

Indices of Capital Controls

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Today there is a substantial controversy about the role of capital controls. Prior to the Asian Crises in 1997, the predominant view among economists was that controls on capital flows were generally bad. After the crises, there has been more disagreement about the role of capital controls. Many blamed capital mobility rather than national policies for the crises. During the 1997 crises, India and China were largely left untouched and some argued this was because they had substantial controls. Scholars such as Leblang (2001), and Glick and Hutchison (2000) have done statistical studies where they found that countries with capital controls are more prone to currency attacks. Other studies that have use capital controls are Quinn (1997) and Rodrik (1998) who look at the relationship between capital controls and its effect on economic growth and find quite different conclusions.

All of these studies other than Quinn (1997) have used capital controls measures that are simple zero-one variables. These are very blunt instruments for trying to capture the effects of controls. This problem of using simple capital measures has led to the construction of more sophisticated measures of capital controls. These measures are all continuous measures. They have been constructed by researchers such as Barry Johnston, Jacques Miniane, Brune et al., Dennis Quinn, Marco Rossi, and Abdul Abiad & Ashoka Mody. The Johnston, Miniane, Brune, and Rossi measures have been constructed using information from the different components of capital controls that the IMF releases in its Annual Report of Exchange Arrangements and Exchange Restrictions. The Quinn measure takes into account the severity of restrictions on

payments and receipts on the current and capital accounts. These measures are discussed in detail in an attachment.

In [Nitithanprapas, Rongala, and Willett \(2002\)](#) and subsequently in Rongala (2003) a number of measures of capital controls are considered in relation to their effects during the Asian crisis. The results of the studies also found that there is a positive relationship between capital controls and currency crises. Though other scholars have similar results too, the sign of the capital controls measures is still theoretically unclear.

Many officials and scholars such as Paul Krugman and Joseph Stiglitz have argued that countries like China and India were protected from the worst of the Asian crisis because of the presence of capital controls. While it is true that China and India did have controls and were not hard hit by the Asian currency crisis, Nitithanprapas, Rongala, and Willett (2002) find that their insulation can be explained by their underlying fundamentals and reserve levels.

Reasons for a positive relationship between controls and crisis have been offered by several scholars. Edwards (1999) argues that “During 1997-98, controls on the free mobility of capital also gave a false sense of security to Brazilian policy makers. They repeatedly argued that since short term capital inflows were restricted, their currency could not suffer the same fate as the Mexican peso. As it turned out, they were wrong.” In other words policy makers can become more complacent about their economic policies because they believe the imposition of capital controls has made them immune to crisis. Bartolini and Drazen (1997) and Wihlborg and Willett (1997) argue that the imposition or removal of capital controls acts as a signal to investors. They believe that when a country imposes controls on capital, it is sending a signal that there is something wrong with their economic fundamentals. Bartolini and Drazen suggest that countries still may impose controls in spite of the negative signal to “insure itself against bad states of

nature”. There is of course considerable dispute about the degree of effectiveness of controls in limiting capital outflows. (See Dornbusch (1998), Krugman (1998), and Rodrik (1998)). The recent Malaysian experiment with controls has not helped reduce the disagreement on this score. (See Kaplan and Rodrik (2002)). In this context Leblang (2001) has made an important innovation by distinguishing between the effects of controls in avoiding crises and in helping a country defend its currency once a crisis erupts. He finds that controls make currency crises more likely, but that they do have some effectiveness in helping country’s defend their currencies during speculative attacks.

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Evaluating the accuracy of capital control indices is difficult. There are problems ranging from data availability to coding methodology. This is reflected in the fact that a number of measures purportedly measuring capital controls show very different results.

The capital account is not just one single entity but consists of many complex components that make up the capital account. When countries are said to have capital controls it is very ambiguous. Most countries do not have controls on every item on the capital account but instead place controls on particular items. Some capital controls measures consider a large number of the components; such measures are said to be broad or have extensive coverage. The broader a capital controls measure is, the more likely it is to give an accurate picture of the degree of capital controls. Intensity of a measure is defined as how well it captures the level of intensity of restrictions on the capital account. Another way of saying it is, how restrictive are

capital controls in countries? If a measure has broad coverage it doesn't necessarily follow that the measure is also intensive and vice-versa.

Nitithanprapas, Rongala, and Willett (2002) found that there were some troubling aspects of the capital controls measures. The countries that were affected by the Asian crisis had relatively open capital accounts according to most observers, but not according to most of the measures of capital controls mentioned above.

The high levels of capital inflows into these countries before the crisis suggest that the conventional wisdom was more accurate than the major capital controls indices. It also suggests the importance of more systematically distinguishing between controls on capital inflows and on capital outflows. Rongala (2003) offers a detailed qualitative evaluation of the level of controls in seven Asian countries and concludes that the capital control indices do tend to overstate the level of controls in the countries.

The indices of capital controls for several Asian countries are given below

Indonesia										
	G&H	JIMF	MIMF	A-M	Q-T	A-Q	A-Q In	A-Q Out	Rossi In	Rossi Out
1988	0			0.67	0.41					
1989	0			0.67	0.36					
1990	0			0.67	0.36				0.62	0.30
1991	0			0.67	0.36				0.64	0.30
1992	0			0.33	0.36				0.60	0.30
1993	0			0.33	0.21				0.56	0.30
1994	0			0.33	0.21				0.52	0.30
1995	0		0.77	0.33	0.14				0.48	0.30
1996	1	0.5	0.92	0.33	0.14	0.38	0	0.75	0.44	0.30
1997	1		0.85		0.29	0.75	0.75	0.75	0.40	0.30
1998			0.85		0.32	0.68	0.85	0.5		
1999			0.85		0.36	0.63	0.75	0.5		

Philippines	G&H	JIMF	MIMF	A-M	Q-T	A-Q	A-Q In	A-Q Out	Rossi In	Rossi Out
1988	1			0.67	0.68					
1989	1			0.67	0.68					
1990	1		0.92	0.67	0.67				0.65	0.80
1991	1		0.92	0.67	0.60				0.61	0.77
1992	1		0.85	0.33	0.48				0.48	0.67
1993	1		0.85	0.33	0.30				0.46	0.64
1994	1		0.85	0.33	0.30				0.41	0.58
1995	1		0.92	0.33	0.27				0.39	0.61
1996	1	0.47	0.92	0.33	0.27	0.5	0.5	0.5	0.38	0.57
1997	1		0.92		0.39	0.5	0.5	0.5	0.36	0.58
1998			0.92		0.36	0.5	0.5	0.5		
1999			0.92		0.07	0.5	0.5	0.5		

S.Korea	G&H	JIMF	MIMF	A-M	Q-T	A-Q	A-Q In	A-Q Out	Rossi In	Rossi Out
1988	1			0.67	0.46					
1989	1			0.67	0.46					
1990	1		0.85	0.67	0.46				0.75	0.73
1991	1		0.85	0.67	0.45				0.74	0.72
1992	1		0.85	0.67	0.45				0.73	0.70
1993	1		0.85	0.67	0.39				0.67	0.62
1994	1		0.85	0.67	0.33				0.66	0.61
1995	1		0.85	0.67	0.25				0.65	0.59
1996	1	0.7	0.92	0.67	0.45	0.5	0.5	0.5	0.60	0.55
1997	1		0.92		0.57	0.5	0.5	0.5	0.60	0.55
1998			0.85		0.54	0.5	0.5	0.5		
1999			0.92		0.50	0.5	0.5	0.5		

Thailand	G&H	JIMF	MIMF	A-M	Q-T	A-Q	A-Q In	A-Q Out	Rossi In	Rossi Out
1988	1			0.33	0.58					
1989	1			0.33	0.57					
1990	1		n/a	0.33	0.53				0.37	0.81
1991	1		n/a	0.33	0.49				0.33	0.79
1992	1		n/a	0.33	0.46				0.28	0.77
1993	1		n/a	0.33	0.36				0.25	0.73
1994	1		n/a	0.33	0.36				0.24	0.70
1995	1		0.69	0.33	0.28				0.26	0.69
1996	1	0.63	0.77	0.33	0.37	0.50	0.5	0.5	0.27	0.69
1997	1		0.77		0.54	0.68	0.85	0.5	0.28	0.70
1998			0.77		0.54	0.68	0.85	0.5		
1999			0.77		0.57	0.50	0.5	0.5		

G&H = Glick & Hutchison
JIMF = Johnston IMF
MIMF = Miniane IMF
A-M = Abiad-Mody
Q-T = Quinn Type
A-Q = Adapted-Quinn
In = Capital Inflows
Out = Capital Outflows

(A higher number indicates a higher degree of capital controls. All indices are scored on a 0-1 scale).

The Quinn measure is the only one of the major capital control indices that attempts to measure the intensity of the restrictions that are in place. It is currently in the public domain for only a limited number of years. Using the Quinn methodology, several graduate students constructed indices for a large number of countries for five year intervals from 1970 to 1990 and yearly then onwards to 2000. As can be seen in the accompanying tables the Quinn type measures yield lower estimates of the degree of stringency of Asian capital controls than the indices based directly on the IMF categories that focus on the breadth of controls.

The original zero-one measure derived from IMF data in effect treated any capital restrictions as full capital controls. More recent zero-one measures such as Glick and Hutchison (2000) improve on this by recording one only if some threshold level of restriction is exceeded. This is still quite blunt, however.

While still far from perfect, it seems much better to use continuous measures based on the proportion of different types of categories that are covered by controls. It is hoped that the breadth of controls will be highly positively correlated with the intensity of the controls, but of course this need not always be the case. Furthermore, the indices can be highly sensitive to the number of categories used. The IMF currently publishes data on thirteen categories. Indices

based on these categories include those by Brune et al, Miniane, and Rossi. In the special study that led to the revision in the IMF data published, Johnston et al (1999) presented data on many more subcategories for one year, 1996. As can be seen in the accompanying tables, this measure generally gives substantially lower numbers for the degree of capital controls than the standard thirteen-categories IMF measures (compare JIMF with MINF). It appears that in the standard IMF measure if there are any controls within a category, the whole category is given a one, while in the more detailed Johnston measure a fraction would be reported. If correct, this would bias the new standard IMF measures upward, although this would still be superior to the old zero-one measures.

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