Journal of Comparative Policy Analysis: Research and Practice
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713672306

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Online Publication Date: 01 September 2008

To cite this Article Chinn, Menzie D. and Ito, Hiro(2008)'A New Measure of Financial Openness',Journal of Comparative Policy Analysis: Research and Practice,10:3,309 — 322
To link to this Article: DOI: 10.1080/13876980802231123
URL: http://dx.doi.org/10.1080/13876980802231123

Journal of Comparative Policy Analysis,
Vol. 10, No. 3, 309–322, September 2008

Routledge
Taylor & Francis Group

Comparative Statistics

Editor: FRED THOMPSON
Willamette University, Oregon, USA

A New Measure of Financial Openness

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ABSTRACT *We create a new index that measures the extent of openness in capital account transactions. Despite the abundance of literature and policy analyses regarding the effect of financial liberalization, the debate is far from settled. One of the reasons for that outcome is the lack of proper ways of measuring the extent of the openness in cross-border financial transactions. We seek to remedy this deficiency by creating an index aimed at measuring the extensity of capital controls based on the information from the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER). This paper details how we construct the data and where our index stands in relation to the extant literature. Given the intricacy of capital controls policies and regulations, the exercise of quantifying the extent of financial openness remains a challenging task. Nonetheless, our index makes a substantial contribution in terms of its coverage of countries and time period; the data are available for 181 countries for the 1970–2005 period.*

Introduction

The world economy has enjoyed a period of remarkable tranquility since the end of the Argentinean financial crisis. Nonetheless, the interest in the effect of financial globalization has not waned. Debates in policy and academic circles about the effect of financial liberalization policies on economic performance and the costs and benefits of capital controls policies continue to swirl. One reason for the lack of consensus can be ascribed to the difficulty in properly measuring the extent of openness or restrictions in cross-border financial transactions.

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ISSN 1387-6988 Print/1572-5448 Online/08/030309-14

DOI: 10.1080/13876980802231123

There is no question that it is extremely difficult to measure the extent of capital account controls. Although many measures exist to describe the extent and intensity of capital account controls, it is generally agreed that such measures fail to capture fully the complexity of real-world capital controls for a number of reasons.[1]

First, conventional measures for quantifying capital controls (or financial openness) fail to account for the intensity of capital controls. The most prominent example of such measures include binary variables based upon the IMF's categorical enumeration reported in *Annual Report on Exchange Arrangements and Exchange Restrictions* (*AREAER*).[2] Second, IMF-based variables are too aggregated to capture the subtleties of actual capital controls. Capital controls can differ depending on the direction of capital flows (i.e., inflows or outflows) as well as the type of financial transactions targeted.[3] Thirdly, it is almost impossible to distinguish between *de jure* and *de facto* controls on capital transactions. Capital control policies are often implemented without explicit policy goals to control the volume and/or type of capital flows. Conversely, as Edwards (1999) discusses, it is often the case that the private sector circumvents capital account restrictions, nullifying the expected effect of regulatory capital controls.[4] Therefore, researchers often refer to financial integration among countries and interpret it as *de facto* restrictions on capital transactions (see De Gregorio 1998, Rajan 2003).[5]

Nonetheless, many researchers have attempted to measure the impact or the determinants of capital controls by relying on the IMF's *Annual Report on Exchange Arrangements and Exchange Restrictions*. Since 1967, *AREAER* has provided information on the extent and nature of the rules and regulations governing external account transactions for a wide cross-section of countries. It contains a summary table that conveniently enumerates the presence of restrictions for the countries. This table has provided the basis for researchers to come up with the dichotomous measure of capital controls or financial openness. Up to 1997, the *AREAER*'s summary table categorized the types of the controls on cross-border financial transactions in four groups; one is about the existence of multiple exchange rates; two the presence of restrictions on current account transactions; three that of restrictions on capital account transactions, and four that of regulatory requirements of the surrender of export proceeds. The third category (on capital account restrictions) or its combination with the second category (on current account restrictions) has been often used as a dummy variable for the presence of restrictions on capital account transactions (see Grilli and Milesi-Ferretti 1995, Glick and Hutchison 2001, among many others).

As we have discussed, the deficiencies of these dichotomous measures of capital controls are obvious; they do not measure the *intensity* of the controls, nor do they speak to their efficacy. A common method used to overcome the deficiencies of the dichotomous measures of capital controls entails the construction of variables that depend on the proportion of years in the examined window for which countries had liberalized capital accounts using the *AREAER* variables (see Edwards 2001, Klein and Olivei 2001). However, as Edison *et al*. (2002) admit, a drawback of this method is that such indicators do not convey any information about whether the country is on its way to liberalizing or restricting its capital accounts. In concrete terms, a value of 0.5 can indicate that the capital

account was closed the first half of the period, and open the second, or vice versa.

Quinn (1997, 2003) has compiled a composite measure of financial regulation that ranges from 0 to 14, with 14 representing the least regulated and most open regime. The bulk of the index is based upon his coding of the qualitative information based on the texts in the various issues of *AREAER* pertaining to restrictions on capital account and current account transactions, augmented by information regarding whether the country in question has entered into international agreements with international organizations such as the OECD and European Union. Despite the merits of the Quinn index, as of the writing of this paper, the dataset is not publicly available.

Johnston and Tamirisa (1998) created the time series of capital controls based on the new disaggregated components in the *AREAER*. However, their data series are not sufficiently long; it only covers years after 1996. Most recently, Miniane (2004) constructed a set of indices to measure the intensity of capital controls, based on an approach akin to Johnston *et al*., but extrapolating the data back to 1983 for 34 countries.

Below, we construct an index, which we call *KAOPEN*, based on the *AREAER* tabulation with the goal of incorporating the extent and intensity of capital controls. Also, we aim to cover as many countries and years as those available in the *AREAER*. While containing variation over time and referring to the intensity of capital controls, our index makes the biggest contribution with its coverage of countries and time period among indexes for the measures of financial openness; the data are available for 181 countries for the 1970–2005 period.[6]

Construction of *KAOPEN*

KAOPEN is based on the binary dummy variables that codify the tabulation of restrictions on cross-border financial transactions reported in the IMF's *Annual Report on Exchange Arrangements and Exchange Restrictions*. Up to 1996, we assign dummy variables for the four major categories on the restrictions on external accounts. These variables are:

- variable indicating the presence of multiple exchange rates (k_1);
- variable indicating restrictions on current account transactions (k_2);
- variable indicating restrictions on capital account transactions (k_3); and
- variable indicating the requirement of the surrender of export proceeds (k_4).

In 1996, the classification method in the *AREAER* changed and these four categories were disaggregated further, in an effort to better reflect the complexity of capital control policies.[7] For the extension of the four binary classifications after 1996, we followed Mody and Murshid (2005).

In order to focus on the effect of *financial openness* – rather than *controls* – we reverse the values of these binary variables, such that the variables are equal to one when the capital account restrictions are non-existent. Moreover, for controls on capital transitions (k_3), we use the share of a five-year window (encompassing

year t and the preceding four years) that capital controls were not in effect ($SHAREk_3$).

$$SHAREk_{3,t} = \left(\frac{k_{3,t} + k_{3,t-1} + k_{3,t-2} + k_{3,t-3} + k_{3,t-4}}{5} \right)$$

Then we construct an index for capital "openness" ($KAOPEN_t$), which is the first standardized principal component of k_{1t}, k_{2t} $SHAREk_3$, k_{4t}. This index takes on higher values the more open the country is to cross-border capital transactions. By construction, the series has a mean of zero. The first eigenvector for $KAOPEN$ was found to be $(SHAREk_3, k_1, k_2, k_4)' = (0.57, 0.25, 0.52, 0.58)'$, indicating that the variability of $KAOPEN$ is not merely driven by the $SHAREk_3$ series.

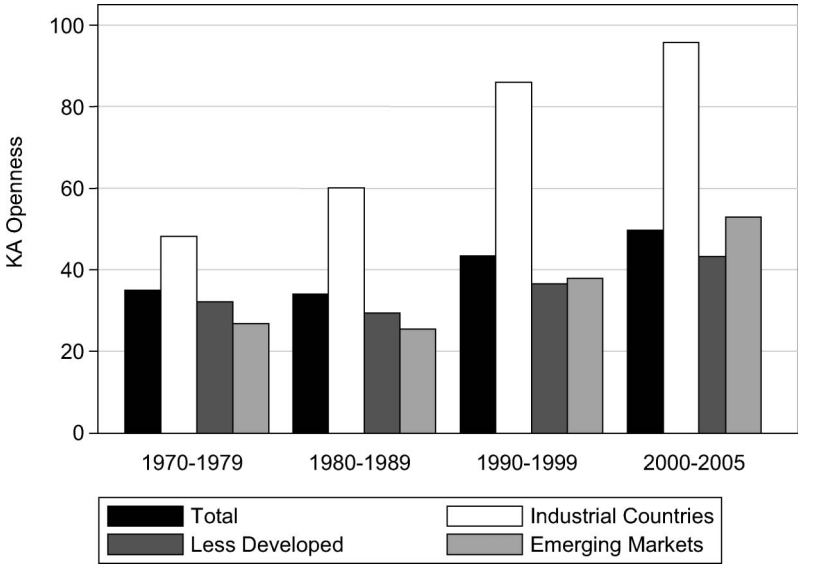
We incorporate the $k_{1,t}$, $k_{2,t}$, and $k_{4,t}$ variables in our $KAOPEN$ variable instead of focusing on k_3 which refers to restrictions on capital account transactions. We believe the incorporation of $k_{1,t}$, $k_{2,t}$, and $k_{4,t}$ in this index allows us to more accurately capture the intensity of the capital controls. One of the merits of the $KAOPEN$ index is that it attempts to measure the intensity of capital controls insofar as the intensity is correlated with the existence of other restrictions on international transactions. By the nature of its construction, one may argue that the $KAOPEN$ index measures the *extensity* of capital controls because it may not directly refer to the stringency of restrictions on cross-border transactions, but to the existence of different types of restrictions. However, measuring the extensity of capital controls may be a good proxy for the measure of intensity of capital controls. This point can be made more concrete by considering a country with an open capital account. It may still restrict the flow of capital by limiting transactions on the current account restrictions or other systems such as multiple exchange rates and requirements to surrender export proceeds. Alternatively, countries that already have closed capital accounts might try to increase the stringency of those controls by imposing other types of restrictions (such as restrictions on current account and requirements for surrender of trade proceeds) so that the private sector cannot circumvent the capital account restrictions.

Some Observations of the Index

Our index reflects the widely held perception that the world is moving steadily toward greater and greater financial openness. Figure 1 shows development of capital account openness measured by the $KAOPEN$ index for the full set of countries, as well as different income groups.[8] It is clear that industrialized countries have maintained high levels of financial openness throughout the period and steadily increased the levels since the 1970s. Interestingly, both the less developed and emerging market countries groups slowed down the efforts of opening financial markets during the 1980s, and have accelerated financial opening since the 1990s.

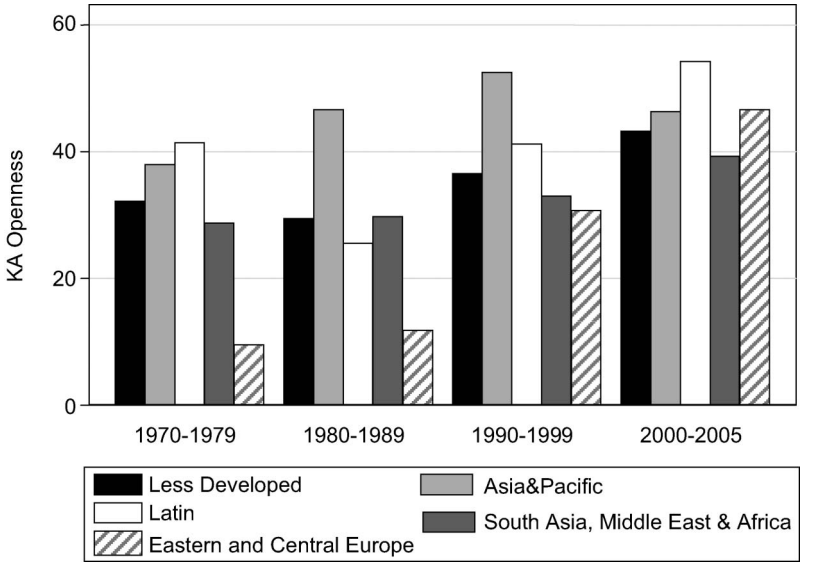
In Figure 2, we illustrate the development of capital account opening among less developed countries for different regions. Inspection of the figure reveals that the pace – and pattern – of financial opening exhibits wide regional variation. The Asian region has had relatively high levels of financial openness since the 1970s, although

Figure 1. Development of capital account openness measured by the *KAOPEN* index: total, industrialized, less developed, and emerging market countries



Note: The index is normalized with the highest degree of financial openness captured by the value of 100 and the lowest by the value of zero.

Figure 2. Development of capital account openness measured by the *KAOPEN* index: less developed countries by region



Note: The index is normalized with the highest degree of financial openness captured by the value of 100 and the lowest by the value of zero.

the rate of financial opening slowed down in the aftermath of the Asian crisis of 1997–1998. On the other hand, Latin American countries provide an interesting counterpart; their financial openness declined drastically during the 1980s – supposedly, this can be interpreted as a reaction to the debt crisis – and went up rapidly from the beginning of the 1990s. For the last decade, ex-planning economies in Eastern and Central Europe have been liberalizing their financial markets most rapidly and catching up with other developing countries.

Lastly, Figure 3 shows the current situation of financial openness in the world. Not surprisingly, North America and Western Europe appear to be the most financially open areas, whereas most of Africa, China, and South Asia appear to be the least. Southeast Asia and Latin America lie in between with their moderately open financial markets.

Comparison with other Indexes

As Edison *et al*. (2002) and Kose *et al*. (2006) show, many researchers have created indexes to measure the extent of financial openness. Our index is compared with some of the indexes of financial openness in Table 1. One might think of the Quinn (1997, 2003) index as the measure of the intensity of capital controls. Although our index may not measure the intensity of capital controls in the same way as Quinn approaches, the correlation between the Quinn index and *KAOPEN*, or the Chinn-Ito index, is found to be 83.9 per cent, suggesting that *KAOPEN* is proxying the intensity of capital controls.[9] The correlation between the aforementioned index by Miniane (2004), which is based on more disaggregated *AREAER* information on capital controls, and the Chinn-Ito index is found to be 80.2 per cent, while that with the simple average of the 13 post-1996 capital account transactions categories is 82 per cent. As far as we are aware, Potchamanawong (2007) constructs the only index that distinguishes between controls on capital outflows and inflows on the disaggregated basis. The coefficient of correlation between our index and the overall composite index of controls on capital inflows is 61 per cent; the coefficient is 71 per cent for capital outflows.[10]

By the nature of its construction, this index is a *de jure* measure of financial openness because it attempts to measure regulatory restrictions on capital account transactions. Hence, this index differs from price-based *de facto* measures of financial openness, namely those based on the interest rate parity (UIP or RIP) approach such as Cheung *et al*. (2006) or those on deviations from no arbitrage profits conditions such as De Gregorio (1998). These types of financial openness measures have their own strengths and weaknesses, so that it is difficult to rank them in terms of usefulness. Our index focuses on regulatory aspects of capital account openness.

Concluding Remarks

Many researchers have tried to capture the complexity of real-world capital controls, with varying degrees of success, and varying degrees of coverage.[11] Given the complexity of capital controls policies and regulations, the measurement of financial openness continues to challenge researchers. The key advantage of our index is its

Figure 3. The world map of financial openness

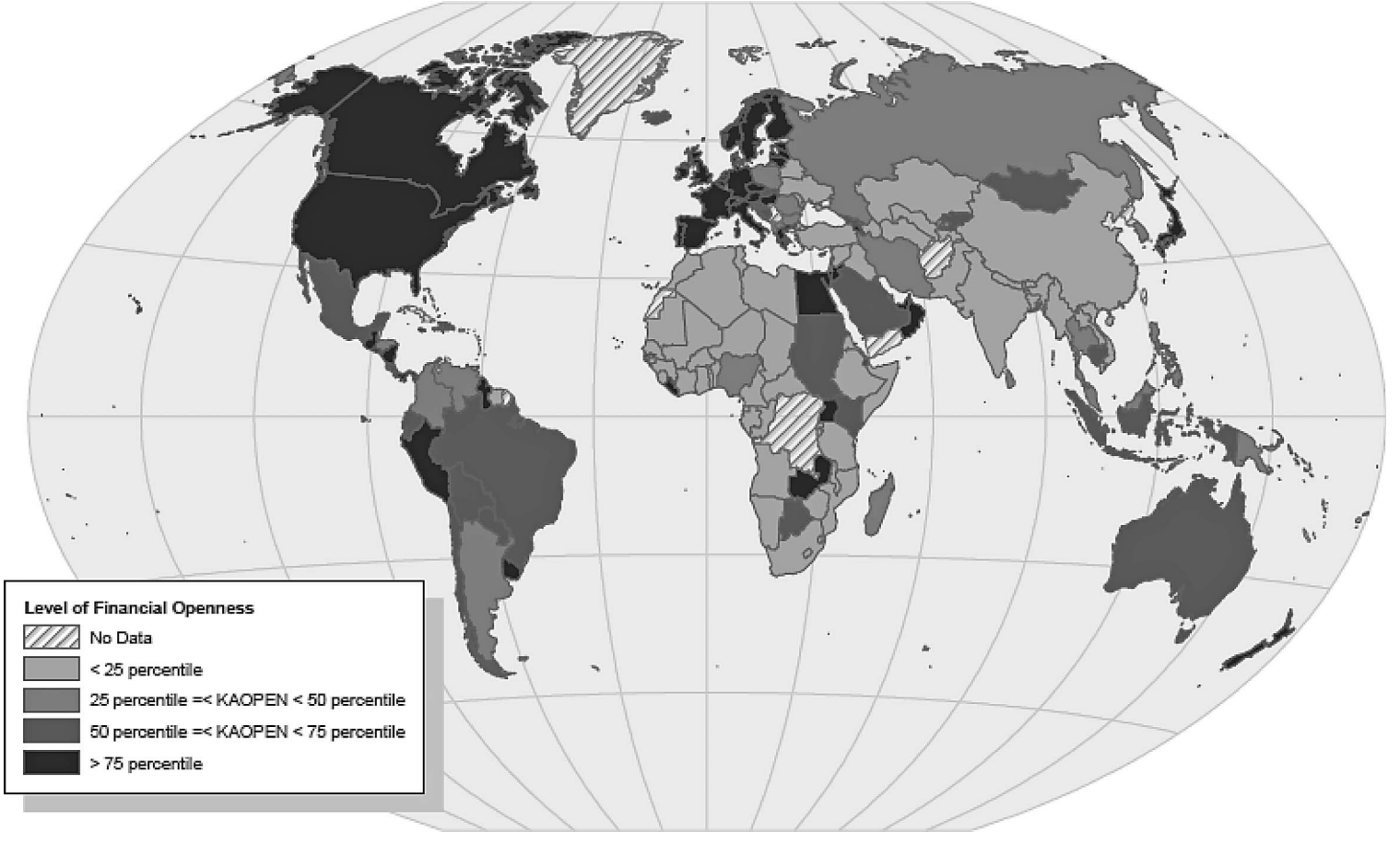


Table 1. Correlations of the Chinn-Ito (*KAOPEN*) index with other *de jure* indexes of financial openness

Other indexes	Correlations with KAOPEN index	Coverage	Notes
Quinn (1997)	83.9	1958–1997 for 21 industrialized countries 1958, 1973, 1982, and 1988 for 40 less developed countries	Based on *AREAER*'s codification before the 1996 revision, augmented by information on the existence of international agreements with international organizations or other countries
Miniane (2004)	80.2	1983–2004 for 34 countries	Based on the post-1996 disaggregated enumeration of 13 capital account transactions, and extrapolated back to 1983
IMF's post-1996 *AREAER*	82.0	1995–2005, 181 countries	The average of the 13 capital account transaction categories
k1 (multiple exchange rates)	38.4	1967–2005, 181 countries	Binary variable for the existence of restrictions
k2 (current account transactions)	78.8	1967–2005, 181 countries	Same as above
k3 (capital account transactions)	83.0	1967–2005, 181 countries	Same as above
k4 (export proceeds surrender)	88.0	1967–2005, 181 countries	Same as above
Kaminsky and Schmukler (2003)	57.6	1973–2000, 28 countries	Based on the chronology of regulatory restrictions on 1) domestic financial markets, 2) capital account transactions and 3) equity markets
Kaminsky and Schmukler's component particularly on capital account transactions	67.6	1996–2005	2) capital account transactions only
Potchamanawong (2007) inflow controls	61.1	1995–2004, 26 emerging market countries	Based on the text in the AREAER on the 13 post-1996 disaggregated categories and divided depending on whether the restrictions are place on inflows or outflows of capital
Potchamanawong (2007) outflow controls	70.8	1995–2004, 26 emerging market countries	Same as above

relative transparency in terms of construction, ease of updating, and wide coverage across countries and time.

Acknowledgements

We thank Ashok Mody, Antu Panini Murshid, and Dennis Quinn for providing data, and Jacques Miniane for making his financial openness index publicly available. We also thank Pariyate (Sam) Potchamanawong for his excellent research assistance and Joe Stewart for graphical assistance. The financial support of faculty research funds of the University of Wisconsin, Madison, Portland State University, and Japan Foundation are gratefully acknowledged. The dataset discussed in this paper is publicly available at http://www.ssc.wisc.edu/~mchinn/research.html or http://web.pdx.edu/~ito/.

Notes

1. See Edison and Warnock (2001), Edwards (2001), Edison *et al.* (2002), and Kose *et al.* (2006) for discussions and comparisons of various measures on capital restrictions. For extensive reviews on capital controls policy or financial liberalization, refer to Dooley (1996), Eichengreen (2002), Kose *et al.* (2006), and Henry (2006).
2. The exceptions to be noted are Quinn (1997, 2003) and Miniane (2004) as we will discuss later.
3. This issue is somewhat alleviated by the recent disaggregation in the *AREAER* of the capital account restriction category. In 1997, *AREAER* started publishing the data on disaggregated components of capital controls, with the specification of thirteen categories including, for the first time, a distinction between restrictions on inflows and outflows as well as between different types of capital transactions. See Johnston and Tamirisa (1998) and Miniane (2004) for a descriptive overview and statistical analysis on the disaggregated data of *AREAER*.
4. Capital controls might be as stringent and command-and-control oriented as those imposed by the Latin American governments in the wake of the 1980s' debt crises, or of a less dirigiste form such as the Chilean unrenumerated reserve requirements (URR). See Edwards (1998, 1999).
5. Kose *et al.* (2006) and Rajan (2003) categorize the measures of capital financial openness *de jure* measures (based on IMF's *AREAER*); de facto measures based on price differentials such as the uncovered or real interest rate parity (Cheung *et al.* 2006) and international arbitrage pricing model (IAPM) or capital asset pricing model (ICAPM) (see De Gregorio 1998); and de facto measures based on quantities, i.e., volumes of capital flows as a ratio to GDP, such as Lane and Milesi-Ferretti (2006). A drawback of the price-based measures is that the measures, especially those based on the interest rate parity conditions, can reflect changes in macroeconomic conditions even if there is no regulatory changes on capital account transactions. Other sources for categorization of measures on financial integration and/or financial openness are Cavoli *et al.* (2003) and Takagi and Hirose (2004).
6. We initially constructed this index for Chinn and Ito (2002, 2006). We have updated the series annually since then while expanding the scope of countries.
7. Especially, the k3 category was divided into 13 categories. See Johnston and Tamirisa (1998) and Miniane (2004) for details.
8. The index is normalized with the highest degree of financial openness captured by the value of 100 and the lowest by zero.
9. It must be noted that, as can be seen in Table 1, the coverage of countries and time periods differ greatly across different indexes.
10. Kaminsky and Schmukler (2001) calculate indices for domestic financial system, equity market, and capital account liberalization for a select number of developed and emerging market countries. The correlation with the overall composite index is 57.6 per cent while that with the component particularly on capital account transactions is 67.6 per cent.
11. Some indices are sector-specific. Edison and Warnock (2001) present an index of equity market openness.

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Appendix: Country List

	Country Number	Country Code	Country Name	Availability
1	111	USA	United States	(1970–2005)
2	112	GBR	United Kingdom	(1970–2005)
3	122	AUT	Austria	(1970–2005)
4	124	BEL	Belgium	(1970–2005)
5	128	DNK	Denmark	(1970–2005)
6	132	FRA	France	(1970–2005)
7	134	DEU	Germany	(1970–2005)
8	135	SMR	San Marino	(1996–2004)
9	136	ITA	Italy	(1970–2005)
10	138	NLD	Netherlands	(1970–2005)
11	142	NOR	Norway	(1970–2005)
12	144	SWE	Sweden	(1970–2005)
13	146	CHE	Switzerland	(1996–2005)
14	156	CAN	Canada	(1970–2005)
15	158	JPN	Japan	(1970–2005)
16	172	FIN	Finland	(1970–2005)
17	174	GRC	Greece	(1970–2005)
18	176	ISL	Iceland	(1970–2005)
19	178	IRL	Ireland	(1970–2005)
20	181	MLT	Malta	(1972–2005)
21	182	PRT	Portugal	(1970–2005)
22	184	ESP	Spain	(1970–2005)
23	186	TUR	Turkey	(1970–2005)
24	193	AUS	Australia	(1970–2005)
25	196	NZL	New Zealand	(1970–2005)
26	199	ZAF	South Africa	(1970–2005)
27	213	ARG	Argentina	(1970–2005)
28	218	BOL	Bolivia	(1970–2005)
29	223	BRA	Brazil	(1970–2005)
30	228	CHL	Chile	(1970–2005)
31	233	COL	Colombia	(1970–2005)
32	238	CRI	Costa Rica	(1970–2005)
33	243	DOM	Dominican Republic	(1970–2005)
34	248	ECU	Ecuador	(1970–2005)
35	253	SLV	El Salvador	(1970–2005)
36	258	GTM	Guatemala	(1970–2005)
37	263	HTI	Haiti	(1970–2005)
38	268	HND	Honduras	(1970–2005)
39	273	MEX	Mexico	(1970–2005)
40	278	NIC	Nicaragua	(1970–2005)
41	283	PAN	Panama	(1970–2005)
42	288	PRY	Paraguay	(1970–2005)
43	293	PER	Peru	(1970–2005)
44	298	URY	Uruguay	(1970–2005)
45	299	VEN	Venezuela, RB	(1970–2005)
46	311	ATG	Antigua and Barbuda	(1985–2005)
47	313	BHS	Bahamas, The	(1977–2005)
48	314	ABW	Aruba	(1992–2005)
49	316	BRB	Barbados	(1974–2005)
50	321	DMA	Dominica	(1982–2005)
51	328	GRD	Grenada	(1979–2005)

(*continued*)

Appendix (*Continued*)

	Country Number	Country Code	Country Name	Availability
52	336	GUY	Guyana	(1970–2005)
53	339	BLZ	Belize	(1985–2005)
54	343	JAM	Jamaica	(1970–2005)
55	353	ANT	Netherlands Antilles	(1970–2005)
56	361	KNA	St. Kitts and Nevis	(1988–2005)
57	362	LCA	St. Lucia	(1983–2005)
58	364	VCT	St. Vincent & the Gren.	(1983–2005)
59	366	SUR	Suriname	(1970–2005)
60	369	TTO	Trinidad and Tobago	(1970–2005)
61	419	BHR	Bahrain	(1976–2005)
62	423	CYP	Cyprus	(1970–2005)
63	429	IRN	Iran, Islamic Rep.	(1970–2005)
64	433	IRQ	Iraq	(1970–2005)
65	436	ISR	Israel	(1970–2005)
66	439	JOR	Jordan	(1970–2005)
67	443	KWT	Kuwait	(1970–2005)
68	446	LBN	Lebanon	(1970–2005)
69	449	OMN	Oman	(1977–2005)
70	453	QAT	Qatar	(1976–2005)
71	456	SAU	Saudi Arabia	(1970–2005)
72	463	SYR	Syrian Arab Republic	(1970–2005)
73	466	ARE	United Arab Emirates	(1976–2005)
74	469	EGY	Egypt, Arab Rep.	(1970–2005)
75	512	AFG	Afghanistan	(1970–2004)
76	513	BGD	Bangladesh	(1976–2005)
77	514	BTN	Bhutan	(1985–2005)
78	518	MMR	Myanmar	(1970–2005)
79	522	KHM	Cambodia	(1973–2005)
80	524	LKA	Sri Lanka	(1970–2005)
81	532	HKG	Hong Kong, China	(1970–2005)
82	534	IND	India	(1970–2005)
83	536	IDN	Indonesia	(1970–2005)
84	542	KOR	Korea, Rep.	(1970–2005)
85	544	LAO	Lao PDR	(1970–2005)
86	548	MYS	Malaysia	(1970–2005)
87	556	MDV	Maldives	(1982–2005)
88	558	NPL	Nepal	(1970–2005)
89	564	PAK	Pakistan	(1970–2005)
90	566	PHL	Philippines	(1970–2005)
91	576	SGP	Singapore	(1970–2005)
92	578	THA	Thailand	(1970–2005)
93	582	VNM	Vietnam	(1970–2005)
94	611	DJI	Djibouti	(1982–2005)
95	612	DZA	Algeria	(1970–2005)
96	614	AGO	Angola	(1993–2005)
97	616	BWA	Botswana	(1972–2005)
98	618	BDI	Burundi	(1970–2005)
99	622	CMR	Cameroon	(1970–2005)
100	624	CPV	Cape Verde	(1982–2005)
101	626	CAF	Central African Repub.	(1970–2005)
102	628	TCD	Chad	(1970–2005)

(*continued*)

Appendix (*Continued*)

	Country Number	Country Code	Country Name	Availability
103	632	COM	Comoros	(1981–2005)
104	634	COG	Congo, Rep.	(1970–2005)
105	636	ZAR	Congo, Dem. Rep.	(1970–2000)
106	638	BEN	Benin	(1970–2005)
107	642	GNQ	Equatorial Guinea	(1973–2005)
108	643	ERI	Eritrea	(1998–2005)
109	644	ETH	Ethiopia	(1970–2005)
110	646	GAB	Gabon	(1970–2005)
111	648	GMB	Gambia, The	(1971–2005)
112	652	GHA	Ghana	(1970–2005)
113	654	GNB	Guinea–Bissau	(1981–2005)
114	656	GIN	Guinea	(1970–2005)
115	662	CIV	Cote d'Ivoire	(1970–2005)
116	664	KEN	Kenya	(1970–2005)
117	666	LSO	Lesotho	(1972–2005)
118	668	LBR	Liberia	(1970–2005)
119	672	LBY	Libya	(1970–2005)
120	674	MDG	Madagascar	(1970–2005)
121	676	MWI	Malawi	(1970–2005)
122	678	MLI	Mali	(1970–2005)
123	682	MRT	Mauritania	(1970–2005)
124	684	MUS	Mauritius	(1972–2005)
125	686	MAR	Morocco	(1970–2005)
126	688	MOZ	Mozambique	(1988–2005)
127	692	NER	Niger	(1970–2005)
128	694	NGA	Nigeria	(1970–2005)
129	698	ZWE	Zimbabwe	(1984–2005)
130	714	RWA	Rwanda	(1970–2005)
131	716	STP	Sao Tome and Principe	(1981–2004)
132	718	SYC	Seychelles	(1981–2005)
133	722	SEN	Senegal	(1970–2005)
134	724	SLE	Sierra Leone	(1970–2005)
135	726	SOM	Somalia	(1970–2005)
136	728	NAM	Namibia	(1994–2005)
137	732	SDN	Sudan	(1970–2005)
138	734	SWZ	Swaziland	(1973–2005)
139	738	TZA	Tanzania	(1970–2005)
140	742	TGO	Togo	(1970–2005)
141	744	TUN	Tunisia	(1970–2005)
142	746	UGA	Uganda	(1970–2005)
143	748	BFA	Burkina Faso	(1970–2005)
144	754	ZMB	Zambia	(1970–2005)
145	813	SLB	Solomon Islands	(1982–2005)
146	819	FJI	Fiji	(1975–2005)
147	826	KIR	Kiribati	(1990–2005)
148	846	VUT	Vanuatu	(1985–2000)
149	853	PNG	Papua New Guinea	(1979–2005)
150	862	WSM	Samoa	(1975–2005)
151	866	TON	Tonga	(1989–2005)
152	867	MHL	Marshall Islands	(1996–2005)
153	868	FSM	Micronesia, Fed. Sts.	(1996–2005)

(*continued*)

Appendix (*Continued*)

	Country Number	Country Code	Country Name	Availability
154	911	ARM	Armenia	(1996–2005)
155	912	AZE	Azerbaijan	(2000–2005)
156	913	BLR	Belarus	(1996–2005)
157	914	ALB	Albania	(1996–2005)
158	915	GEO	Georgia	(1998–2005)
159	916	KAZ	Kazakhstan	(1998–2005)
160	917	KGZ	Kyrgyz Republic	(1998–2005)
161	918	BGR	Bulgaria	(1996–2005)
162	921	MDA	Moldova	(1998–2005)
163	922	RUS	Russian Federation	(1998–2005)
164	923	TJK	Tajikistan	(1998–2005)
165	924	CHN	China	(1970–2005)
166	925	TKM	Turkmenistan	(1998–2005)
167	926	UKR	Ukraine	(1998–2005)
168	927	UZB	Uzbekistan	(1998–2005)
169	935	CZE	Czech Republic	(1998–2005)
170	936	SVK	Slovak Republic	(1998–2005)
171	939	EST	Estonia	(1998–2005)
172	941	LVA	Latvia	(1998–2005)
173	944	HUN	Hungary	(1998–2005)
174	946	LTU	Lithuania	(1998–2005)
175	948	MNG	Mongolia	(1998–2005)
176	960	HRV	Croatia	(1998–2005)
177	961	SVN	Slovenia	(1998–2005)
178	962	MKD	Macedonia, FYR	(1998–2005)
179	963	BIH	Bosnia and Herzeg.	(1999–2005)
180	964	POL	Poland	(1990–2005)
181	968	ROM	Romania	(1976–2005)