

**Notes on
the Chinn-Ito Financial Openness Index
2009 Update**

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The Chinn-Ito index (*KAOPEN*) is an index measuring a country's degree of capital account openness. The index was initially introduced in Chinn and Ito (*Journal of Development Economics*, 2006). *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 (AREAER)*.

More information on how the index is constructed, the index's summary statistics, and how it compares with other measures of cross-border financial flows can be found in:

[“A New Measure of Financial Openness”](#), *Journal of Comparative Policy Analysis*, Volume 10, Issue 3 September 2008, p. 309 - 322. Note that this paper uses the 2007 version of the dataset (containing data up to only 2005), which will differ from the current version of the dataset.

The dataset is available at http://web.pdx.edu/~ito/Chinn-Ito_website.htm.

kaopen_2009.xls (Excel format) or *kaopen_2009.dta* (STATA dataset format) is a data file that contains the updated version of the Chinn and Ito index series. The dataset encompasses the time period of **1970-2009** for **182 countries**. A complete list of the countries and their data availability are presented in the Country List shown below.

What's new?

- *KAOPEN* is updated for 2009 using the summary table of AREAER 2010.
- The underlying data from the AREAER for *KAOPEN* of the following country have been corrected.

Vietnam (582)¹

- It appears that the international sanctions against terrorist states have made some countries, especially industrialized countries, start reporting implementations of capital controls from 2005 on. Hence, in the AREAER, the following countries appear as though they “imposed” capital controls since 2005. However, given the nature of the “capital controls” and also given the lack of perception or evidence that these countries did actually implement capital controls in economically meaningful ways, we decided to consider that these countries did not impose capital controls from 2005 through 2009. Specifically, the original k3 is given the value of zero for the following countries, except for France which appears to have imposed “international sanctions” through k2 restrictions from 2006 through 2009.

The countries of our concern here are:

United States (111), Austria (122), Belgium (124), France (132), Germany (134), Sweden (144), Switzerland (146), Japan (158), Finland (172), Greece (174), Portugal (182), Spain (184), Czech Rep. (935), and Hungary (944).

Summary Statistics of *KAOPEN*

The summary statistics of *KAOPEN* for different income groups are shown in Table 1.

Figure 1 compares the subsample averages of *KAOPEN* for different income groups of countries. Figure 2 does the same thing, but in terms of ratios with the maximal value normalized as 1.00 for different income groups and decades.² Figure 3 compares the ratios of *KAOPEN* for developing countries across different geographical regions.

Table 2 ranks countries based on the level of *KAOPEN* as of 2009. The furthest right column indicates whether a country of concern increased (“Up”) or decreased (“Down”) the level of *KAOPEN* compared to that as of 2008. There are 53 countries that score the “most financially open” value of 2.48 as of 2009 whereas there are 11 countries with the “least financial open” score of -1.84.

Table 3 reports that only 10 countries increased the level of *KAOPEN* in 2009 while as many as 26 countries decreased the level of *KAOPEN* the same year, possibly reflecting the impact of the financial crisis of 2008-09.

¹ The figure in parentheses denotes the IMF-World Bank three-digit code. The same is true for the remainder of the paper.

² The emerging market countries are defined as the countries classified as either emerging or frontier during the period of 1980-1997 by the International Financial Corporation plus Hong Kong and Singapore.

Figure 4 compares the averages of annual changes in *KAOPEN* (i.e., the first-differenced change in the normalized *KAOPEN*) for different time periods and different income groups. Figure 5 does the same thing for different geographical groups of developing countries.

Notes

The dataset is available at http://web.pdx.edu/~ito/Chinn-Ito_website.htm .

The document [“A New Measure of Financial Openness”](#) details the construction of the index and other relevant information. Please consult that document before sending inquiries to ito@pdx.edu.

The IMF’s *Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER)* of 2010 has a survey of the literature on various measures of capital account restrictiveness in Appendix to Introduction (p. 48–53).

Disclaimer: When you use the index, please acknowledge our *JDE* or *JCPA* paper (see below) as the data source. We are not responsible for the results of the estimations that use the index. Although the index is based on the information released by the International Monetary Fund, the index is not associated with the Fund. All the errors of the index are the authors’ own. All rights reserved.

References:

Chinn, Menzie D. and Hiro Ito (2008). [“A New Measure of Financial Openness”](#). *Journal of Comparative Policy Analysis*, Volume 10, Issue 3, p. 309 – 322 (September).

Chinn, Menzie D. and Hiro Ito (2006). [“What Matters for Financial Development? Capital Controls, Institutions, and Interactions.”](#) *Journal of Development Economics*, Volume 81, Issue 1, Pages 163-192 (October). The longer version is available as NBER Working Paper No. 11370 (May 2005). The previous version is [“Capital Account Liberalization, Institutions and Financial Development: Cross Country Evidence.”](#) NBER Working Paper Series, #8967 (June 2002).

International Monetary Fund (2010, various years). *Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER)*, Washington, D.C.: International Monetary Fund.

Appendix I: Country List

	Country Numb. ³	Country Code	Country Name	Availability		Country Numb.	Country Code	Country Name	Availability
1	512	AFG	Afghanistan	1970-2009	21	218	BOL	Bolivia	1970-2009
2	914	ALB	Albania	1995-2009	22	963	BIH	Bosnia & Herzegovina	1999-2009
3	612	DZA	Algeria	1970-2009	23	616	BWA	Botswana	1972-2009
4	614	AGO	Angola	1993-2009	24	223	BRA	Brazil	1970-2009
5	311	ATG	Antigua and Barbuda	1985-2009	25	918	BGR	Bulgaria	1994-2009
6	213	ARG	Argentina	1970-2009	26	748	BFA	Burkina Faso	1988-2009
7	911	ARM	Armenia	1996-2009	27	618	BDI	Burundi	1970-2009
8	314	ABW	Aruba	1992-2009	28	662	CIV	Côte d'Ivoire	1970-2009
9	193	AUS	Australia	1970-2009	29	522	KHM	Cambodia	1973-2009
10	122	AUT	Austria	1970-2009	30	622	CMR	Cameroon	1970-2009
11	912	AZE	Azerbaijan	1996-2009	31	156	CAN	Canada	1970-2009
12	313	BHS	Bahamas, The	1977-2009	32	624	CPV	Cape Verde	1982-2009
13	419	BHR	Bahrain	1976-2009	33	626	CAF	Central African Rep.	1970-2009
14	513	BGD	Bangladesh	1976-2009	34	628	TCD	Chad	1970-2009
15	316	BRB	Barbados	1974-2009	35	228	CHL	Chile	1970-2009
16	913	BLR	Belarus	1996-2009	36	924	CHN	China	1984-2009
17	124	BEL	Belgium	1970-2009	37	233	COL	Colombia	1970-2009
18	339	BLZ	Belize	1985-2009	38	632	COM	Comoros	1981-2009
19	638	BEN	Benin	1979-2009	39	636	ZAR	Congo, Dem. Rep.	1970-2000
20	514	BTN	Bhutan	1985-2009	40	634	COG	Congo, Rep.	1970-2009

³ The figures in the column denote the IMF-World Bank three-digit codes.

	Country Numb.	Country Code	Country Name	Availability		Country Numb.	Country Code	Country Name	Availability
41	238	CRI	Costa Rica	1970-2009	65	328	GRD	Grenada	1979-2009
42	960	HRV	Croatia	1996-2009	66	258	GTM	Guatemala	1970-2009
43	423	CYP	Cyprus	1970-2009	67	656	GIN	Guinea	1970-2009
44	935	CZE	Czech Republic	1996-2009	68	654	GNB	Guinea-Bissau	1981-2009
45	128	DNK	Denmark	1970-2009	69	336	GUY	Guyana	1970-2009
46	611	DJI	Djibouti	1982-2009	70	263	HTI	Haiti	1970-2009
47	321	DMA	Dominica	1982-2009	71	268	HND	Honduras	1970-2009
48	243	DOM	Dominican Republic	1970-2009	72	532	HKG	Hong Kong, China	1970-2009
49	248	ECU	Ecuador	1970-2009	73	944	HUN	Hungary	1986-2009
50	469	EGY	Egypt, Arab Rep.	1970-2009	74	176	ISL	Iceland	1970-2009
51	253	SLV	El Salvador	1970-2009	75	534	IND	India	1970-2009
52	642	GNQ	Equatorial Guinea	1973-2009	76	536	IDN	Indonesia	1970-2009
53	643	ERI	Eritrea	1998-2009	77	429	IRN	Iran, Islamic Rep.	1970-2009
54	939	EST	Estonia	1996-2009	78	433	IRQ	Iraq	1970-2009
55	644	ETH	Ethiopia	1970-2009	79	178	IRL	Ireland	1970-2009
56	819	FJI	Fiji	1975-2009	80	436	ISR	Israel	1970-2009
57	172	FIN	Finland	1970-2009	81	136	ITA	Italy	1970-2009
58	132	FRA	France	1970-2009	82	343	JAM	Jamaica	1970-2009
59	646	GAB	Gabon	1970-2009	83	158	JPN	Japan	1970-2009
60	648	GMB	Gambia, The	1971-2009	84	439	JOR	Jordan	1970-2009
61	915	GEO	Georgia	1996-2009	85	916	KAZ	Kazakhstan	1996-2009
62	134	DEU	Germany	1970-2009	86	664	KEN	Kenya	1970-2009
63	652	GHA	Ghana	1970-2009	87	826	KIR	Kiribati	1990-2005
64	174	GRC	Greece	1970-2009	88	542	KOR	Korea, Rep.	1970-2009

	Country Numb.	Country Code	Country Name	Availability		Country Numb.	Country Code	Country Name	Availability
89	443	KWT	Kuwait	1970-2009	113	688	MOZ	Mozambique	1988-2009
90	917	KGZ	Kyrgyz Republic	1997-2009	114	518	MMR	Myanmar	1970-2009
91	544	LAO	Lao PDR	1970-2009	115	728	NAM	Namibia	1994-2009
92	941	LVA	Latvia	1996-2009	116	558	NPL	Nepal	1970-2009
93	446	LBN	Lebanon	1970-2009	117	138	NLD	Netherlands	1970-2009
94	666	LSO	Lesotho	1972-2009	118	353	ANT	Netherlands Antilles	1970-2009
95	668	LBR	Liberia	1970-2009	119	196	NZL	New Zealand	1970-2009
96	672	LBY	Libya	1970-2009	120	278	NIC	Nicaragua	1970-2009
97	946	LTU	Lithuania	1996-2009	121	692	NER	Niger	1970-2009
98	962	MKD	Macedonia, FYR	1997-2009	122	694	NGA	Nigeria	1970-2009
99	674	MDG	Madagascar	1970-2009	123	142	NOR	Norway	1970-2009
100	676	MWI	Malawi	1970-2009	124	449	OMN	Oman	1977-2009
101	548	MYS	Malaysia	1970-2009	125	564	PAK	Pakistan	1970-2009
102	556	MDV	Maldives	1982-2009	126	283	PAN	Panama	1970-2009
103	678	MLI	Mali	1970-2009	127	853	PNG	Papua New Guinea	1979-2009
104	181	MLT	Malta	1972-2009	128	288	PRY	Paraguay	1970-2009
105	867	MHL	Marshall Islands	1996-2009	129	293	PER	Peru	1970-2009
106	682	MRT	Mauritania	1970-2009	130	566	PHL	Philippines	1970-2009
107	684	MUS	Mauritius	1972-2009	131	964	POL	Poland	1986-2009
108	273	MEX	Mexico	1970-2009	132	182	PRT	Portugal	1970-2009
109	868	FSM	Micronesia, Fed. Sts.	1996-2009	133	453	QAT	Qatar	1976-2009
110	921	MDA	Moldova	1996-2009	134	968	ROM	Romania	1976-2009
111	948	MNG	Mongolia	1995-2009	135	922	RUS	Russian Federation	1996-2009
112	686	MAR	Morocco	1970-2009	136	714	RWA	Rwanda	1970-2009

	Country Numb.	Country Code	Country Name	Availability		Country Numb.	Country Code	Country Name	Availability
137	716	STP	Sao Tome and Principe	1981-2009	161	923	TJK	Tajikistan	1997-2009
138	862	WSM	Samoa	1975-2009	162	738	TZA	Tanzania	1970-2009
139	135	SMR	San Marino	1996-2009	163	578	THA	Thailand	1970-2009
140	456	SAU	Saudi Arabia	1970-2009	164	742	TGO	Togo	1970-2009
141	722	SEN	Senegal	1970-2009	165	866	TON	Tonga	1989-2009
142	718	SYC	Seychelles	1981-2009	166	369	TTO	Trinidad and Tobago	1970-2009
143	724	SLE	Sierra Leone	1970-2009	167	744	TUN	Tunisia	1970-2009
144	576	SGP	Singapore	1970-2009	168	186	TUR	Turkey	1970-2009
145	936	SVK	Slovak Republic	1996-2009	169	925	TKM	Turkmenistan	1996-2009
146	961	SVN	Slovenia	1996-2009	170	746	UGA	Uganda	1970-2009
147	813	SLB	Solomon Islands	1982-2009	171	926	UKR	Ukraine	1996-2009
148	726	SOM	Somalia	1970-2009	172	466	ARE	United Arab Emirates	1976-2009
149	199	ZAF	South Africa	1970-2009	173	112	GBR	United Kingdom	1970-2009
150	184	ESP	Spain	1970-2009	174	111	USA	United States	1970-2009
151	524	LKA	Sri Lanka	1970-2009	175	298	URY	Uruguay	1970-2009
152	361	KNA	St. Kitts and Nevis	1988-2009	176	927	UZB	Uzbekistan	1996-2009
153	362	LCA	St. Lucia	1983-2009	177	846	VUT	Vanuatu	1985-2000
154	364	VCT	St. Vinc. & the Grenad.	1983-2009	178	299	VEN	Venezuela, RB	1970-2009
155	732	SDN	Sudan	1970-2009	179	582	VNM	Vietnam	1970-2009
156	366	SUR	Suriname	1970-2009	180	474	YEM	Yemen, Rep.	1995-2009
157	734	SWZ	Swaziland	1973-2009	181	754	ZMB	Zambia	1970-2009
158	144	SWE	Sweden	1970-2009	182	698	ZWE	Zimbabwe	1984-2009
159	146	CHE	Switzerland	1996-2009					
160	463	SYR	Syrian Arab Republic	1970-2009					

Table 1: Summary Statistics

	Minimum	Mean	Median	Maximum	Standard Deviation
Full Sample	-1.84	0.00	-0.53	2.48	1.52
Industrialized Countries	-1.84	1.24	1.95	2.48	1.40
Developing Countries	-1.84	-0.22	-1.15	2.48	1.43
Emerging Markets	-1.84	-0.18	-0.79	2.48	1.45

Table 2: Country Ranking

Ranking	Country Name	KAOPEN	Change in KAOPEN	Ranking	Country Name	KAOPEN	Change in KAOPEN
1	Armenia	2.48		64	Jamaica	1.68	Down
1	Austria (IDC)	2.48		64	Kyrgyz Republic	1.68	
1	Bahrain	2.48	Up	67	Antigua and Barbuda	1.43	
1	Belgium (IDC)	2.48		67	Slovak Republic	1.43	
1	Botswana	2.48		69	Bosnia and Herzegovina	1.23	Down
1	Bulgaria	2.48		69	Cambodia	1.23	
1	Canada (IDC)	2.48		69	Costa Rica	1.23	
1	Cyprus	2.48		72	Australia (IDC)	1.15	
1	Czech Republic	2.48		72	Croatia	1.15	
1	Denmark (IDC)	2.48		72	Indonesia	1.15	
1	Estonia	2.48		72	Kenya	1.15	
1	Finland (IDC)	2.48		72	Kuwait	1.15	
1	France (IDC)	2.48		72	Lebanon	1.15	
1	Gambia, The	2.48		72	Marshall Islands	1.15	
1	Germany (IDC)	2.48		72	Mexico	1.15	
1	Greece (IDC)	2.48		72	San Marino	1.15	
1	Guatemala	2.48		72	Saudi Arabia	1.15	
1	Guyana	2.48		82	Mongolia	0.98	Down
1	Haiti	2.48		82	Somalia	0.98	Up
1	Hong Kong, China	2.48		84	Papua New Guinea	0.90	Up
1	Hungary	2.48		84	Paraguay	0.90	Down
1	Ireland (IDC)	2.48		86	Georgia	0.73	Down
1	Israel	2.48		87	Bolivia	0.63	Down
1	Italy (IDC)	2.48		87	Iraq	0.63	Up
1	Japan (IDC)	2.48		89	Sao Tome and Principe	0.54	Down
1	Jordan	2.48		90	Brazil	0.43	
1	Latvia	2.48		90	Korea, Rep.	0.43	Up
1	Liberia	2.48		92	Russian Federation	0.17	Up
1	Malta (IDC)	2.48		93	Iran, Islamic Rep.	0.10	
1	Micronesia, Fed. Sts.	2.48		93	Macedonia, FYR	0.10	
1	Netherlands (IDC)	2.48		93	Netherlands Antilles	0.10	
1	New Zealand (IDC)	2.48		93	Philippines	0.10	
1	Nicaragua	2.48		93	Poland	0.10	
1	Norway (IDC)	2.48		93	Sri Lanka	0.10	
1	Oman	2.48		93	St. Lucia	0.10	
1	Panama	2.48		93	Tonga	0.10	
1	Peru	2.48		93	Turkey	0.10	
1	Portugal (IDC)	2.48		102	Colombia	-0.10	Down
1	Qatar	2.48		102	Dominica	-0.10	Down
1	Romania	2.48		102	Honduras	-0.10	Down
1	Seychelles	2.48	Up	102	Madagascar	-0.10	
1	Singapore	2.48		102	Malaysia	-0.10	Down
1	Spain (IDC)	2.48		102	Vietnam	-0.10	
1	Sweden (IDC)	2.48		108	Nigeria	-0.51	
1	Switzerland (IDC)	2.48		109	Azerbaijan	-0.62	Down
1	Trinidad and Tobago	2.48		110	Argentina	-0.79	
1	Uganda	2.48		111	Albania	-1.15	
1	United Arab Emirates	2.48		111	Algeria	-1.15	
1	United Kingdom (IDC)	2.48		111	Aruba	-1.15	
1	United States (IDC)	2.48		111	Bangladesh	-1.15	
1	Uruguay	2.48		111	Barbados	-1.15	
1	Yemen, Rep.	2.48		111	Belarus	-1.15	
1	Zambia	2.48		111	Belize	-1.15	
54	Djibouti	2.21	Down	111	Benin	-1.15	
54	Ecuador	2.21	Down	111	Bhutan	-1.15	
54	Egypt, Arab Rep.	2.21	Down	111	Burkina Faso	-1.15	
54	El Salvador	2.21	Down	111	Cameroon	-1.15	
54	Mauritius	2.21	Down	111	Cape Verde	-1.15	
59	Chile	1.95	Down	111	Central African Republic	-1.15	
59	Dominican Republic	1.95		111	Chad	-1.15	
59	Lithuania	1.95	Down	111	China	-1.15	
59	Slovenia	1.95	Down	111	Comoros	-1.15	
63	Maldives	1.78	Down	111	Congo, Rep.	-1.15	
64	Afghanistan	1.68	Up	111	Côte d'Ivoire	-1.15	

Ranking	Country Name	KAOPEN	Change in KAOPEN
111	Equatorial Guinea	-1.15	
111	Eritrea	-1.15	Up
111	Ethiopia	-1.15	
111	Fiji	-1.15	
111	Gabon	-1.15	
111	Ghana	-1.15	
111	Grenada	-1.15	
111	Guinea-Bissau	-1.15	
111	Iceland (IDC)	-1.15	
111	India	-1.15	
111	Kazakhstan	-1.15	
111	Lao PDR	-1.15	
111	Lesotho	-1.15	
111	Libya	-1.15	
111	Mali	-1.15	
111	Mauritania	-1.15	
111	Moldova	-1.15	
111	Morocco	-1.15	
111	Mozambique	-1.15	
111	Namibia	-1.15	
111	Nepal	-1.15	
111	Niger	-1.15	
111	Pakistan	-1.15	
111	Rwanda	-1.15	
111	Samoa	-1.15	
111	Senegal	-1.15	
111	Solomon Islands	-1.15	
111	South Africa	-1.15	
111	St. Kitts and Nevis	-1.15	
111	St. Vincent and the Grenadines	-1.15	
111	Swaziland	-1.15	
111	Tajikistan	-1.15	Down
111	Tanzania	-1.15	
111	Thailand	-1.15	Down
111	Togo	-1.15	
111	Tunisia	-1.15	
111	Turkmenistan	-1.15	
111	Uzbekistan	-1.15	
111	Zimbabwe	-1.15	Up
168	Venezuela, RB	-1.58	Down
169	Angola	-1.84	
169	Bahamas, The	-1.84	
169	Burundi	-1.84	
169	Guinea	-1.84	
169	Malawi	-1.84	
169	Myanmar	-1.84	
169	Sierra Leone	-1.84	Down
169	Sudan	-1.84	Down
169	Suriname	-1.84	
169	Syrian Arab Republic	-1.84	
169	Ukraine	-1.84	Down

Table 3: Countries that increased *KAOPEN*

	Ranking	Country Name	Change in <i>KAOPEN</i>	<i>KAOPEN</i> (2009)
1	82	Somalia	2.56	0.98
2	111	Eritrea	0.70	-1.15
3	111	Zimbabwe	0.70	-1.15
4	84	Papua New Guinea	0.27	0.90
5	1	Bahrain	0.27	2.48
6	1	Seychelles	0.27	2.48
7	64	Afghanistan	0.27	1.68
8	87	Iraq	0.27	0.63
9	90	Korea, Rep.	0.27	0.43
10	92	Russian Federation	0.27	0.17

Table 4: Countries that decreased *KAOPEN*

	Ranking	Country Name	Change in <i>KAOPEN</i>	<i>KAOPEN</i> (2009)
1	54	Djibouti	-0.27	2.21
2	54	Ecuador	-0.27	2.21
3	54	Egypt, Arab Rep.	-0.27	2.21
4	54	El Salvador	-0.27	2.21
5	54	Mauritius	-0.27	2.21
6	64	Jamaica	-0.27	1.68
7	84	Paraguay	-0.27	0.90
8	168	Venezuela, RB	-0.27	-1.58
9	87	Bolivia	-0.27	0.63
10	59	Chile	-0.27	1.95
11	59	Lithuania	-0.27	1.95
12	59	Slovenia	-0.27	1.95
13	82	Mongolia	-0.43	0.98
14	86	Georgia	-0.70	0.73
15	169	Ukraine	-0.70	-1.84
16	63	Maldives	-0.70	1.78
17	109	Azerbaijan	-0.98	-0.62
18	69	Bosnia and Herzegovina	-0.98	1.23
19	89	Sao Tome and Principe	-1.25	0.54
20	102	Colombia	-1.25	-0.10
21	102	Dominica	-1.25	-0.10
22	102	Honduras	-1.25	-0.10
23	102	Malaysia	-1.25	-0.10
24	111	Tajikistan	-1.25	-1.15
25	111	Thailand	-1.57	-1.15
26	169	Sierra Leone	-1.94	-1.84

Figure 1: Development of *KAOPEN* for Different Income Groups

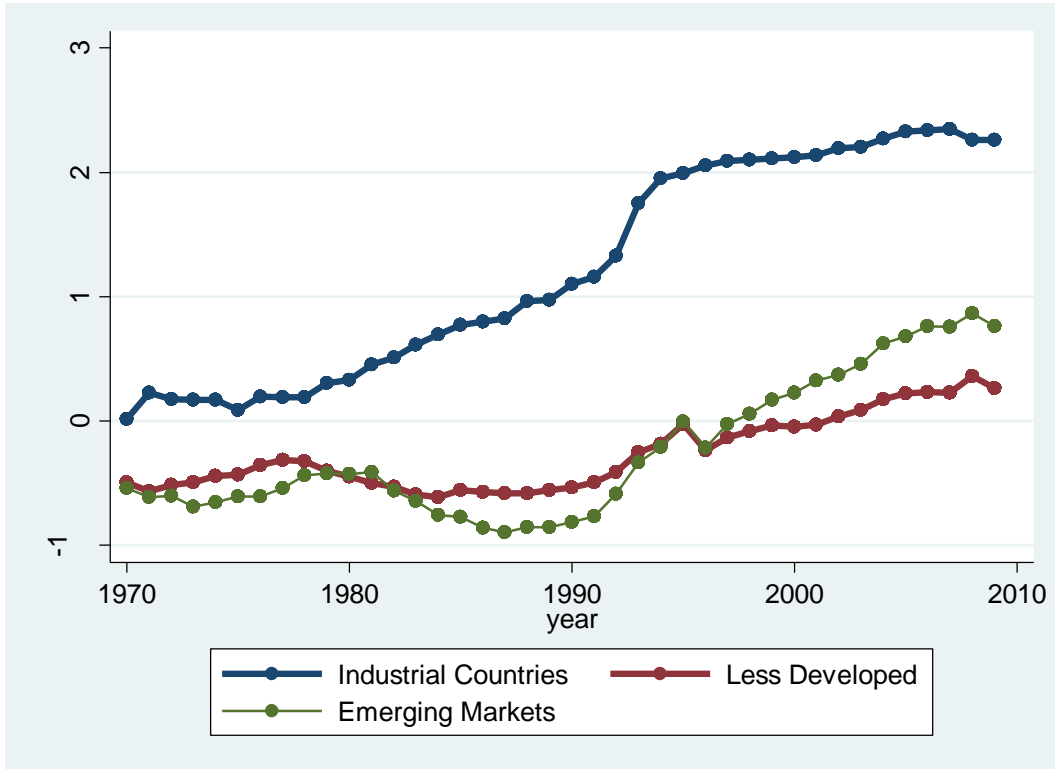
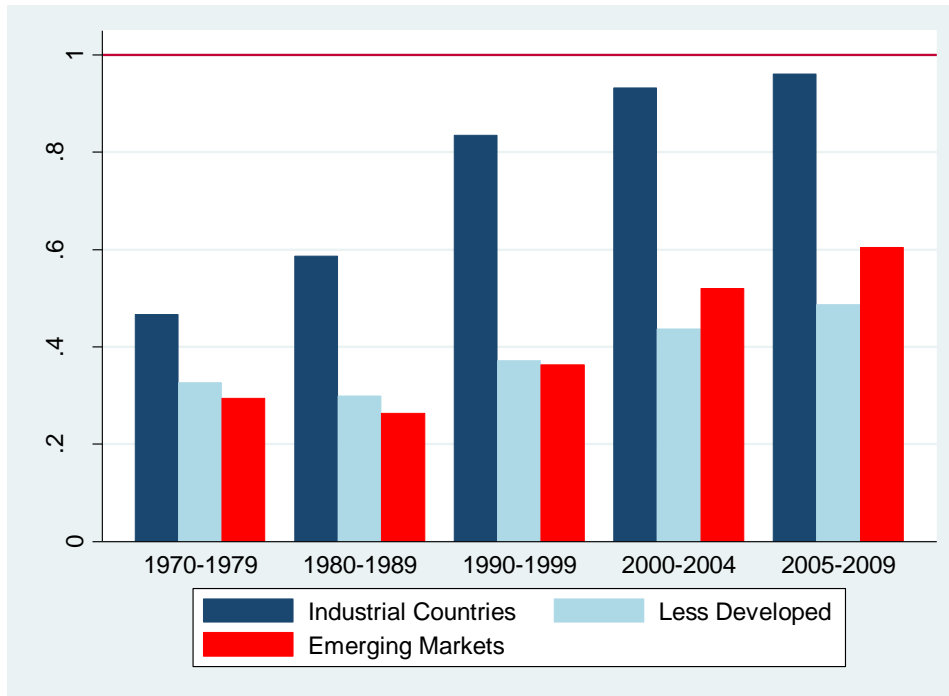
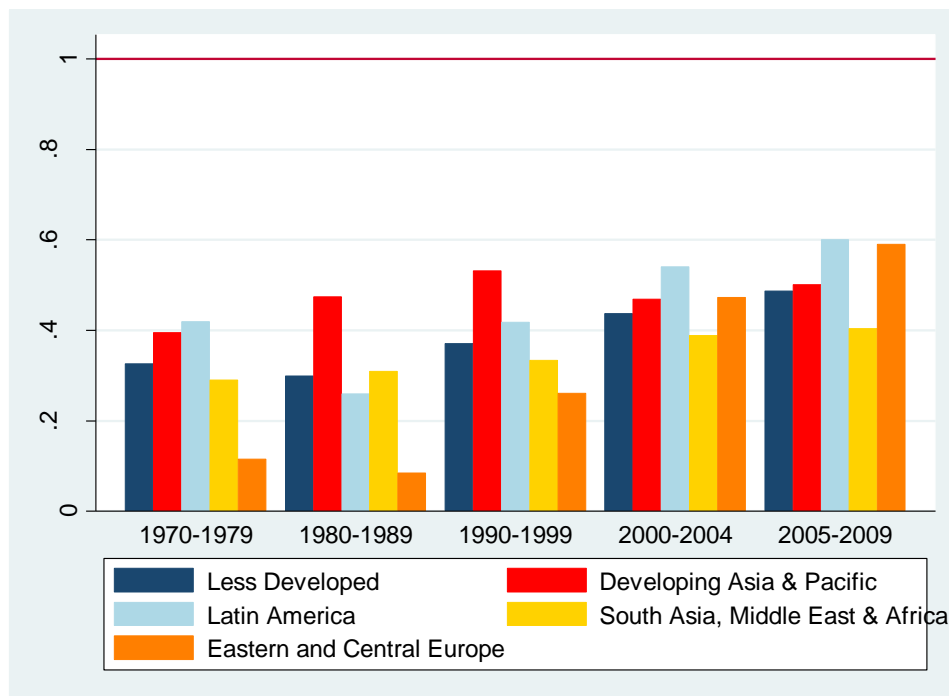


Figure 2: Comparison of *KAOPEN* Across Different Income Groups



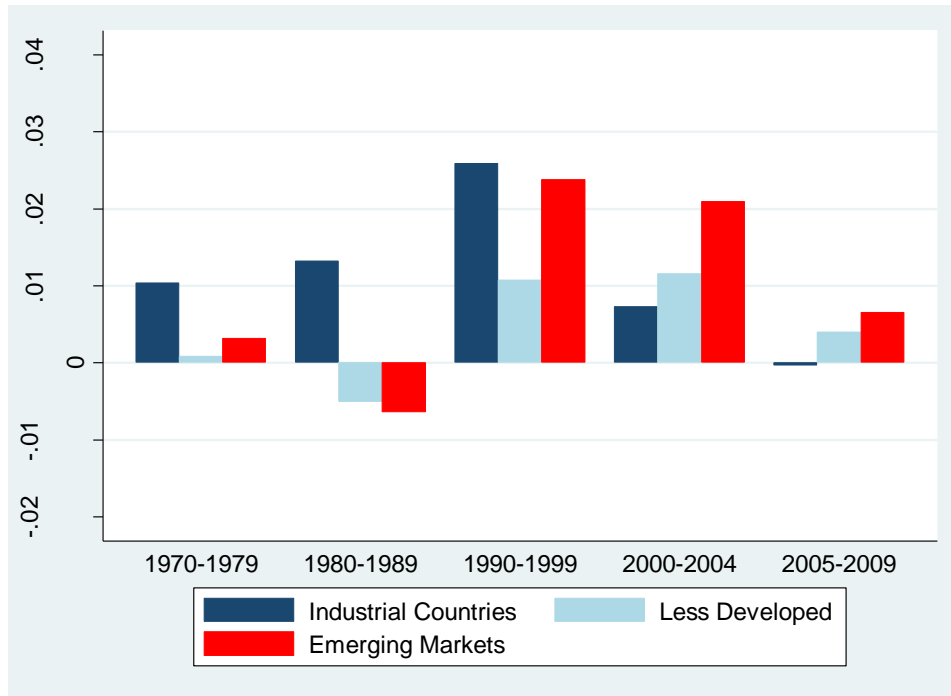
Note: The maximal value of *KAOPEN* is indexed as 1.00 for the sake of easier comparison.

Figure 3: Comparison of *KAOPEN* of Developing Countries Across Different Regions



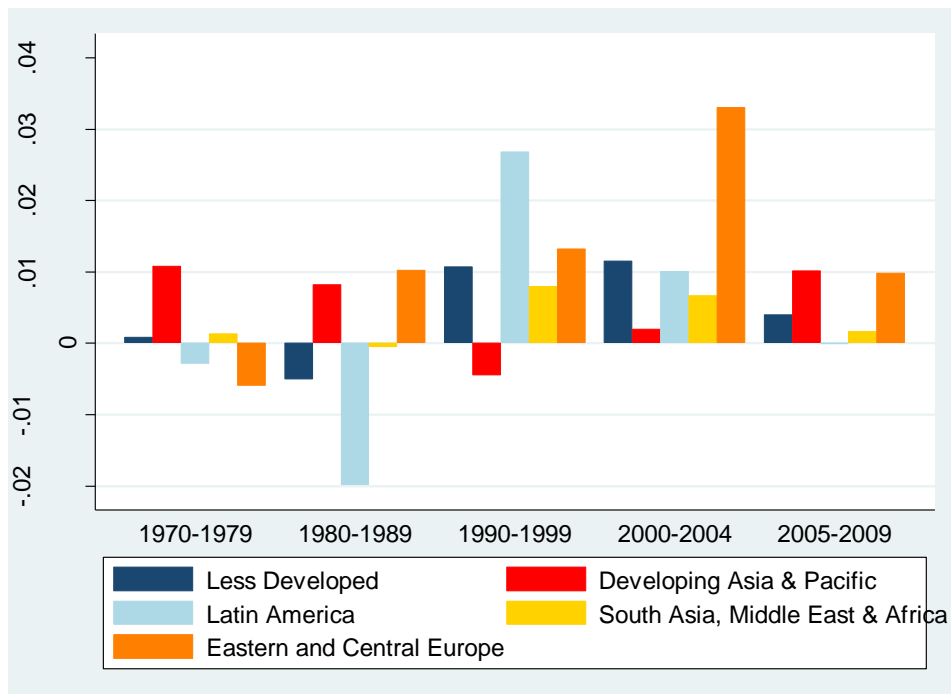
Note: The maximal value of *KAOPEN* is indexed as 1.00.

Figure 4: Change in *KAOPEN* among different income groups



Note: The change in *KAOPEN* is shown as the change in the normalized *KAOPEN* (max=1.00).

Figure 5: Change in *KAOPEN* among geographical groups of developing countries



Note: The change in *KAOPEN* is shown as the change in the normalized *KAOPEN* (max=1.00).