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Capital Account Convertibility in the International Monetary System: A Timeline of Evolving Views and Measurements!

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Abstract

This paper undertakes a review of the measures by which we assess the capital account convertibility of nations. These measures, which are central to understanding the rationales that lead policymakers to recalibrate capital controls and thereby change the convertibility of the capital account, have themselves evolved over time. The paper first provides a brief timeline and the shifting views of capital controls in the modern era, beginning at the start of the 20th century, through the interwar period and emerging market crises of the late 1990s, and then documents in detail how the measures used to assess changes to capital controls and convertibility have changed along with them.

Keywords: Capital controls • Recalibration • Capital account convertibility

Introduction

In the decade since the global financial crisis, some 47 nations have recalibrated their capital controls, by which we mean, loosened or tightened the capital account restrictions in place, introduced new restrictions, or removed existing restrictions. The resurgence of capital controls in the last decade reflects, in part, that these measures have become more widely accepted following the International Monetary Fund's limited endorsement of their use in 2012 (IMF 2012) [1], and a growing body of academic work that supports their use as a second- best policy under some circumstances [2]. These evolving views on capital controls are another chapter in a long and varied history during which capital controls have been both embraced and shunned by the international monetary system.

This paper undertakes a review of the measures by which we assess the capital account convertibility of nations. These measures, which are central to understanding the rationales that lead policymakers to recalibrate capital controls, have themselves evolved over time. I begin by providing a brief timeline of the recalibration of capital controls in the modern era, and leave the rest of the paper to a review of measures used to assess capital control measures.

Literature Review

Recalibration of capital controls in the Modern Era-A timeline

The modern history of capital controls begins in the early 20th century when the leading capital exporters of the time, among them France, Germany, and the United Kingdom, used controls on inflows of capital to finance the large expenditures associated with World War-I [3]. During the interwar period, the usage of controls on capital shifted towards outflows, exemplified most prominently by the usage of exchange restrictions in Germany to stabilize its economy as it faced significant capital retrenchment

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during the Great Depression [4]. In the post-World War-II years, as the world's leading powers sought to establish the new international monetary system, the lessons of the interwar period helped mold a favorable view of capital controls as an instrument to mitigate destabilizing capital flows, reflecting also the widespread use of fixed exchange regimes by many advanced countries at that time [5]. Indeed, at the 1944 Bretton-Woods conference where the International Monetary Fund (IMF) Articles of Agreement were signed, provisions were explicitly made for the use of capital controls as "...necessary to regulate international capital movements" (IMF Article VI, Section 3) [6].

In the Bretton Woods era, with many nations still under fixed exchange rate regimes, limited financial asset transactions was widespread. This was particularly evident in advanced nations who were the main participants in the international asset trade of those years, while capital controls were much less in use in the developing countries [7]. Indeed, in 1961 when the OECD published its first Code of Liberalization of Capital Movements, shortterm capital flows were excluded from free capital mobility obligations [8]. As the appetite for financial globalization began to accelerate in the 1980s, the major advanced economies, which were also the major financial centers of the world, began to emphasize the costs and distortions associated with capital controls, and increasingly shifted the rhetoric toward dismantling of capital account restrictions [9].

Capital account convertibility and emerging market crises

These events set the stage for what would become the first true internationalization of capital mobility. During the 1990s, as financial globalization transmitted from the advanced nations to the developing world, a gradual but steady liberalization of capital account policies took hold in the countries that became known as the emerging markets (International Finance Corporation) [10]. In an influential body of work [11-13], document that the openings of these markets lowered the cost of capital, raised equity returns, spurred investment, and improved economic growth rates.

The unprecedented flow of capital into these economies also brought undesirable impacts [14], documented that inequality worsened as foreign capital accumulated in the hands of a few, and they sowed the seeds of a wave of crises that hit emerging markets between 1997 and 2000. With the supply of foreign capital far exceeding the absorption capacity of these economies, the vast majority of borrowings denominated in foreign currency [15], and lacking the institutions and regulations to allocate capital to its most productive uses, fiscal and external imbalances widened rapidly. In July 1997, a run on the Thai baht triggered a broader loss of confidence that spread across Asia, then to Russia, and Latin America. The academic and policy interest in the costs and benefits associated with capital account liberalization accelerated with these crises. At the core of this interest was the need for comparable cross-country measures of capital account convertibility. The purpose of this paper is to discuss these measures, present their strengths and drawbacks, and describe how they have evolved over time.

Discussion

Measures of capital controls

Capital controls are government restrictions on the cross-border transactions of financial assets. They can be price-based such as taxes and fees, quantity-based such as quotas and limits, or administrative such as approval requirements [16]. They can be economy-wide, industry-specific, sector-specific, apply on just the inflow of capital, or the outflow of capital, or both. Because capital controls regulate the flow of capital in and out of the capital account of the Balance of Payments, they are sometimes known as capital account restrictions. While the presence of a capital control is straightforward to record, it is more difficult to measure the extent, or "intensity" of capital controls. Such measures must distinguish between whether, for example, a 1 percentage point increase in the fees applying to cross-border equity market flows are more restrictive than the introduction of a holding period requirement on Foreign Direct Investment (FDI) flows. Accordingly, all available capital control measures describe the presence of controls, while falling short of adequately capturing their intensity.

Annual report on exchange arrangements and exchange restrictions

The vast majority of cross-country time series measures of capital controls have been derived using the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER). The AREAER provides annual information on capital account regulations for the entire IMF membership (currently 190 nations). Since 1997, it has included detailed information across a disaggregated set of assets (e.g., equity, debt) and also separately coded capital account restrictions on inflows versus outflows. Using the AREAER, an initial set of capital account openness measures were proposed by creating either a dummy variable for the presence of controls or enumerating the number of years for which controls were in place [17-23].

Despite the many merits of these papers, the data series are insufficiently long in either the time dimension, insufficiently broad in the cross-section, or both. In all cases, they have not been extended from their initial construction to more updated years or countries. Three AREAER-based measures have stood out for their country coverage and time dimension: the index proposed by Quinn [24-26], the index proposed by Chinn and Ito (2007), and that by Fernandez et al. [27]. In all cases, the measures are calculated at annual frequency as this is the frequency at which the IMF updates the AREAER. Quinn's measure, which has expanded its coverage over time and now includes over 100 countries [28], is based on a reading of the qualitative information in the AREAER. Quinn scores this information on a scale ranging from 0 (no restrictions) to 14 (maximal restrictions), but does not distinguish between restrictions on inflows and outflows.

This index has become widely used for both its ease of interpretation and frequent updates to the latest available data. The Chinn and Ito index, which is devised as a measure of financial account openness rather than capital controls per se, is based on calculating the principal component of the binary coded variables that summarize the detailed tabulation of capital account restrictions in the AREAER. Using the first standardized principal component of these measures, the Chinn-Ito index is higher the greater is the openness of a country to capital account transactions. This is one of the more minor differences of the index from Quinn, where higher numbers of the index correspond to greater use of capital controls. A significant advantage of the Chinn-Ito index is its comprehensive coverage, covering 181 members of the IMF, which includes many low-income countries that are not included in the Quinn index.

A recent addition to the AREAER-based measures is the index proposed by Fernandez et al. [27]. This index is closely related to Schindler [23], but expands the underlying asset categories used in calculation (to ten), the time series to over two decades from 1995 to 2017, and the country coverage to 100 countries. An important feature of this index is that it takes account separately of capital controls on inflows and outflows. In doing so, Fernandez et al. [27], are able to provide a more detailed analysis of capital controls, with separate indices for inflow controls, outflow controls, and an aggregate measure representing the overall capital account openness of the economy. The Quinn, Chinn-Ito, and Fernandez et al. indices are used frequently in the literature and are well suited to assessing the capital account openness of an economy. However, as Binici et al. [2] argue, these indices are increasingly ill-suited to understand how policymakers recalibrate capital controls at high frequency. In recent years, it is these rationales for recalibration of capital account policies has assumed high academic and policy priority to distinguish, for example, whether they are motivated by export competitiveness reasons, macroeconomic stabilization, or financial stability concerns [2,16]. For these types of question, researchers require high-frequency data, while all of the indices based on the AREAER are compiled at annual frequency. Such indices are inadequate for such questions because by their design they obscure large within-year changes to capital account regulation (Figure 1). The high-frequency measure of capital controls I describe next however reflects the active management of policies to regulate capital flows.

High-frequency measures of capital controls

Recognizing the limitations of the annual measures based on the AREAER, a new effort has begun to compile data on high-frequency changes to capital controls during the last decade. These measures appropriately measure the recalibration of capital controls, as they document not the stock of capital account restrictions in place but rather, the changes to capital account policies at high frequency (monthly or quarterly). While this effort has gathered pace in recent years, with the exception of the IMF Taxonomy (reviewed below), the databases that have been assembled have generally yielded samples with limited country coverage, or limited time coverage, or both. In Ahmed et al. [29], capital controls using primary sources are compiled for 19 emerging markets in 2009-2012. Forbes et al. [30] assemble weekly data for 60 advanced and emerging economies for a relatively short period between 2009-2011, drawing on central bank circulars, news reports and other sources; Pasricha et al. [31] document quarterly changes to CFMs for 16 emerging markets between 2001 and 2012, drawing on information from both the AREAER and data from central banks. Other high-frequency data focus either on a limited set of capital controls on a few assets or a single country. For example, de Gregori et al. Compile a rich list of capital controls, but focus on just one country [32-34].

IMF taxonomy of capital flow management measures

Along the lines of these high-frequency databases, the IMF has begun to publish for the first time a Taxonomy of Capital Flow Management Measures (henceforth "Taxonomy") which serves as the only repository of capital controls recognized by the IMF (IMF 2019). In contrast with the AREAER (which is assembled at the IMF but records the use of capital controls as reported by authorities to the IMF), the Taxonomy is assembled by experts at the IMF, reflecting the views of the IMF itself, and compiled at monthly frequency. Since the Taxonomy is a textual description of the changes to capital account policies, Binici et al. [2] assemble its information into a quantitative database in a consistent manner over countries and time, resulting in a database of 398 distinct capital controls between January 2008 and September 2019 which represent the capital account policy actions of 11 advanced economies, 25 emerging markets and 8 low-income countries. The term "capital flow management measures" is intended to refer to capital controls, which are residency based, as well as domestic prudential measures (which are not residency-based) that may serve to limit capital flows regardless of their intention; IMF (2019).

Adopting an approach popularized in the macro prudential literature, they record the direction of the capital controls (that is, whether they are tightening, easing or stable), and complementing it with IMF country reports and central bank circulars they approximate the intensity of capital controls. The inclusion of low-income countries is a significant step forward, as high frequency data on capital account policies of developing economies is scarce in the literature. The diversity of countries and the long timecoverage of the taxonomy provides the greatest depth and breadth of the recalibration of capital controls in the literature thus far.

Review of the Illustrative evidence

Using the granularity and frequency of the Taxonomy, Binici et al. [2] analyze the rationales for policymakers to recalibrate capital controls at business-cycle frequency. Analyzing 44 advanced and emerging economies that recalibrated capital controls between 2008 and 2019, they find that domestic overheating and capital flow management are key rationales for tightening controls on capital inflows, while financial stability and exchange rate objectives are important for tightening measures on outflows. Countries with non-inflation targeting monetary frameworks and non-flexible exchange rate regimes have a higher probability of recalibrating capital controls, consistent with the lack of independent stabilization policies and the limited ability of the exchange rate to act as an effective shock absorber.

This type of analysis cannot be conducted with the previous indices of capital controls which, while well-suited to describing de jure openness, are less suitable to describe the episodic management of the capital account, described as "gates" in Klein [35]. This point is made clearly by Figure 1 by showing the stark difference between the capital account indices of Quinn [25,27,36] and changes to capital account policies at business-cycle frequency for select economies. Notice that the capital account indices are stable over long periods of time even as countries intensively tighten and ease capital account regulations. This implies that analyzing how indices change as a measure of how policymakers respond to business cycle developments will lead to inferring that there is no capital account response. In practice, the literature normalizes the Quinn index to lie between 0 and 1 and inverts the scale so that higher numbers are, like in the Chinn-Ito index, consistent with greater openness; see (Figure 1) [36].



Figure 1. Capital account openness indices vs. High-Frequency Capital account Management.

Note: ()Capital controls (LHS); (💼)Fernandez et al.; ()Chinn-lto;
()Quinn		

Notes: This figure shows three annual indices of capital account openness along with the number of capital controls usedat quarterly frequency. Positive (negative) numbers of capital controls indicate the number of tightening (easing) measures. Quinin index is unavailable for Iceland; Femandez et al. are updated through 2017; and China-Itlo are updated through 2018. All indices have been normalized to lie between 0 and 1, with higher numbers representing greater capital account openness.

Source: Frenandez et al. (2016); Chinn-Itlo (2006); Quinn (200); IMF Taxonomy and author's calculations.

Conclusion

The international monetary system has had a long and varied history with capital account convertibility. A new chapter in this history appears to have originated with the global financial crisis in 2008-09, after which the IMF softened its stance on the use of capital controls and an influential body of academic papers supported the use of capital controls as a secondbest policy under certain circumstances. As the debate about the costs and benefits of capital controls ensues, it will be essential for empirical research to weigh in with the evidence on how they are used, and what their economic and financial impacts are. In this endeavor, high-frequency, granular information on the use of capital controls will be essential. As discussed in this paper, a new research effort has begun to accumulate such data. With time, such data will have global coverage and an adequately long time series to conduct the analysis needed to shed more light on the issues surrounding capital account convertibility.

References

- "The Liberalization and Management of Capital Flows: An Institutional View." IMF (2012).
- Mahir, Binici and Das Mitali. "Recalibration of Capital Controls: Evidence from the IMF Taxonomy." J Int Money Financ 110 (2021):102252.
- Kris James, Mitchener and Wandschneider Kristen. "Capital Controls and Recovery from the Financial Crisis of the 1930s." J Int Econ 95 (2015): 188-201.
- Peter, Temin. "The German Crisis of 1931: Evidence and Tradition." Cliometrica 2 (2008): 5-17.
- Ethan, Ilzetzki, Reinhart Carmen M and Rogoff Kenneth S. "Exchange Arrangements Entering the Twenty-First Century: Which Anchor Will Hold?" Q J Econ 134 (2019): 599-646.
- 6. "Articles of Agreement of the International Monetary Fund." (2020).
- Eric, Helleiner. "Freeing Money: Why have States Been More Willing to Liberalize Capital Controls than Trade Barriers?" *Policy Sciences*, 27 (1994): 299-318.
- "OECD Code of Liberalisation of Capital Movements: 2003 Edition. Organisation for Economic Co-operation and Development." OECD (2003).
- Nicholas, Kristof and Sanger David. "How U.S. Wooed Asia to Let Cash Flow In." The New York Times. (1999).
- "IFC the First Six Decades: Leading the Way in Private Sector Development." International Finance Corporation (2016).
- 11. Peter Blair, Henry. "Stock Market Liberalization, Economic Reform and Emerging Market Equity Prices." J Finance 55 (2000): 529-564.
- 12. Peter Blair, Henry. "Capital Account Liberalization, the Cost of Capital, and Economic Growth." Am Econ Rev, 93 (2003): 91-96.
- Geert, Bekaert, Harvey Campbell R and Lundblad Christian. "Liquidity and Expected Returns: Lessons from Emerging Markets." *Rev Financ Stud* 20 (2007): 1783-1831.
- 14. Mitali, Das and Mohapatra Sanket. "Income Inequality: The Aftermath of Stock Market Liberalization in Emerging Markets." J Empir Finance 10 (2003): 217-248.
- 15. Barry, Eichengreen, Hausmann Ricardo and Panizza Ugo. "Original Sin: The Road to Redemption." *University of California* (2003).
- Nicolas E, Magud, Reinhart Caemen M and Rogoff S Kanneth. "Capital Controls: Myth and Reality-A Portfolio Balance Approach: No w16805." NBER (2011).
- Rueven, Glick and Hutchinson, Michael. "Currency and Banking Crises: How Common Are Twins?" (2001).
- Vittorio, Grilli and Milesi-Ferretti Gian Maria. "Economic Effects and Structural Determinants of Capital Controls." Staff Papers 42 (1995): 517-551.

- 19. RB, Johnston and Tamirisa Natalia T. "Why Do Countries Use Capital Controls?" *IMF* (1998).
- 20. Michael, Klein and Olivei P Giovanni. "Capital Account Liberalization, Financial Depth and Economic Growth." J Int Money Finance 27 (2008): 861-875.
- 21. Sebastian, Edwards. "How Effective Are Capital Controls?" J Econ Perspect 13(1999): 65-84.
- Jacques, Miniane. "A New Set of Measures on Capital Account Restrictions." IMF Staff Pap 51 (2004): 276-308.
- Martin, Schindler. "Measuring Financial Integration: A New Data Set." IMF Staff Pap 56 (2009): 222-238.
- 24. Dannis, P Quinn and Toyoda A Maria. "Does Capital Account Liberalization Lead to Growth?" Rev Financ Stud 21 (2008): 1403-1449.
- 25. Dannis, Quinn. "The Correlates of Change in International Financial Regulation." Am Political Sci Rev 91 (1997): 531-551.
- Dannis, P Quinn. "Capital Account Liberalization and Financial Globalization, 1890-1999: A Synoptic View." Int J Finance Econ 8 (2003): 189-204.
- Andres, Fernandez, Klein W Michael, Rebucci Alessandro and Schindler Martin, et al. "Capital Control Measures: A New Dataset." *IMF Econ Rev* 64 (2016): 548-574.
- Steven, Phillips, Catao Luis, Ricci Luca Antonio and Bems Rudolfs, et al. "The External Balance Assessment (EBA) Methodology." IMF (2013).

- 29. Shaghil, Ahmed and Zlate Abdrei. "Capital Flows to Emerging Market Economies: A Brave New World?" J Int Money Finance 48 (2014): 221-248.
- Forbes, Kristin, Fratzscher Marcel and Straub Roland. "Capital-Flow Management Measures: What Are They Good For?" J Int Econ 96 (2015): S76-S97.
- Gurnain Kaur, Pasricha, Falagiarda Matteo, Bijsterbosch Martin, and Aizenman Joshua, "Domestic and Multilateral Effects of Capital Controls in Emerging Markets." J Int Econ 115 (2018): 48-58.
- 32. Jose, De Gregorio, Edwards Sebastian, and Valdes O Rodrig. "Controls on Capital Inflows: Do They Work?" J Dev Econ 63 (2000): 59-83.
- Chikako, Baba and Kokenyne Annamaria. "Effectiveness of Capital Controls in Selected Emerging Markets in the 2000's." IMF (2011).
- 34. Radhika, Pandey, Pasricha K Gurnania, Patnaik Ila and Shah Ajay. "Motivations for Capital Controls and Their Effectiveness." Int J Finance Econ 26 (2015): 391-415.
- 35. Klein, Michael W. "Capital Controls: Gates versus Walls." NBER (2012).
- Menzie D, Chinn, and Ito Hiro. "What Matters for Financial Development? Capital Controls, Institutions, and Interactions." J Dev Econ 81 (2006): 163-192.

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