at the local level. The only anomaly is the positive sign of confiscation risk with property rights in Asia, which may be due to sampling error.

Table 12
Property Rights

	Joint	Asia	Africa
Intercept	2.67	2.05	2.40
FISCBURD		0.09 (4.16)	-0.01 (-2.00)
FDIGDP		-0.04 (-2.92)	
MILBURD		-0.15 (-2.81)	
REALINRAT		-0.05 (-2.62)	
CONREP	-0.15 (-2.82)	-0.27 (-2.55)	
AIDGNI		-(0.03) (-2.46)	
CONFRSK	-(0.05) (-1.30)	(0.19) (2.13)	-(0.11) (-4.28)
JUDIND	(0.03) (1.11)	(0.08) (1.76)	(0.00) (0.13)
n	210	60.00	150.00
Adjusted R ²	0.2391	0.5651	0.1355
F	22.89	10.58	8.78
DW	1.34	2.10	1.64
Jarque-Bera	5.53	1.57	5.10

Conclusion

While globalization offers the promise of increases in real per capita income, Asian and African countries have not adopted all of the standard policy prescriptions. While they also have not reaped all of the benefits of globalization, there are several conclusions regarding the choice of globalization strategy and the sequence of policy adoptions. We summarize them here.

1. Growth in real per capita income depends in the first instance on a country's rate of saving and its capital-output ratio;

2. Globalization through international trade in both outputs and inputs further adds to economic growth in real per capita income, but in which certain preconditions are necessary if it is to be effective;
3. Since risk and property rights dominate savings rates and capital output ratios in economic growth, measures to reduce risk and strengthen property rights are a necessary condition for successful globalization;
4. Measures to reduce risk are more important than international aid and trade dependence in increasing a country's rate of saving;
5. Measures to strengthen property rights enhance economic efficiency through reductions in capital-output ratios while aid, trade and a country's fiscal burden lead to losses in economic efficiency;
6. Measures to strengthen property rights do more to reduce country composite risk than currency convertibility and judicial independence, while confiscation risk, international aid, interest rate spreads, and the fiscal burden tend to increase the level of risk;
7. African countries tend to have weaker levels of property rights than Asian countries, and have moved to reduce trade dependence from above to below world average levels, thus reducing prospects for higher levels of per capita income;
8. African countries have not succeeded in raising significantly levels of gross national saving while Asian countries have done so, thus widening rates of growth in per capita income;
9. African countries have higher than Asian average capital-output ratios, and they have tended to increase over time, thus reducing prospective rates of economic growth;
10. Confiscation and contract repudiation rate risks have on average been much higher in Africa than in Asia, thus raising the gap between country composite risk indices between Africa and Asia.

While there is no magic key to economic growth, it is clear that institutional variables such as property rights that add to country composite risk have a significant impact on a country's prospective rate of economic growth. For Asian countries, strengthening property rights has contributed to its relative success. Recent initiatives in Africa such as the New Economic Partnership for African Development suggest that governance has been recognized as an important precondition for sustainable growth⁹. The challenge ahead is how to adopt measures for good governance that raise the level of economic performance in Africa to rates comparable to those in East Asia.

¹ See, for example, Robert J. Barro (1997), *Determinants of Economic Growth: A Cross-Country Empirical Study* (Cambridge, Mass.: MIT Press); Michael Porter (1990), *The Competitive Advantage of Nations* (New York: The Free Press); Bernard Hoekman and Michel Kostecki (1999), *The Political Economy of the World Trading System: From GATT to WTO* (New York: Oxford University Press); and various World Bank reports, notably, *World Development Report 1997 The State in a Changing World* (New York: Oxford University Press for the World Bank); *World Development Report 1998/1999: Knowledge for Development* (New York: Oxford University Press for the World Bank); *Securing Our Future in a Global Economy* (Washington, D.C.: The World Bank, 2000); *Global Economic Prospects and the Developing Countries* (Washington, D.C.: The World Bank, 2000); and *World Development Report 2002: Building Institutions for Markets* (New York: Oxford University Press for the World Bank).

² Joseph Stiglitz (2002). *Development and Its Discontents* (New York: W.W. Norton); Easterly, William (2001). *The Elusive Quest for Economic Growth* (Cambridge, Mass.: MIT Press).

³ The World Bank (2000), *Can Africa Claim the 21st Century* (Washington, D.C.: The World Bank); Morisset, Jacques (2000), "Foreign Direct Investment in Africa: Policies Also Matter." Background paper, the World Bank (Washington, D.C.: the World Bank); George B.N. Ayittey (1998), *Africa in Chaos* (New York: St. Martin's Press); William Easterly and Ross Levine (1997), "Africa's Growth Tragedy: Policies and Ethnic Divisions." *Quarterly Journal of Economics* 112:4 (November): 1203-1250.; Robert Bates, (1981). *Markets and States in Tropical Africa: The Political Basis of Agricultural Policies* (Berkeley, Cal.: University of California Press)

⁴ For an examination of risk and the role of government, see Phillip LeBel, "Risk and the Choice of Optimal State-Market Relations" (2001), <http://alpha.montclair.edu/~lebelp/StateMarketRiskFinal.pdf>

⁵ If we use a population weighted average, however, there is a reduction in inequality of per capita GDP. This is not often noted in official comparisons, but is actually a more accurate measure of the impact of globalization on the distribution of income.

⁶ Asian countries used are: Bangladesh, China, India, Indonesia, Japan, Republic of Korea, Malaysia, Pakistan, Philippines, Sri Lanka, Thailand, and Vietnam. African countries used are: Benin, Botswana, Burkina Faso, Cameroon, Central African Republic, Chad, Democratic Republic of Congo (ex-Zaire), Republic of Congo, Côte d'Ivoire, Ethiopia, Gabon, Ghana, Guinea, Kenya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Niger, Nigeria, Senegal, South Africa, Sudan, Tanzania, Togo, Uganda, Zambia, and Zimbabwe. These samples cover a wide range of countries and no attempt has been made to separate outliers such as Japan and South Africa, or Asian "tiger" economies from East Asia for the analysis.

⁷ The Wall Street Journal's *Index of Economic Freedom* draws on its own direct estimates as well as from such sources as the Economist Intelligence Unit Limited, *Country Profiles*, various years, Ernst and Young's *Worldwide Corporate Tax Guide*, Freedom House's *Freedom in the World: The Annual Survey of Political Rights and Civil Liberties*, Transparency International's *The Corruption Perceptions Index*, various issues, the UNDP *Human Development Report*, various issues, the U.S. Department of State, *Country Commercial Guides*, along with data from the International Monetary Fund.

⁸ T-statistics are reported in parentheses for all tables.

⁹ See <http://www.NEPAD.gov>, for a list of references and source materials.

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