

BY JAMES R. BARTH, SUSANNE TRIMBATH AND GLENN YAGO

On the eve of

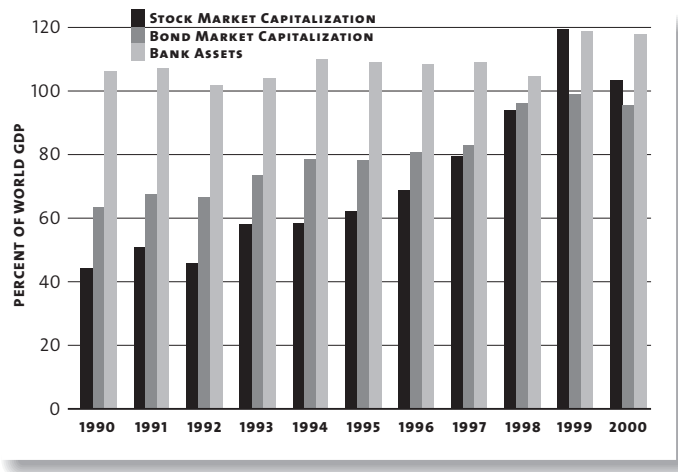
World War II, there were about 70 countries in the world. As of 2001, the United States recognized 191 independent states, and their political and economic diversity are mirrored by their diversity in means of channeling savings to investment. A main focus of our research in the capital studies group at the Milken Institute is measuring that diversity and assessing its impact – especially for emerging market economies trying to structure their financial systems in ways that promote economic growth and stability. Selected results from our research illustrate some of the progress we have made to date.

THE WORLD FINANCIAL SYSTEM IS UNDERGOING SIGNIFICANT CHANGES

There has been spectacular growth in the magnitude as well as the composition of financial assets relative to world GDP. Total financial assets now equal nearly 320 percent of GDP – up from about

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CHANGING SIZE AND STRUCTURE OF WORLD FINANCIAL SYSTEM



210 percent in 1990. In that time stock market capitalization has reached 100 percent of world GDP, up from only about 40 percent in 1990. Bond market capitalization is also about 100 percent of world GDP, up from about 60 percent in 1990. By contrast, bank assets as a percent of world GDP have remained relatively flat, between 100 and 120 percent of world GDP.

Thus wealth is increasingly flowing into stocks and bonds, not into bank deposits. This, in turn, means that securities markets, not banks, are the major source of global capital. Indeed, while bank assets worldwide were equal to the combined value of equity and bond market capitalization in 1990, today bank assets are equal to only slightly more than one-half of securities markets capitalization.

FINANCIAL SYSTEMS DIFFER WIDELY AND THE DIFFERENCES DO MATTER

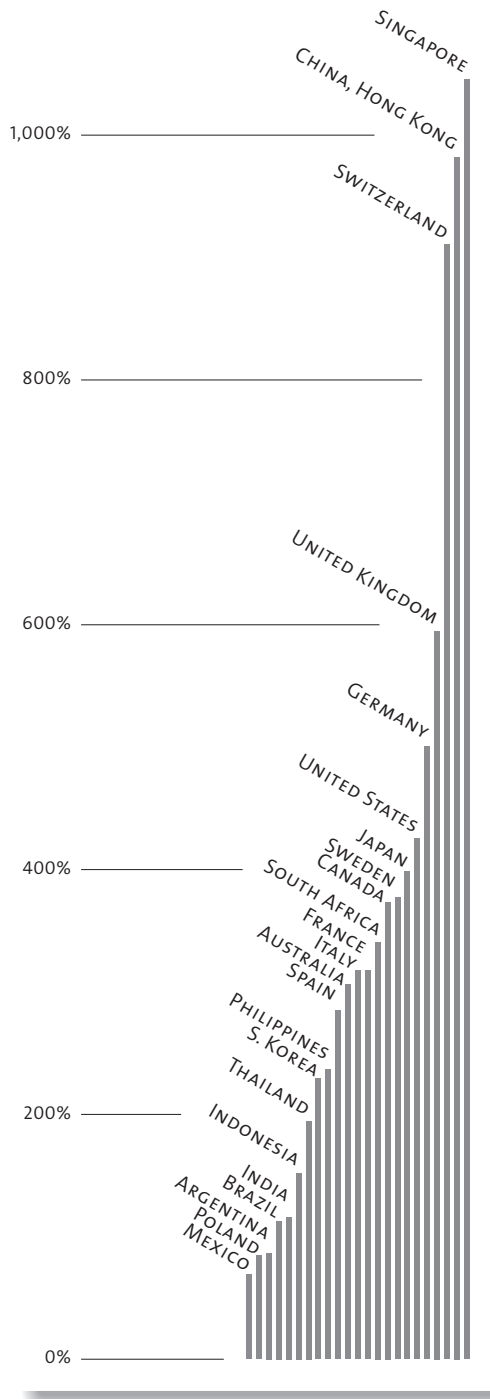
High-income countries (defined here by the World Bank categories) account for less than one-fifth of world population, but more than 90 percent of world financial assets. Meanwhile, low-income countries account for at least one-third of world population, but less than 1 percent of world financial assets. This disparity in the distribution of world financial assets is similar when disaggregated into stocks, bonds and bank assets.

Country by country the differences can be enormous, ranging from a financial system that is 70 percent the size of GDP in Mexico to one that is over 1,000 percent of GDP in Singapore.

Indeed, China's Hong Kong province, with only seven million people, has a financial system larger than either Brazil or India, which have a combined population of 1.2 billion. Germany's Deutsche Bank alone has more banking assets than the combined banking systems of Brazil, India and Indonesia.

One finds a positive and significant correlation between a country's GDP per capita and the size of its financial system as measured by the ratio of financial assets to GDP. Policymakers should therefore not impose

CROSS-COUNTRY DIFFERENCES IN BANK ASSETS, STOCKS AND BONDS AS A PERCENTAGE OF GDP



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impediments to the development of broad, deep and liquid systems.

Similar correlations hold for the individual components of financial systems – bank assets, stock market capitalization and bond market capitalization. Furthermore, banks and securities markets seem to function as complements, not substitutes, in promoting development: there is no meaningful correlation between economic development and the way financial assets are divided. Hence policymakers are advised to favor neither banks nor securities markets when promoting financial development.

By the same token, there are significant differences in financial structure among countries at the same stage of development. For example, bank assets represent over 50 percent of total financial assets in Germany, but less than 15 percent in the United States. The road to economic maturity is apparently diverse.

BANK REGULATORY AND SUPERVISORY PRACTICES DIFFER WIDELY AND DO MATTER

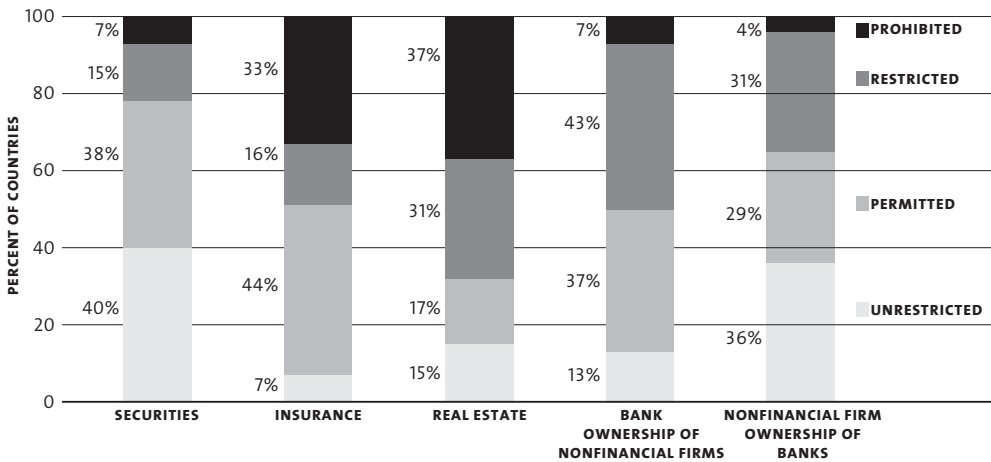
More than two-thirds of all countries have experienced a financial crisis in the past two decades. These crises have occurred in countries at all levels of income and in all parts of the world. Thus, it is understandable that policymakers feel pressure to identify the bank regulations and supervisory practices that work.

There are substantial differences among countries in the activities in which banks are permitted to engage, and the degree to which banking and commerce are allowed to mix. These government regulations are extremely important because they effectively define what a bank is.

Most countries are quite lenient with respect to letting banks engage in securities activities, but quite restrictive with respect to real estate. And few countries prohibit the integration of banking with commercial

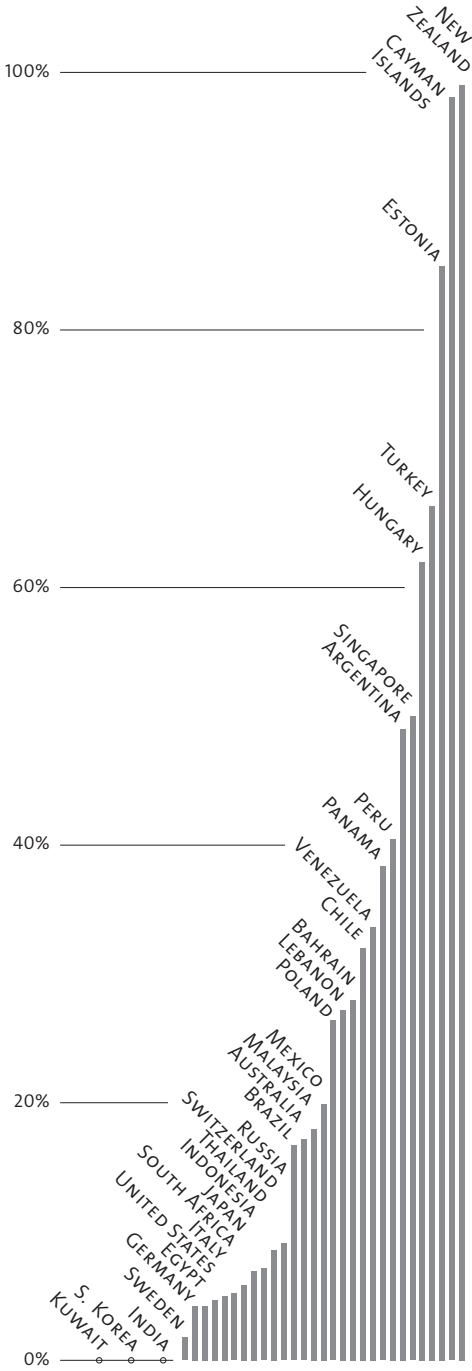
CROSS-COUNTRY DIFFERENCES IN RESTRICTIONS ON BANK ACTIVITIES AND MIXING OF BANKING AND COMMERCE

(PERCENTAGE DISTRIBUTION OF 107 COUNTRIES BY DEGREE OF RESTRICTIVENESS)



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PERCENT OF BANK ASSETS FOREIGN OWNED



percentage of bank assets that are government-owned. Moreover, government ownership is positively linked with bank instability. Such findings clearly indicate the benefit of privatizing banks – and why so many countries have made efforts to privatize their systems. More than \$40 billion in assets have been privatized in 25 countries since 1985. And nearly \$20 billion in assets have been privatized through cross-border mergers and acquisitions.

FOREIGN OWNERSHIP OF BANKS DIFFERS WIDELY AND DOES MATTER

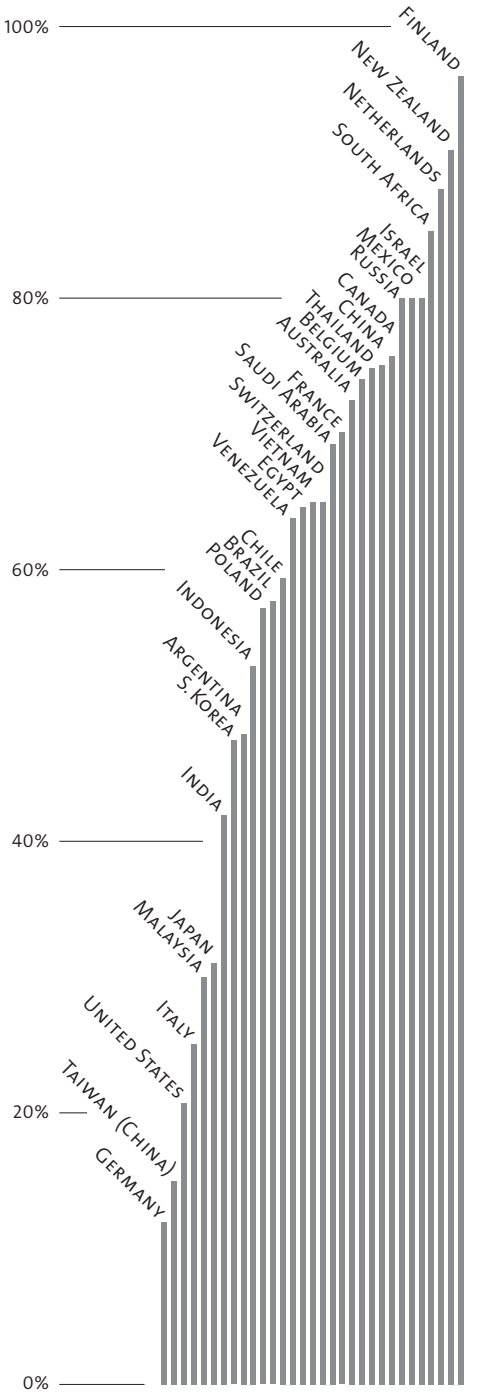
The foreign ownership of banks is quite low in mature economies like Germany, Japan and the United States. But it is even lower in poorer countries like India and Nigeria. At the other end of the spectrum, nearly all bank assets in New Zealand are foreign owned. The country has effectively outsourced its entire system – mainly to Australian banks. This raises the question of whether every country really needs a domestically owned banking system.

There is no significant correlation between economic development and the percentage of bank assets that are foreign-owned. However, the larger the number of foreign banks relative to the total number of banks, the greater the efficiency of national banking systems and the lower the likelihood of national banking crises. This suggests that foreign bank entry – not the share of foreign bank assets in total assets – tends to spur competition, which in turn makes systems less susceptible to crisis.

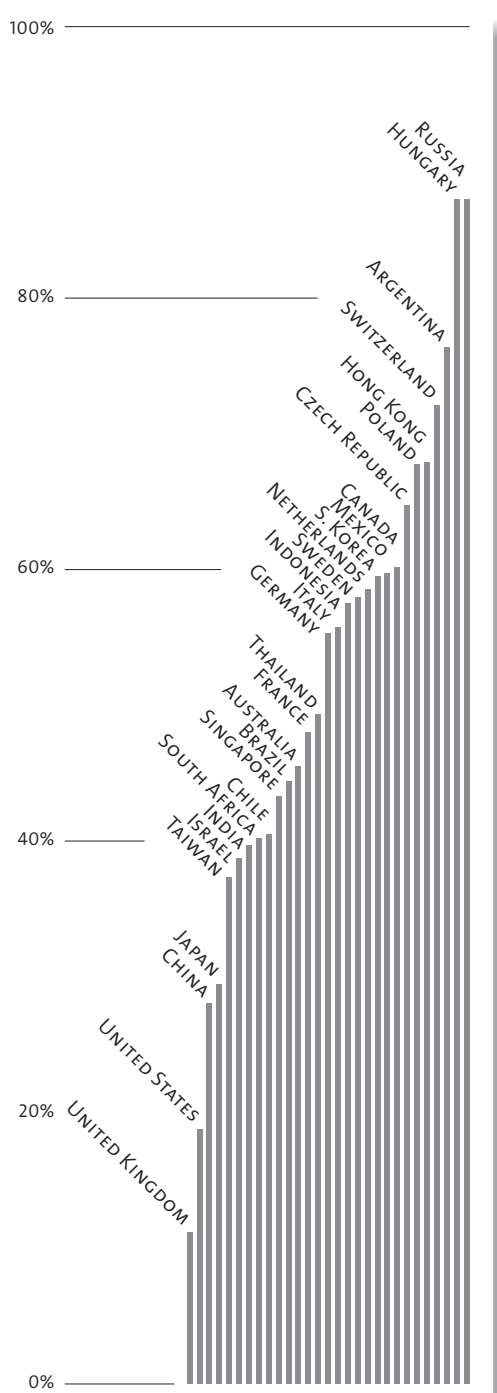
BANK (AND STOCK MARKET) CONCENTRATIONS DIFFER WIDELY AND DO (AND DON'T) MATTER

The portion of bank deposits held by the five largest institutions ranges from 12 percent in

PERCENT OF DEPOSITS OF FIVE LARGEST BANKS



PERCENT OF STOCK MARKET CAPITALIZATION OF 10 LARGEST COMPANIES



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2001 CAPITAL ACCESS INDEX (CAI)

COUNTRY	RANK	SCORE	CHANGE FROM 2000	COUNTRY	RANK	SCORE	CHANGE FROM 2000	COUNTRY	RANK	SCORE	CHANGE FROM 2000
United States	1	5.72	0.15	Thailand	29	4.56	0.27	Lithuania	57	3.83	0.06
United Kingdom	2	5.63	0.02	Italy	30	4.54	0.15	Brazil	58	3.77	0.17
Luxembourg	3	5.59	0.18	South Africa	31	4.47	0.11	Mexico	59	3.77	-0.09
Hong Kong	4	5.58	0.09	Mauritius	32	4.34	0.00	Indonesia	60	3.76	-0.12
Netherlands	5	5.49	0.11	Egypt	33	4.34	0.06	Pakistan	61	3.70	0.18
Switzerland	6	5.46	0.06	Hungary	34	4.34	0.06	Jamaica	62	3.62	0.14
Singapore	7	5.36	0.08	Argentina	35	4.31	-0.02	Honduras	63	3.59	0.16
Canada	8	5.25	0.17	Czech Republic	36	4.27	0.06	Moldova	64	3.56	0.00
New Zealand	9	5.14	-0.02	Slovenia	37	4.27	0.23	Ivory Coast	65	3.54	-0.04
Ireland	10	5.10	0.18	Croatia	38	4.24	0.07	Guatemala	66	3.52	0.09
Germany	11	5.09	0.15	Nicaragua	39	4.18	0.18	Colombia	67	3.51	0.02
Australia	12	5.08	0.08	Estonia	39	4.18	0.15	Romania	68	3.48	-0.06
Finland	13	5.04	0.19	Morocco	39	4.18	0.02	Turkey	69	3.48	-0.12
Sweden	14	5.02	0.09	China	42	4.17	-0.02	Costa Rica	70	3.46	-0.14
Taiwan	15	5.00	0.05	Namibia	43	4.16	0.00	Vietnam	71	3.42	0.16
Spain	16	4.90	0.10	Peru	44	4.10	-0.06	Armenia	72	3.40	0.20
Japan	17	4.85	0.22	Bolivia	45	4.08	0.22	Bulgaria	73	3.39	0.21
France	18	4.81	0.04	Jordan	46	4.04	0.04	Venezuela	74	3.33	0.07
Belgium	19	4.79	0.21	Philippines	47	4.04	-0.06	Paraguay	75	3.30	-0.07
Denmark	20	4.78	0.04	Tunisia	48	4.04	-0.15	Kazakhstan	76	3.29	0.18
Austria	21	4.77	0.04	Latvia	49	4.03	0.10	Zimbabwe	77	3.24	0.02
Israel	22	4.74	0.16	Botswana	50	4.00	-0.08	Ecuador	77	3.24	-0.23
Portugal	23	4.74	0.23	Slovak Republic	50	4.00	-0.09	Kenya	79	3.24	-0.03
Chile	24	4.72	-0.02	Nigeria	52	3.96	0.00	Uruguay	80	3.07	0.07
South Korea	25	4.64	0.19	El Salvador	53	3.89	-0.11	Ghana	81	2.92	-0.08
Malaysia	26	4.63	-0.14	Greece	54	3.87	0.21	Russia	82	2.85	0.19
Norway	27	4.62	-0.09	India	55	3.85	0.33	Ukraine	83	2.61	0.16
Iceland	28	4.56	0.14	Poland	56	3.84	0.04				

Germany to 100 percent in Botswana and Gambia. Similarly, the market capitalization of the 10 largest companies accounts for 19 percent of the total stock market cap in the United States, and 100 percent in Zambia.

The impact of concentration seems to be mixed. There is a negative correlation between economic development and bank concentration, but no significant correlation between economic development and stock market concentration.

COMPOSITION OF BOND MARKETS DIFFERS WIDELY AND DOES MATTER

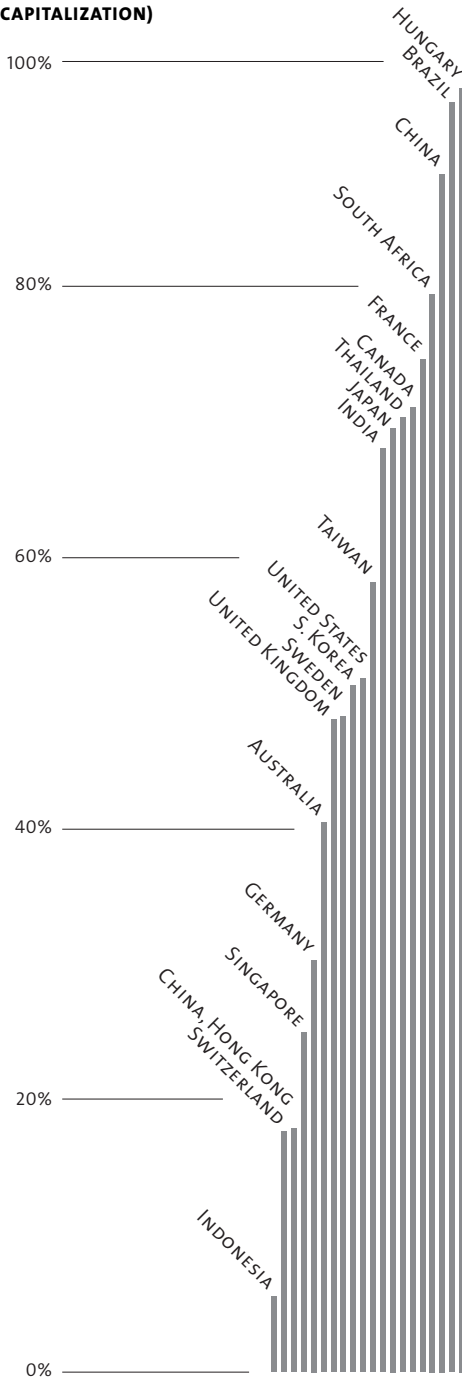
In Hong Kong and Singapore government bonds represent a small share of total bond

market capitalization. By contrast, government bonds dominate the markets of Brazil and Hungary. We found a negative correlation between economic development and the share of government bonds in total bond market capitalization. The lesson: policy-makers should take care to eliminate impediments to the development of private bond markets – including private venture capital markets.

NUMBER OF STOCK EXCHANGES AND CROSS-BORDER LISTINGS DIFFERS WIDELY

Equity exchanges facilitate the raising of capital by firms and enhance the liquidity of

GOVERNMENT VS. NONGOVERNMENT BONDS
(PERCENT OF TOTAL BOND MARKET CAPITALIZATION)



CROSS-BORDER LISTINGS ON SELECTED STOCK EXCHANGES, 2000

COUNTRY	TOTAL	DOMESTIC	FOREIGN
Argentina	125	122	3
Australia	1,406	1,330	76
Austria	111	97	14
Bermuda	47	22	25
Brazil	467	464	3
Canada:			
Canadian Venture Exchange	2,598	2,494	104
Toronto	1,421	1,379	42
Montreal	128	127	1
Chile	261	260	1
Denmark	235	225	10
Europe:			
Euronext Amsterdam	392	234	158
Euronext Paris	966	808	158
Euronext Brussels	265	161	104
Finland	158	154	4
Germany	989	744	245
Greece	310	309	1
Hong Kong	790	779	11
Indonesia	286	286	0
Iran	285	285	0
Ireland	96	76	20
Israel	665	664	1
Italy	297	291	6
Japan:			
Tokyo	2,096	2,055	41
Osaka	1,310	1,310	0
Korea	702	702	0
Luxembourg	270	54	216
Malaysia	790	787	3
Malta	14	14	0
Mexico	177	173	4
New Zealand	200	144	56
Norway	215	191	24
Peru	227	209	18
Philippines	230	228	2
Poland	225	225	0
Portugal	110	109	1
Singapore	480	417	63
Slovenia	149	149	0
South Africa	606	583	23
Spain:			
Madrid	1,036	1,019	17
Barcelona	583	577	6
Valencia	459	454	5
Bilbao	307	304	3
Sri Lanka	239	239	0
Sweden	311	292	19
Switzerland	416	252	164
Taiwan	531	531	0
Thailand	381	381	0
Turkey	316	315	1
United Kingdom	2,374	1,926	448
United States:			
NASDAQ	4,734	4,246	488
NYSE	2,862	2,429	433
AMEX	649	599	50
Chicago	7	7	0


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publicly traded securities. Yet, it is far from clear that every country needs its own stock exchange. There now are more than 100 stock exchanges around the world, and more than 30 countries have created stock exchanges in the past decade. By contrast, the United States had 100 regional stock exchanges in 1900, 35 in 1935, 15 in 1964 – and has only seven today.

Countries differ widely, moreover, in both the number of exchanges and the number of cross-border listings on each exchange. Stock exchanges everywhere compete to attract foreign listings and the trading volume and revenue generating activities that go along with internationalization. Greater consolidation and integration may be appropriate both within and across national borders. Indeed, improvements in telecommunications technology probably make the globalization of trading networks both inevitable and desirable.

ENTREPRENEURIAL ACCESS TO CAPITAL DIFFERS WIDELY AND DOES MATTER

The degree of financial diversity among countries is partly responsible for differences in the ability of entrepreneurs to gain access to external funds. We have constructed a Capital Access Index (CAI), based on various quantitative and qualitative variables. It currently covers countries accounting for 98 percent of world output and 83 percent of world population. Overall, global access to capital is improving: more countries achieved higher scores in the 2001 CAI than in the previous year.

Yet, the index shows that countries differ widely. This is important because there is a positive correlation between economic development and the CAI. 

The Global Financial Underclass



Some 30 countries with a total population exceeding 400 million have severely underdeveloped financial systems, and by no coincidence have not received any private, long-term, nonguaranteed external credit since 1970. This should be a matter of global concern since the problems of these failing economies often spill beyond their borders. Specifically, they are exceptionally vulnerable to acts of war, terrorism and mass migration.

POPULATION (2000; thousands)			POPULATION (2000; thousands)		
COUNTRY		TRANSNATIONAL AND DOMESTIC ISSUES	COUNTRY		TRANSNATIONAL AND DOMESTIC ISSUES
Algeria	30,399	Ongoing civil war between Islamic terrorists (Armed Islamic Group aka Al-Jama'ah al-Islamiyah al-Musallah) and military government	Haiti	7,959	Dictatorship of the Duvaliers ended in 1990; a military dictatorship in 1994; currently an unstable nominal democracy
Barbados	268	Currently stable; multiparty democracy	Laos	5,216	Communist dictatorship since 1975 seizure of power by Pathet Lao Communist militants; major heroin production center
Benin	6,284	Former Marxist-Leninist military dictatorship; returned to democratic rule in 1991	Lesotho	2,154	Former military dictatorship, returned to civilian rule in 1998
Botswana	1,602	Currently stable; multiparty democracy	Liberia	3,130	Ongoing terrorist activity in the guise of the United Liberation Movement for Democracy in Liberia
Burkina Faso	11,274	Failed coup 2001, ongoing and rising border tensions with Chad	Madagascar	15,423	Socialist dictatorship ended in 1992; currently multiparty democracy
Burundi	6,807	Hutu and Tutsi tribes engaged in long-running violence/civil war; Hutu militants attacked capital December 2001	Mali	10,840	Dictatorship ended in 1992; currently multiparty democracy
Central African Republic	3,597	Former dictatorship returned to civilian rule in 1990s; recent turmoil includes 2001 coup attempt	Mauritania	2,669	Effectively one-party state, ongoing tensions between Arab Berber and black populations
Chad	7,694	Ongoing and rising border tensions with Burkina Faso; fought border war with Libya in 1980s	Myanmar	45,611	Ongoing civil war between SLORC (State Law and Order Restoration Council) military junta and various opposition/minority groups, important heroin production center
Comoros	558	More than 20 coups or attempted coups since 1975, most recently in December 2001; military chief Colonel Assoumani seized power in 1999	Nepal	23,920	Ongoing Maoist uprising in rural areas, king recently assassinated by family member
Democratic Republic of Congo	51,390	Recently involved in large-scale civil war involving Namibian, Rwandan, Ugandan and Zimbabwean troops; violence appears to be abating and most foreign troops withdrawing	Rwanda	8,508	Hutu and Tutsi tribes engaged in long-running violence/civil war; recently involved in Congolese civil war
Congo	2,936	Formerly Marxist-Leninist dictatorship, democratically elected government installed in 1992; civil war in 1997 allowed former Communist dictator Sassou-Nguesso to seize power	Samoa	169	Currently stable; constitutional monarchy
Djibouti	660	Three-year uprising by ethnic Afars rebels ended in 1994; currently stable	Sierra Leone	5,031	Ongoing civil war; Revolutionary United Front insurgents recently signed ceasefire with government
Equatorial Guinea	454	Dictatorship of Nguema overthrown in 1979 after 1/3 of population forced to flee; nominal democracy since 1996 with leader of 1979 coup reportedly winning 99% of votes polled	Somalia	9,711	Civil/tribal war since collapse of Siad Barre regime in 1991. Somalia no longer exists de facto. At least three successor states: Somaliland in north-west, Puntland in north-east, and a small region controlled by a provisional government around Mogadishu
Ethiopia	64,298	Somali militants active in Ogaden region (Ogaden National Liberation Front); Ethiopian army recently fought border war with Eritrea and launched attacks on alleged Islamic terrorists in former Somalia in 2001	St. Vincent & the Grenadines	115	Currently stable; multiparty democracy
Gabon	1,237	Currently stable; multiparty democracy	Swaziland	1,045	Slowly reforming monarchy
Gambia	1,286	Former dictatorship from 1994 to 1996, currently nominal democracy although 2000 saw failed coup attempt	Syria	16,110	Engaged in war with Israel through its Hezbollah proxy, shelters (in Syria and Syrian-controlled Lebanon) Popular Front Liberation of Palestinian-General Command (PFLP-GC) Palestinian Islamic Jihad (PIJ), Hamas
Grenada	98	Socialist dictatorship overthrown by United States in 1983; currently stable; multiparty democracy	Togo	4,670	Nominal democracy that is effectively a military dictatorship, most bilateral and multilateral aid to Togo remains frozen
Guinea	7,418	Ongoing incursions by Liberian and Sierra Leonean terrorists	Uganda	22,063	Recently involved in Congolese civil war; Islamic terrorists in guise of Allied Democratic Forces involved in recent attacks on foreign/Ugandan nationals
Guinea-Bissau	1,207	Former Socialist dictatorship; 1994 returned to civilian rule that was ended in 1998 by coup that resulted in civil war, new elections and apparent stability in 2000			