

68th Economic Policy Panel Meeting

**4-5 October 2018
Vienna**

Hosted by the Oesterreichische Nationalbank

What's in a Name? That Which We Call Capital Controls

Atish R. Ghosh (International Monetary Fund)
Jun Il Kim (International Monetary Fund)
Mahvash S. Qureshi (International Monetary Fund)

The organisers would like to thank the Oesterreichische Nationalbank for their support.

The views expressed in this paper are those of the author(s) and not those of the supporting organization.

WHAT'S IN A NAME? THAT WHICH WE CALL CAPITAL CONTROLS*

Atish R. Ghosh[†]

International Monetary Fund
Washington DC, USA

Email: aghosh@imf.org

Jun Il Kim

International Monetary Fund
Washington DC, USA

Email: jkim2@imf.org

Mahvash S. Qureshi

International Monetary Fund
Washington DC, USA

Email: mqureshi@imf.org

Abstract

This paper investigates why controls on capital inflows have a bad name by tracing how capital controls have been used and perceived since the laissez-faire era of the classical gold standard. While advanced economies often employed capital controls to tame inflows during the last century, we conjecture that several factors undermined their subsequent use—most notably, a “guilt by association” with controls on capital outflows, that have typically been employed by autocratic regimes or those with failed macroeconomic policies. We formalize the idea of a possible guilt by association between inflow controls and outflow controls in a signaling model, and provide some empirics consistent with it.

JEL Classification Numbers: F21, F32, F38, N2

Keywords: capital controls, capital flows, gold standard, interwar period, Bretton Woods

* We thank Thorsten Beck, Olivier Blanchard, Eric Helleiner, and four anonymous referees, as well as participants at the 14th INFINITI Conference on International Finance (where the paper was the recipient of the Best Paper Award), and at the Bank of England, the Graduate Institute of International and Development Studies, and the NIPFP-DEA Research Program seminars, for helpful comments and suggestions. We are grateful to Eun Sun Jang and Chifundo Moya for excellent research assistance. The views expressed herein are those of the authors and do not necessarily represent the views of the IMF, its Executive Board, or IMF management.

[†] Corresponding author.

WHAT'S IN A NAME? THAT WHICH WE CALL CAPITAL CONTROLS

I. INTRODUCTION

“I have only eight seconds left to talk about capital controls. But that’s OK. I don’t need more time than that to tell you: they don’t work, I wouldn’t use them, I wouldn’t recommend them...”

Agustin Carstens¹

Former Governor, Bank of Mexico

Capital controls have a bad name. While their usefulness for managing surges in capital inflows has gained greater recognition in recent years (Ostry et al., 2010, 2011; IMF, 2012a), as the quote above amply demonstrates, they are still viewed with considerable suspicion and misgivings. An oft heard argument against capital controls on inflows is that they are subject to evasion and circumvention, yet one never hears the same argument applied to other policy instruments—for instance, that taxes should be abolished because they are subject to evasion. Likewise, despite being very much in vogue these days, evidence on the effectiveness of macroprudential measures is certainly no more compelling than that on the efficacy of capital controls on inflows.² It is telling, moreover, that even when capital inflow controls are employed, governments often prefer euphemisms such as “prudential measures” when referring to them.³

Resentment of *outflow* controls is understandable: residents might want to avail themselves of global investment opportunities or, more simply, to safeguard their money abroad, while foreign investors will certainly want to be able to repatriate their funds upon liquidation of their investments. Much more puzzling is the almost visceral opposition to *inflow* controls when these are adopted by emerging and developing markets—especially since such measures were often integral to advanced economies’ efforts at managing speculative (“hot money”) flows during the gradual liberalization of their capital accounts in the latter half of the twentieth century. So whence this bad name associated with inflow controls? That is the question we explore in this paper.

¹ Remarks made as the Governor of Bank of Mexico at Rethinking Macro Policy III Conference, Washington DC, April 15, 2015 (<http://www.imf.org/external/mmedia/view.aspx?vid=4176918093001>).

² See, e.g., Galati and Moessner (2014) for a survey of literature on the use and effectiveness of macroprudential measures.

³ Technically, capital controls are defined as measures that discriminate by the residency of the investor—they could be employed for prudential (financial-stability) reasons, or to limit macroeconomic imbalances. See Ghosh, Ostry, and Qureshi (2017) for a detailed discussion.

To find some clues, we delve into the historical record—tracing both the use of capital controls and how thinking about them has evolved since the late-nineteenth century “golden era” of financial globalization—which we believe is crucial to understanding current attitudes toward the use of inflow controls. While a few existing studies have analyzed historical trends in capital flows and capital account liberalization in general (e.g., Obstfeld and Taylor, 1998; Quinn, 2003; Schularick, 2006), the evolution of inflow controls as a policy tool to tame volatile capital flows has not been specifically examined. Yet, most modern day calls for capital controls pertain to their use as a prudential instrument against capital inflows in countries where the capital account is largely liberalized.⁴ To make an informed judgment about these instruments requires a better understanding of how these measures were used historically, and how perceptions and biases—a “negative narrative”—surrounding their use developed over time.⁵

Our reading of the historical record, based on an extensive collection of information from primary and secondary sources, yields several conjectures why inflow controls evoke such visceral opposition to this day. The foremost explanation is that, in the minds of many, inflow and outflow controls are inextricably linked. This is evident from some of the criticisms typically leveled against inflow controls, which appear to be much more pertinent to outflow controls (for instance, that they are persistent, pervasive, ineffective, and signal weak institutional quality).⁶ Traditionally, outflow controls have been more prevalent, more stringent, and typically associated with autocratic and repressive regimes trying to prevent capital flight; governments trying to prop up failed macroeconomic policies; or financial crises in which residents lost the real value of their savings, and nonresidents were unable to repatriate their capital. Inflow measures thus seem to be damned by this “guilt by association,” which induced emerging market (EM) and developing countries to jettison both outflow and inflow controls together—without fully taking into account the prudential role of the latter—when they liberalized their capital accounts in the 1980s and 1990s.

Building on this insight, we formalize the idea of guilt by association between inflow and outflow controls by developing a signaling model in which “good” governments (those committed to sound policies and necessary adjustment in the face of capital outflow shocks) may

⁴ A voluminous literature analyzes the pros and cons of capital account openness, as well as the need and effectiveness of capital controls as a short-term policy tool. See Ghosh, Ostry, and Qureshi (2017) for a detailed review of this literature. Some studies also examine the political economy dimension of financial globalization (e.g., Helleiner, 1994; Abdelal, 2006).

⁵ See Shiller (2017) on how narratives in economics develop and have impact on policy and on economic outcomes.

⁶ See, among others, Forbes (2004), De Rato (2007), and Olson and Kim (2013) for a critique of inflow controls.

abjure the use of inflow controls—despite their crisis-prevention benefit—for fear of being labelled as a “bad” government that is less willing to adjust in the face of shocks, and more likely to default or impose outflow controls instead. Provided governments differ sufficiently in their willingness to undertake macroeconomic adjustment, a separating equilibrium will emerge in which inflow controls are damned by their association with outflow controls.

Analyzing a panel dataset on capital controls in advanced and EM economies dating back to the 1950s, we provide suggestive evidence in support of the guilt by association hypothesis. Specifically, we find that as autocratic governments became more restrictive in terms of overall capital account openness, democratic governments subsequently became more liberal—while we find no such negative feedback from the behavior of democratic governments to autocratic governments. Moreover, distinguishing between controls on inflows and outflows, there is a similar negative association between the use of inflow controls by democratic governments and the (lagged) intensification of outflow controls by autocratic regimes, whereas there appears to be no such negative association between the use of outflow controls by democratic governments and the subsequent use of outflow or inflow controls by autocratic regimes.

Overall, therefore, we conjecture that much of the reluctance of EMs to adopt inflow controls today stems from a guilt by association between inflow and outflow controls (with the latter being tightly linked with autocratic regimes, exchange restrictions, dirigiste policies, financial repression, and generally poor macroeconomic performance). Inflow controls appear to have undeservedly earned a bad name—like other policy instruments, they have their pros and cons, but there is no apparent reason to believe that they are *inherently* worse or costlier than any other policy measure. As our historical review shows, advanced economies often relied on inflow controls to preserve financial stability as their financial markets developed, and in most cases abolished them for reasons that do not necessarily apply to today’s EMs (such as the desire for greater regional economic integration in Europe). The use of inflow controls thus needs to be assessed in light of the particular circumstances facing the country—and weighed against the costs and benefits of other available policy tools.

The rest of the paper is organized as follows. Section II traces in broad strokes basic trends in cross-border capital flows and the adoption of capital controls since the late nineteenth century, highlighting the key events that shaped thinking about capital controls. Section III draws on the history to conjecture that inflow controls are often viewed with suspicion because of a

guilt by association with outflow controls, and formalizes this idea using a signaling model. It also presents some empirics consistent with our hypothesis. Section IV concludes.

II. A SNAPSHOT OF HISTORY

Managing capital flows is scarcely a new idea: there is evidence that exchange controls existed in ancient times.⁷ For our purposes, however, it suffices to begin with the end of World War I and to distinguish four key phases: the interwar years; the Bretton Woods period; the adoption of generalized floating; and the aftermath of the global financial crisis.

A. The Interwar Period

During the latter part of the nineteenth century (the so-called golden era of financial globalization), underpinned by the gold standard and with virtually no legal restrictions on either outflows or inflows, the major industrialized countries in Europe—Britain, France, and Germany—exported significant amounts of capital (sometimes, as much as 10 percent of their GDP) to the developing and emerging markets of the day. The outbreak of World War I interrupted this flow of capital (and the operation of the gold standard), and when the War ended, deep differences in attitude toward restoring cross-border capital flows emerged across countries. At one extreme was the Soviet Union, which under an authoritarian and state socialist model had imposed tight controls on capital movements by 1919. At the other extreme were the private and central bankers of the leading economies of the day (including the United States that had gone from being the world’s largest debtor in the runup to the War to the largest creditor after the War), seeking to re-establish the pre-War liberal—and for the great banking houses, highly profitable—international monetary order. The 1922 Genoa Economic and Monetary Conference, held to discuss and resolve problems in the post-War economic and financial reconstruction of Europe (and build ties with the Soviet Union), at the end resolved that, “all artificial control of exchange ... is futile and mischievous and should be abolished at the earliest possible date.”⁸

Wartime dislocation, currency misalignments, and money financing of deficits delayed this process, especially in Europe. But starting with the 1924 Dawes Plan and Loan, Germany managed to stabilize its economy and put its new currency, the Reichsmark, on the gold standard. Britain returned to gold in 1925 at her pre-War parity. France also de facto returned to

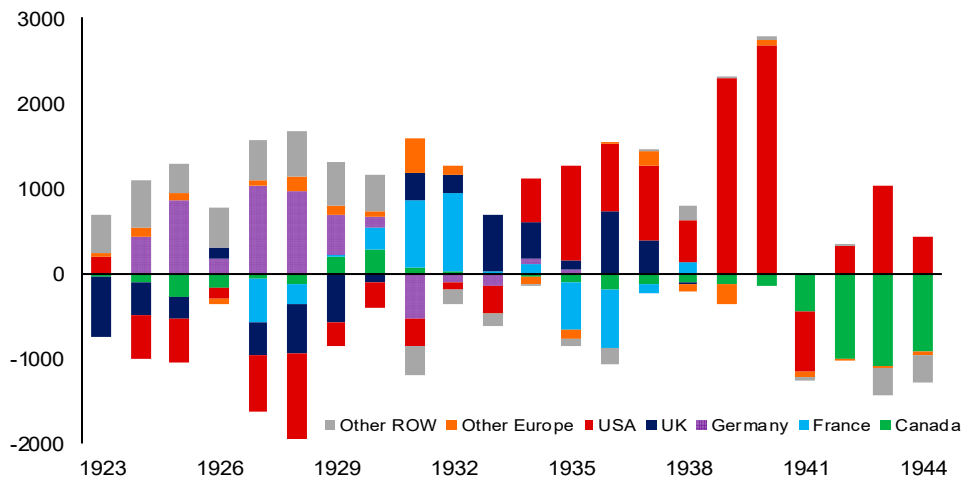
⁷ Einzig (1970) documents the existence of exchange control policy in Sparta and Egypt under Ptolemaic and Roman rules.

⁸ Resolution 14 of the Financial Commission of the Genoa Economic and Monetary Conference; see Mills (1922; p. 366).

gold in 1926 (de jure in 1928), albeit at a highly depreciated exchange rate. By the late 1920s, most of the world's major economies were back on the gold standard.⁹

Buoyed by the success of the Dawes Loan, and underpinned by the re-established gold standard, US banks entered a period of massive international lending, averaging about a billion dollars a year over 1924–29. Half of this lending was destined for Europe, partly intermediated by British banks (Figure 1). Town halls in Germany were inundated by representatives of global banks offering aggressively priced credits, spurring a huge economic and financial boom.¹⁰

Figure 1. Net Capital Flows to Selected Countries, 1923–44 (in USD mln.)



Sources: Authors' calculations based on the League of Nations (1931, 1932, 1939, 1948).

Notes: Flows include errors and omissions. Countries are included based on data availability: Canada (1923-44); France (1927-38); Germany (1924-35); UK (1923-38); USA (1923-44); Other Europe: Czecho-Slovakia (1925-37), Denmark (1923-39), Estonia (1924-38), Greece (1929-38), Hungary (1923-37), Latvia (1923-37), Netherlands (1929-39), Norway (1923-44), and Sweden (1923-44); Other ROW: Argentina (1923-44), Australia (1923-37), Dutch Indies (1925-39), India (1924-38), Japan (1924-36), New Zealand (1927-37), South Africa (1923-37), and Turkey (1926-33).

But this resurrection of the liberal international order did not last long. The credits to Europe had not solved the underlying adjustment problem—whereby creditor nations were unwilling to increase imports to allow debtor countries to service their debts—it had merely postponed it.¹¹ When a boom in the New York stock market (which ultimately ended in the

⁹ The United States maintained the gold standard almost throughout World War I, suspending convertibility only twice—once in July 1914 at the onset of the War, and then in 1917 as it entered the War (Crabbe, 1989).

¹⁰ See Brown (1987) and Eichengreen (1992) for a detailed account of the interwar period. Over 1913–25, world production and trade rose by 16 percent and 7 percent, respectively, but in Europe, production increased by only 2 percent and trade declined by 10 percent. By contrast, over 1925–29, world and European production grew by 20 percent and 31 percent, respectively (League of Nations, 1932).

¹¹ Keynes (1929) takes note of this problem: “For the last two or three years the Transfer Problem has been solved by Germany borrowing from abroad for capital purposes at home ... Clearly this process of borrowing from abroad cannot go on indefinitely. When it comes to an end, it will be necessary to divert the labor it now employs to producing for export.” Keynes then argued that this would require an increase in competitiveness in the form of lower (measured in terms of gold) German wages. Keynes’ article sparked a lively debate with Bertil Ohlin and Jacques Rueff—as well as a literature on whether, through a deterioration in its terms of trade, the recipient of a transfer could be made worse off; see Keynes (1929), Ohlin (1929), and Rueff (1929).

October 1929 crash) drew both domestic and foreign capital to the US, Europe suffered a massive “sudden stop.”¹² By September 1930, Germany was experiencing funding difficulties and the Reichsbank suffered a run, losing RM1 billion (US\$250 million) in the last quarter of the year (League of Nations, 1932; p. 72–74). In May 1931, the Creditanstalt, a major Austrian bank, disclosed heavy losses, triggering a global financial crisis as the debt unsustainability of Austria, Germany, and Eastern European countries became evident. With Germany unable to meet her short-term obligations to banks, the government declared a standstill on foreign payments and imposed exchange restrictions in July 1931. This triggered a run on Pound sterling as British banks were known to be heavily exposed to Germany and Eastern Europe—forcing Britain off the gold standard in September 1931, with most of her dominions and numerous other countries following suit.¹³

What ensued was a decade of dizzying capital flight, hot money flows, competitive devaluations, exchange restrictions and capital controls (nearly all on outflows), protectionism, and imploding global trade (League of Nations, 1938, 1944). The immediate impact of Pound sterling’s devaluation was a drain of capital from the US as investors lost confidence in the gold exchange standard and started hoarding gold instead of reserve currencies. When the dollar rout subsided, the US devalued the dollar in April 1933. The dollar devaluation put speculative pressure on the Dutch Florin, the Swiss Franc, the French Franc (the largest economy still on gold), as well as on the other gold bloc countries (Belgium, Italy, and Portugal). In sequence, countries abandoned the gold standard and devalued, imposed foreign exchange restrictions (of varying severity for capital and/or current account transactions), or did both (Figure 2).

¹² In Figure 1, the positive purple bars indicating flows into Germany shrink dramatically during 1927-29, turning negative by 1930. At the same time, the negative red bars indicating flows out of the United States shrink dramatically as well. Together, these indicate that there was a sudden stop of capital flows from the US to the European deficit countries. Bloomfield (1946, p. 692) notes that “in 1927 the Federal Reserve System reduced its discount rates in order to assist capital-exporting countries, but, by stimulating the stock market, this action had a perverse effect.”

¹³ The Bank of England’s gold reserves fell from £163.2 million on July 1, 1931 to £133.6 million on September 23, 1931 (and further to £120.0 million by November 4, 1931). See Fanno (1939; p. 65) for a detailed discussion of “normal” and “abnormal” capital movements during the interwar period.

Figure 2. Exchange Restrictions and Abandoning of Gold Standard, July 1931-July 1932

(Total number of major advanced and emerging market countries)



Source: Authors' calculations based on the League of Nations (1932).
 Note: Data is unavailable for August 1931.

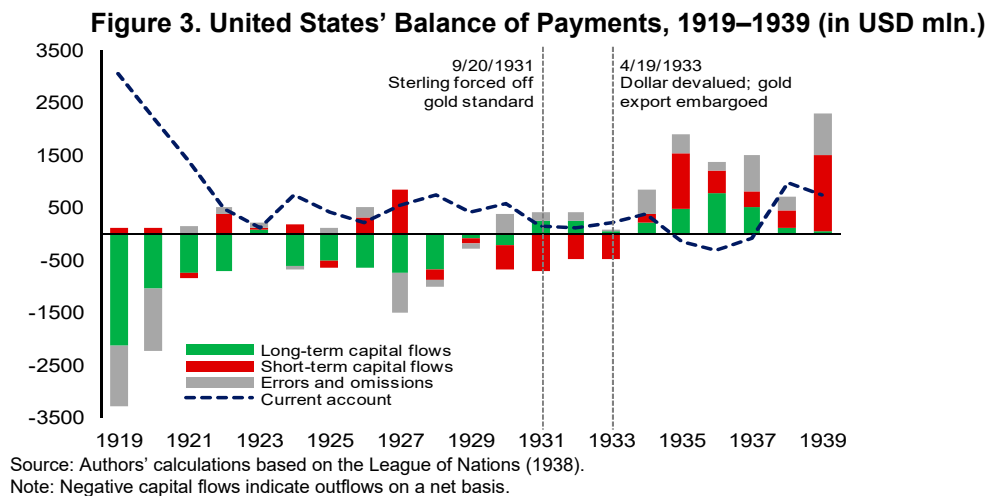
Notably, however, it was mostly the autocratic and authoritarian regimes in Europe—such as Austria, Bulgaria, Germany, Hungary, Portugal, Romania, and Yugoslavia—that imposed exchange restrictions and controls to limit capital outflows (League of Nations, 1932; Quinn, 2003).¹⁴ In the case of Germany, capital account restrictions adopted in July 1931 continued through 1932, only to be extended by the Nazis in 1933, who saw them as a key element of their macroeconomic plan. The coverage of controls was widened, and penalties for violation were strengthened to include even the death penalty. By the late 1930s, exchange controls had thus become associated with Nazi Germany (Cooper, 1999).

Following the dollar devaluation, as the US economic recovery gained momentum, and against a background of worrying political developments in Europe, capital—mostly short-term funds—surged to the United States, reaching US\$1.5 billion in 1935, and increasing further to over US\$2 billion in 1939 (Figure 3). The US administration grew concerned that foreign flight capital was contributing to an unhealthy speculative boom in the stock market as well as swelling excess reserves of the US banking system, which could precipitate an inflationary spiral and credit boom outside of the normal channels of control of the Federal Reserve. Equally worrying was the risk that foreign countries' loss of gold reserves through capital flight might prompt them to impose trade restrictions on US exports, undermining the nascent recovery. Finally, there

¹⁴ Of the countries that imposed exchange restrictions over 1931-35, over 60 percent were autocratic or semi-autocratic regimes as identified by the Polity IV dataset (<http://www.systemicpeace.org/polity/polity4.htm>).

was the possibility that foreigners might become large sellers in the event of war or other developments in Europe. Marriner Eccles, Chairman of the Federal Reserve, noted in 1937:¹⁵

Since such inflows complicate the problem of achieving and maintaining a prosperous stability, constitute a source of embarrassment to many countries from which the capital is flowing, and... have nothing to do with foreign trade or the international division of labor, there appears to be a clear case for adopting measures designed to deter the growth of foreign capital holdings in our markets.



Yet the US did *not* impose controls on capital inflows.¹⁶ There were not many precedents for controls on capital inflows, and based on the experience of countries trying to control capital flight, there was the belief that to be effective, the restrictions would need to be broad-based, covering both capital and current transactions.¹⁷ Perhaps more importantly, there was a general distrust of any such measures owing to the capital outflow restrictions imposed by undemocratic, dictatorial regimes, especially the Soviet Union and Nazi Germany. As Bloomfield (1950) notes:

Exchange control over capital movements and current account transactions alike was generally regarded in these circles as inherently objectionable and a perversion of the

¹⁵ Source: *Fortune*, April 1937 (https://fraser.stlouisfed.org/docs/historical/eccles/068_05_0005.pdf).

¹⁶ The Federal Reserve, however, doubled reserve requirements of member banks in 1936–37 to counteract inflationary pressures stemming from the large gold inflows.

¹⁷ The few cases of inflow controls in the interwar period include Switzerland, which abolished interest payments on nonresident deposits in 1937; levied a one percent commission; and required advanced notice for withdrawals of such deposits. Argentina and Sweden also reduced interest payments on nonresident deposits (Bloomfield, 1950; p. 194).

pattern of international payments worthy only of totalitarian countries or justifiable only under conditions of extreme necessity.

Henry Morgenthau, the US Treasury Secretary, summed up the prevailing attitude when in 1937 he wrote, “I am opposed to exchange control, except as a last resort. Frankly, I disapprove of exchange control.”¹⁸

B. The Bretton Woods Era

The interwar period had a major influence on the main architects of Bretton Woods—John Maynard Keynes and Harry Dexter White—who took the lesson that a regime of unfettered capital flows is fundamentally inconsistent with the macroeconomic management increasingly expected of governments (namely, to strive for full employment), or with liberal international trade (since in the face of outflows, governments may impose trade restrictions to protect the balance of payments and gold reserves, while in the face of inflows, currency appreciation pressures may spur protectionist pressures to maintain competitiveness).¹⁹ Given the choice, they preferred free trade to free capital flows—especially to short-term, hot money flows. Hence the emphasis in the IMF’s Articles of Agreement on current, rather than capital account convertibility, and the explicit recognition that countries may need to impose capital controls.

Keynes and White thus envisaged capital controls as a *structural* element of the international financial landscape, rather than as just temporary or transitional measures. They also realized that capital controls would not be effective unless applied “at both ends” of the transaction, and their original plans at the Bretton Woods conference therefore mandated IMF member countries to cooperate in enforcing each other’s measures (partly in lieu of more Draconian exchange restrictions that they thought would be necessary to make unilateral controls effective; Helleiner, 2015).²⁰ Last minute intervention by powerful New York bankers, however, succeeded in watering down these proposals, and in the final version of the IMF Articles agreed at the conference, capital controls were not included as a permanent feature of the international financial landscape (Helleiner, 1994). Instead, Article VI.3 merely noted that “members may exercise such controls as are necessary to regulate international capital movements.” The requirement that member countries cooperate in enforcing each other’s capital control measures

¹⁸ *New York Times*, February 16, 1937, p. 31; cited in Bloomfield (1950; p. 183).

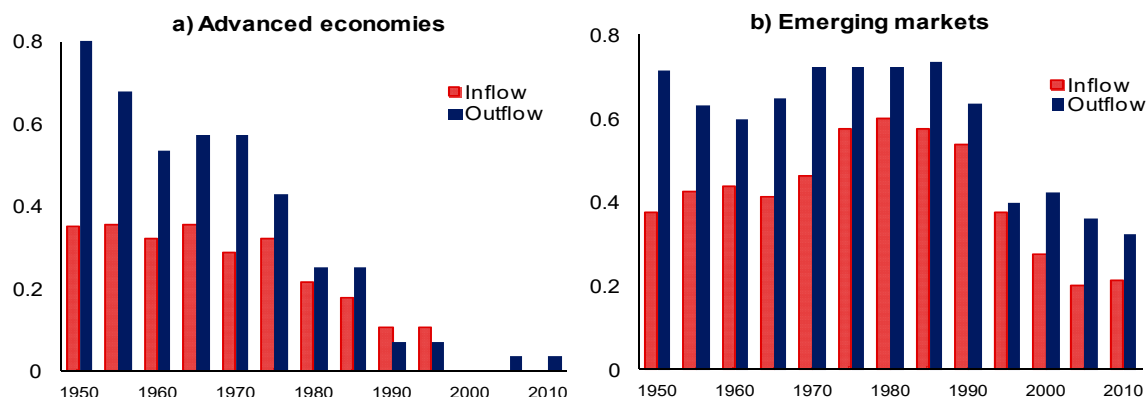
¹⁹ In effect, Keynes and White turned the view that capital controls were associated with repressive regimes on its head, arguing that such measures were necessary to preserve a liberal regime for international trade.

²⁰ This idea was not unique to Keynes and White; Ragnar Nurske argued similarly (League of Nations, 1944; p. 164).

was also dropped, and Article VIII.2(b) stated that countries “may, by mutual accord, cooperate in measures for the purpose of making the exchange control regulations...more effective.”²¹

Despite this push back by US banking interests, the Bretton Woods era was characterized by widespread use of restrictive measures (Figure 4). As in the interwar period, these were mainly controls on outflows rather than on inflows; unlike that period, they were typically not exchange restrictions but specifically capital controls (since the IMF’s Articles prohibit exchange restrictions on current account transactions, except transitionally or with the IMF’s approval). The measures were also unilateral since the United States, which was the major recipient of capital flight, declined to cooperate in enforcing other countries’ outflow restrictions. Helleiner (1994) argues that this refusal to cooperate reflected the further re-assertion of US banking interests, facilitated by changing attitudes within the US Treasury—which became more orthodox, as Secretary Morgenthau was replaced by Fred Vinson, and shortly later by John Snyder who had formerly been an investment banker. In fact, in his testimony to US Congress in 1948, Snyder stated that controlling capital inflows would require exchange controls that “would do maximum violence to our position as a world financial center and to our policy of keeping the dollar substantially free of restrictions” (Helleiner, 1994; p. 60).

Figure 4. Capital Controls in Advanced and Emerging Market Economies, 1950–2010



Source: Authors' estimates based on IMF's AREAER (various issues).

Note: Advanced countries include the G7 countries. EMs include those that were IMF members in 1950 (Argentina, Brazil, Chile, Colombia, Ecuador, Egypt, India, Indonesia, Korea, Malaysia, Mexico, Pakistan, Peru, Philippines, South Africa, Thailand, Tunisia, Turkey, Uruguay, and Venezuela). Indices are cross-country averages, where restrictions are coded as 0: none, 0.25: mild, 0.75: significant, 1: extreme, based on their intensity and coverage; see appendix for details).

²¹ Moreover, the IMF cannot require a member country to impose controls on outflows when IMF resources are financing capital flight, it can only “request” that it do so (and make it ineligible for further use of IMF resources if it fails to do so). Curiously, the IMF *can* require a country to impose controls on capital *inflows* under the general provisions of Article V.3(a).

A prominent example of capital controls in the Bretton Woods period is that of Britain. Following a disastrous “dash to convertibility” in 1947, which ended within six weeks with a run on the Pound sterling, Britain imposed strict controls on capital outflows that were maintained until 1979. It is worth noting, however, that despite US resistance to control capital inflows, the US Federal Reserve and the Treasury agreed (for strategic reasons) in 1949 to help the Bank of England defend the pound by cracking down on sterling transactions in the New York foreign exchange markets, which were illegal under British exchange controls (Helleiner, 1994). In 1949, the IMF also released a statement repeating the obligations of member countries (under Article VIII.2(b)) to make “unenforceable” the foreign exchange dealings in their territories that violated other members’ exchange controls.²²

Despite the outflow controls, the 1950s and 1960s saw the birth and boom of the Eurodollar market in London. Schenk (1998) notes that this was partly the result of a “loophole” in the regulations, which permitted transactions on the forward exchange market. While aware of this loophole and concerned about the implications of the rise of Eurodollar deposits, the Bank of England and Treasury tolerated the trend to keep London as a global financial center.²³ A Bank of England report of 1963 notes:

[H]owever much we dislike hot money we cannot be international bankers and refuse to accept money. We cannot have an international currency and deny its use internationally.²⁴

Elsewhere in Europe (and Japan), likewise, full capital account liberalization had to await the 1980s. Indeed, during the initial post-war decades, advanced economies (with the exception of Canada, Germany, Switzerland, and the US) were generally *more* restrictive in regard to capital flows than many emerging market and developing economies (Figure 4). Even Germany occasionally imposed inflow controls in late 1950s and 1960s to deal with speculative capital movements (Table 1). In 1957, for instance, it imposed higher reserve requirements on

²² As the IMF’s Legal Department explained to the Executive Board on October 29, 1948, the “unenforceability of exchange contracts under Article VIII.2(b), means that the courts in members’ territories must not lend their assistance to implement the obligations of such contracts.” In other words, it is not that such contracts would be illegal per se, but that if one of the parties to the transaction failed to fulfill his obligations under the contract, the other party would not have recourse to the courts to enforce the contract (see Horsefield, 1969, p. 209–210; Gold, 1962; p. 60–68).

²³ Although both the Bank of England and the Treasury shared the view that London should remain an important financial center, Schenk (1998) notes that “the Treasury was more cautious than the Bank, sometimes complaining that the latter was under excessive influence by financial institutions.”

²⁴ Report by JML for Hamilton, 19 October 1961. BE EID 10/19; cited in Schenk (1998).

nonresident bank deposits to prevent credit being extended against these deposits, which largely represented short-term speculative capital flows in anticipation of the devaluation of the Pound sterling (Goode and Thorn, 1959). An authorization requirement was also imposed in June 1960 on the purchase of domestic money paper by nonresidents, along with a ban on interest payments on nonresident bank deposits.

Change in trend

Nevertheless, the trend during the 1950s and 1960s in advanced economies was toward capital account liberalization—driven, in part, by the rising trade integration and internationalization of commercial activity, which made it difficult to restrict capital transactions without also affecting current transactions (Goodman and Pauly, 1993). The impetus was enshrined in the 1961 OECD Code of Liberalization of Capital Movements, though it is noteworthy that the Code initially explicitly *excluded* short-term capital flows from liberalization obligations. The trend was occasionally interrupted as individual countries suffered balance of payments difficulties. As early as 1963, for example, concerned by capital outflows that were causing persistent balance of payments deficits and undermining confidence in the dollar, the US imposed an Interest Equalization Tax (IET) on foreign issuances in its markets. By 1970, as the US current account turned to deficit, this measure was broadened to incorporate both voluntary and mandatory foreign credit restraints, including an outright embargo on net direct investment outflows to continental Europe. Helleiner (1994) notes that the measures reflected skepticism among US policy makers concerning the benefits of a liberal financial order, and even the American Bankers Association admitted in 1968 that the case for free capital movements was weak, given that many such movements were speculative, unproductive, and tax-avoiding.

At the other end, countries such as Australia, Germany, Japan, and Switzerland, that were the recipients of increasingly large flows speculating on the possibility of dollar devaluation, imposed restrictions on short-term inflows (Table 1). Australia embargoed short-term borrowing, and imposed deposit requirements on other borrowing. Japan tightened controls on portfolio inflows and imposed marginal reserve requirements on nonresident deposits. Germany imposed a cash deposit requirement (*Bardepot*) on foreign loans, suspended interest payments on nonresident deposits, and imposed marginal reserve requirements on the growth of banks' external liabilities. Switzerland launched a “gentleman’s agreement” with domestic banks not to accept short-term foreign currency deposits (Schenk, 1998). Swiss banks also agreed not to pay

interest on foreign deposits, or to invest foreign capital in domestic securities and properties, as well as to charge a fee on deposits withdrawn within six months.

Table 1. Selected Cases of Inflow Controls Tightening in Advanced Countries

Country	Years	Measures	Context
Australia	1972-74 1977	- Embargo on short-term borrowing - Variable deposit requirement (VDR) on foreign borrowing 1/ - VDR on foreign borrowing 1/	Restrict inflationary pressures and a stock market boom
Austria	1971-75	- Reserve requirement (RR) on increase in nonresident deposits	Reduce inflationary pressures
Finland	1985-90	- Prohibition on sale of local currency bonds to nonresidents	Restrict domestic credit
France	1963-67 1971-73	- Prohibition on interest payment on nonresident deposits - Prohibition on loans by nonresidents to residents - Minimum RR on external bank liabilities - Prohibition on interest payment on nonresident deposits	Curb speculative inflows, and reduce appreciation pressures
Germany	1957 1960-61 1965 1968-73 1977-78	- Higher RR on nonresident deposits - Prohibition on sale of domestic money-market paper to nonresidents of domestic fixed-income securities with the obligation to reacquire the securities at a definitely fixed price - Ban on interest payments on nonresident bank deposits - Prohibition on domestic banks to guarantee loans granted by domestic residents to nonresidents - Withholding tax on interest income on assets held by nonresidents - Minimum RR for any increase in external liabilities of domestic (Bardepot) of 40 percent on foreign loans - Suspension of interest payment on nonresident deposits - Authorization requirement imposed on nonresidents' purchase of domestic fixed interest securities (later extended to equities, mutual fund shares and borrowing above DM 50,000) - Higher RR on nonresident deposits - Authorization requirement for sale of securities with a maturity of less than 4 years to nonresidents	Curb speculative inflows; reduce inflationary pressures and domestic credit extension
Ireland	1977	- RR on capital inflows to commercial banks	Restrict domestic credit growth
Japan	1971-72 1977-78	- Restriction on nonresidents purchase of domestic bonds and equities - Higher marginal RR on nonresident deposits - RR on foreign currency liabilities of foreign exchange banks, residents' external foreign currency deposits, and nonresident	Reduce appreciation pressures
Netherlands	1971-73	- Prohibition on interest payment on nonresident demand deposits - Introduction of closed bond circuit system (<i>O-guilder</i>) for transactions in guilder-denominated securities, where purchase of such securities by nonresidents could be made only with funds from sales by nonresidents	Curb speculative inflows, and reduce appreciation pressures
New Zealand	1973-85	- Approval requirements for foreign loans by companies	
Spain	1989	Imposition of nonremunerated RR on financial credits taken up abroad	Maintain monetary stability and reduce appreciation pressures

Table 1 (contd.). Selected Cases of Inflow Controls Tightening in Advanced Countries

Country	Years	Measures	Context
Switzerland	1937-39	- Charge on nonresident holders of short-term balances (equivalent of charging a negative rate of interest)	Stem short-term speculative inflows; reduce inflationary, and appreciation pressures
	1950-51	- Charge on nonresident holders of short-term balances	
	1955-58	- Charge on nonresident holders of short-term balances	
	1960	- Limits on the rights of nonresidents to hold sight deposits with domestic banks or to purchase domestic securities, and require all foreign deposits to be held for at least three months - Charge on nonresident holders of short-term balances, and payment of no interest on any foreign deposit	
	1971-79	- RR on the growth and level of external liabilities - Charge on nonresident accounts - Authorization required for foreign borrowing by nonbank sectors	
UK	1971	- Financial institutions prohibited from accepting deposits or loans from nonresidents of the Sterling area 2/ - Nonresidents of the Sterling area prohibited from buying sterling securities having fixed maturity of less than 5 years - Prohibition of interest payment on increase in the balance of nonresidents' sterling accounts	Reduce inflationary pressures

Sources: IMF's AREAER, Goode and Thorn (1959), Dorrance and Brehmer (1961), Australian Treasury (1999), and Bakker and Chapple (2002).

1/ A proportion of borrowed funds had to be deposited in local currency with the central bank in an interest-free, non-assignable deposit account, until loan repayments were made. This was not applicable to the financing of normal foreign trade transactions; to borrowings of less than USD 100,000 in any 12-month period; or to existing portfolio position.

2/ Sterling area comprised a group of countries that either pegged their currencies to the pound sterling, or used it as legal tender.

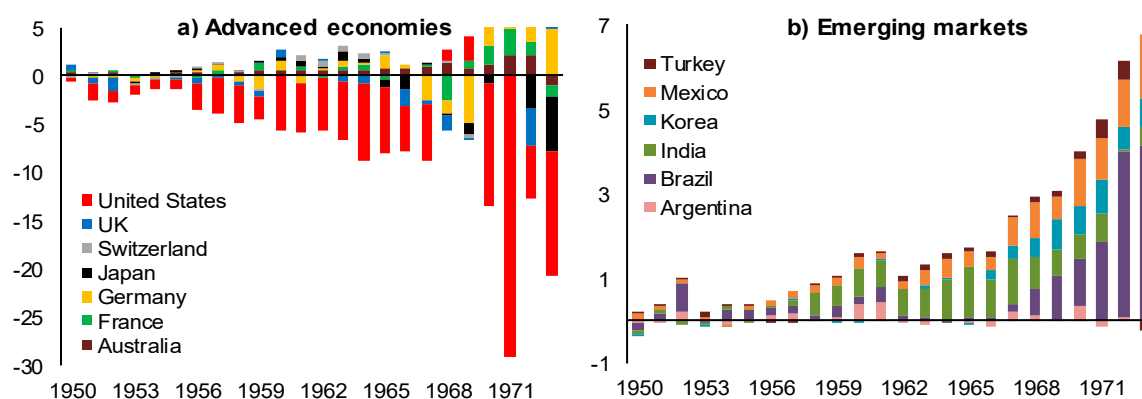
Despite the increasingly desperate measures (the intensification of the IET and the inflow measures in Europe), the hemorrhaging of the US balance of payments proved impossible to stop. The dollar was devalued in August 1971, and the major currencies were realigned at the Smithsonian Agreement in December that year. The effective devaluation of the dollar of around 10 percent, however, was insufficient to restore equilibrium in the US balance of payments, which came under renewed stress in 1972 and early 1973 (Figure 5). Surprisingly, at that stage, the US not only declined to strengthen its outflow controls, but it actively opposed international cooperation in the administration of inflow and outflow controls that was being advocated by both the Japanese and the Europeans.²⁵

By the following year, the US had abandoned its outflow controls. Confident that the size and liquidity of US financial markets would always attract investors, US officials henceforth embraced—explicitly and unreservedly—a liberal international regime for private capital flows.

²⁵ This shift in attitude could be attributed to the realization by US officials that unfettered private capital flows would be able to achieve in short order what they had failed to do in years of international negotiation: force currency appreciation in Japan and the European surplus countries, thus facilitating US external adjustment (Helleiner, 1994). See Volcker and Gyohten (1992; p. 80–90) and Solomon (1982) on US efforts to persuade surplus countries to revalue.

The 1973 *Economic Report of the President* thus noted that “controls on capital transactions for balance-of-payments purposes should not be encouraged and certainly not required in lieu of other measures of adjustment, nor should they become the means of maintaining an undervalued or overvalued exchange rate.”²⁶ The new doctrine also sought to eliminate the Bretton Woods bias of free trade over free capital flows—specifically, the 1973 *Economic Report* went on to argue that the new rules governing the international monetary system should recognize the parallelism between trade in goods and services, and trade in financial assets. Accordingly, when the text of the amended IMF Articles of Agreement was being negotiated in 1978, the US delegation managed to insert the phrase “the essential purpose of the international monetary system is to provide a framework that facilitates the exchange of goods, services, and capital among countries.”²⁷

Figure 5. Net Capital Flows to Selected Countries, 1950–1973 (In USD bln.)



Source: Authors' calculations based on the IMF's Balance of Payments Yearbook (various issues).
Note: Statistics exclude reserves and related items, but include net errors and omissions.

Interestingly, while advanced countries were changing course, the trend in EM and developing economies was the reverse, with greater restrictiveness in the late 1960s and 1970s. The military coup in Brazil in 1965 marked the turning point in Latin America, which had been significantly financially open before then. The new military regime developed an authoritarian, inward-looking model of industrialization, which implied stringent controls on merchandise trade, as well as on capital flows (Quinn, 1997). This model was emulated broadly by other countries in the region as their own political climate changed. In South Asia, the level of financial openness had matched that of Great Britain—the colonial power—until independence

²⁶ *Economic Report of the President*, 1973, p. 128; cited in Helleiner (1994, p. 106).

²⁷ Cited in Helleiner (1994), who adds the emphasis.

in 1947; but as these countries experimented with inward looking policy frameworks in the late 1950s and 1960s, they became significantly financially closed. In East Asia, countries had been, on average, relatively less financially open than their Latin American peers during the early Bretton Woods period, but several of them further tightened their capital account restrictions in the 1960s and 1970s as they pursued development through active government intervention (e.g., Korea), or ran into balance of payments difficulties (e.g., Thailand).²⁸

The restrictions in EMs were, again, mostly outflow controls, which were instrumental in meeting budgetary needs through financial repression. Even some of the measures that could be classified as inflow controls to discourage inward investment—such as minimum investment periods, or limits on the pace/amount of repatriation—were intended to prevent a sudden capital flow reversal and balance of payments crises. In fact, until the 1970s, most inflow restrictions in EMs took one of two forms: limitations on the amortization and repatriation of nonresidents’ investments (to prevent sudden outflows), or designation of specific economic sectors in which foreigners were not allowed to invest for strategic reasons. Beginning in the 1970s, however, measures that were more explicitly prudential in nature began to appear. For instance, Brazil introduced safeguards against excessive foreign borrowing by limiting banks’ foreign liabilities and by passing on the currency risk in these transactions to the ultimate borrowers. Venezuela introduced special regulations for foreign banks in the country, and Mexico limited banks’ foreign currency liabilities from a single nonresident investor.

C. Advent of Floating and the Washington Consensus

During the 1950s and 1960s, the new liberalism had started to gain a sounder footing intellectually as well. In his 1953 essay, for example, Milton Friedman had argued—at that time, heretically—the benefits of floating exchange rates. With their advent in the early 1970s, the “impossible trinity” of monetary autonomy, free capital mobility, and fixed exchange rates was solved by dropping the latter in favor of capital mobility.

The post-Bretton Woods exchange rate volatility, however, was at odds with the desire for greater integration by European countries, which embarked upon their common currency project with greater urgency.²⁹ But various crises delayed—and at times, temporarily reversed—

²⁸ East Asia was characterized by different approaches to capital account openness in that period. Some countries, e.g., Hong Kong, Indonesia, and Singapore became less restrictive in the 1970s, while China remained significantly closed.

²⁹ The first concrete articulation of the single currency project was the Werner report published in 1970.

full capital account liberalization. France is a case in point. Starting in the early 1960s, France began to liberalize its capital account, and—against the backdrop of a strengthening balance of payments and the desire to make the franc a global currency that could challenge the hegemony of the US dollar—it had removed most capital account restrictions by the end of 1966. But the Paris riots in May 1968 forced the authorities to re-impose outflow controls, invoking for the first time the safeguards clause (which enabled countries to take protective measures when short-term capital movements of exceptional size disrupted the conduct of monetary policy) under the European Community capital regime.³⁰ These restrictions were maintained even as capital inflow measures—a 100 percent marginal reserve requirement on incremental nonresident franc deposits—were applied in 1971 to stem flows speculating against dollar devaluation.³¹

With the 1973 oil price shock, which resulted in safe haven flows to the US, the French outflow controls were further intensified. These controls, which were relatively effective (the on shore-off shore franc interest rate differential reached 5 percent per year) allowed France to pursue more expansionary policies than Germany during the latter half of the 1970s—though the franc was devalued twice: in January 1974, when it left the European “snake,” and in March 1976, when it again left the snake less than a year after it had rejoined the mechanism.³² Between 1976 and the establishment of the European Monetary System (EMS) in 1979, the franc depreciated by a further 30 percent against the Deutschemark despite successive efforts at tightening outflow restrictions.

Likewise, despite formally moving to floating in February 1973, Japan sought to influence the value of its currency through the use of capital controls in the 1970s. When the Yen came under upward pressure because of speculative outflows from the US in 1971, the authorities tightened controls on portfolio inflows (and relaxed outflow controls). But when the Yen came under downward pressures following the first oil price shock in October 1973, restrictions on nonresident portfolio bond and equity purchases were eased, while residents were restricted in their purchases of short-term foreign currency securities. In 1977, as the Yen

³⁰ Article 67 of the 1957 Treaty of Rome required member states to progressively abolish between themselves all restrictions on the movement of capital *to the extent necessary to ensure the proper functioning of the common market* (emphasis added).

³¹ The outflow controls were maintained because the French franc tended to weaken against the Deutschemark (i.e., appreciation pressures on the Mark were greater) despite the appreciation against the dollar; see Bakker and Chapple (2002) who detail advanced economy experiences with the use of capital controls.

³² The “snake” refers to the decision by European Economic Community countries in 1972 to maintain stable exchange rates after the collapse of the Bretton Woods system by preventing exchange rate fluctuations greater than 2.25 percent. The system was in place until March 1979, when it was replaced by the European Monetary System.

strengthened, the pattern was reversed with restrictions applied more vigorously to discourage capital *inflows*, and controls on residents' outflows were relaxed. Yet again, in 1979, when the Yen came under downward pressure after the second oil price shock, inflow controls were lifted—though, in this instance, outflow controls were not re-imposed. Even the Swiss resorted to inflow restrictions in 1978 when they prohibited the purchase of domestic stocks and bonds by foreigners but terminated the ban in early 1979. In January 1978, the Bundesbank imposed a reserve requirement of 100 percent on the growth of external liabilities to nonresidents but terminated it five months later.

A major turning point in Continental Europe came with the French President Mitterrand administration's 1983 *tournant de la rigueur* (i.e., anti-inflationary policies, with the *franc fort* pegged to the Deutschemmark), together with the realization that outflow controls—which had been intensified during the economic crisis—disproportionately penalized middle-class investors who were less able than the rich to evade them.³³ Most French outflow controls were thus lifted during 1984–86, with full capital account liberalization achieved by 1990.

This shift in attitude from a country that had long favored capital controls had major repercussions beyond France (Abdelal, 2006). Jacques Delors, who had been Mitterrand's Economics and Finance Minister, went on to become President of the European Commission, where he championed free movement of capital within the single market, culminating in the 1988 European Council Directive to “abolish restrictions on movements of capital taking place between persons resident in Member States” and to “endeavor to attain the same degree of liberalization...in respect of movements of capital to or from third countries.”³⁴ Around the same time, Henri Chavranski, who had been a senior official in the French treasury in the Mitterrand administration, became the chairman of the OECD's Committee on Capital Movements and Invisible Transactions, and from that vantage point helped to expand the Code of Liberalization to include all cross-border capital movements, including short-term flows that had been originally excluded from the Code. (As recounted below, a third official from the same

³³ Following devaluations of the French Franc in 1981, 1982, and 1983, it became apparent to President Mitterrand that his pursuit of expansionary domestic policies was incompatible with remaining within the EMS. Mitterrand, with his economics minister Jacques Delors, then embarked upon a fiscal consolidation effort, including privatizations of state enterprises, and sought to “import” the Bundesbank's credibility to lower inflation by firmly pegging the Franc to the Deutschemmark within the EMS.

³⁴ EC Council Directive for the implementation of Article 67 of the Treaty (88/361/EEC). The Directive puts transfers related to capital movements on the same footing as those for current transactions, though Article 3 of the Directive provides for temporary safeguards (for less than six months) in the face of “short-term capital movements of exceptional magnitude that impose severe strains on foreign exchange markets and lead to serious disturbances in the conduct of monetary and exchange rate policies.”

Mitterrand administration, Michel Camdessus, went on to become the IMF's Managing Director, where he championed an amendment to the IMF Articles that would have given it the mandate to promote capital account liberalization in all member countries.)

The Washington Consensus

Meantime, in the Anglo-Saxon countries, the impetus toward greater financial openness received a further boost in the early 1980s with the Reagan-Thatcher free-market doctrine: the US adopted a minimalist approach to foreign currency intervention (Bordo et al., 2010), and the UK finally liberalized its capital account. Moreover, such liberalism was increasingly incorporated in policy advice to EM and developing countries, and even though capital account liberalization was not a priority of the original "Washington Consensus" (Williamson, 1990), the idea of subjecting government policies to the discipline of the market was very much in the spirit of these reforms.³⁵ Summers (1998), for example, argued "market discipline is the best means the world has found to ensure capital is well used." Thus, as countries pursued trade liberalization under the Washington Consensus, capital account liberalization was seen as part of the process.

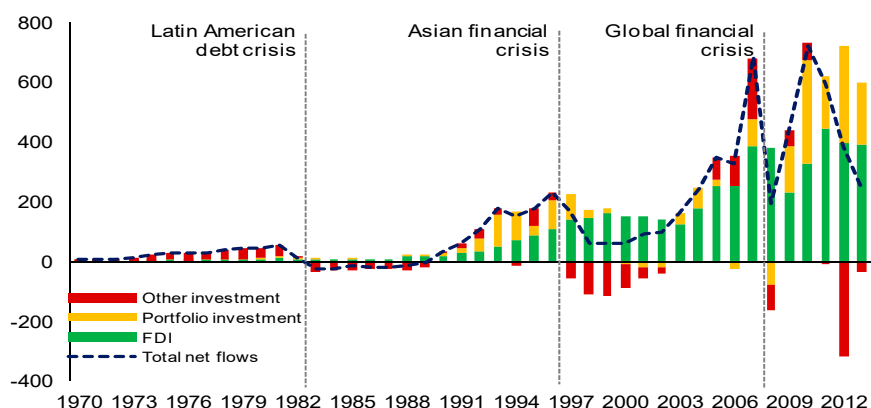
But as some EMs liberalized domestic financial markets and outflow controls toward the end of 1970s and early 1980s, many also swept away the "prudential" inflow measures that were already in place. Chile is a case in point. Until 1981, foreign borrowing by commercial banks required central bank approval, and all foreign borrowing with less than 5½ year maturity was subject to steep reserve deposit requirements, ranging from 10 percent to 25 percent. These restrictions were, however, removed or significantly reduced once Chile embarked on its financial liberalization program in the early 1980s. The result, as Diaz Alejandro (1985) put it, was *goodbye financial repression, hello financial crash*—a massive inflow surge (the current account deficit reached 14 percent of GDP), real exchange rate appreciation, and a credit boom (banking system credit to the private sector expanded 40 percent between end-December 1981 and June 1982), followed by a crash in which, by mid-1983, non-performing loans reached 113

³⁵ Specifically, Williamson (1990) notes: "Like interest rates, exchange rates may be determined by market forces, or their appropriateness may be judged on the basis of whether their level seems consistent with macroeconomic objectives. Although there is some support in Washington for regarding the former principle as the more important (a view held in particular by those who deny the possibility of estimating equilibrium exchange rates), the dominant view is that achieving a "competitive" exchange rate is more important than how the rate is determined. In particular, there is relatively little support for the notion that liberalization of international capital flows is a priority objective for a country that should be a capital importer and ought to be retaining its own savings for domestic investment."

percent of bank capital; much of the banking system had to be nationalized; and GDP contracted 15 percent relative to 1981. Similar experiments in domestic cum external liberalization in Argentina and Uruguay ended equally disastrously.³⁶

This experience helped shape policy responses in EMs when inflows resumed in the early 1990s (once the Latin American debt crisis had ended) and led to a marked shift in the preference for longer-term, nondebt flows (Figure 6). In 1989, for example, as the Chilean economy overheated, the central bank tightened monetary policy which, combined with a fall in world interest rates and improved market sentiment, resulted in a surge of capital inflows that further fuelled the economic and financial boom. To reduce the volume of inflows and tilt its composition away from short-term debt flows, in June 1991, the central bank introduced a 20 percent unremunerated reserve requirement (URR) on foreign borrowing; minimum stay requirements; regulatory requirements on corporate foreign borrowing; and extensive reporting requirements for banks' capital transactions (Table 2).³⁷

Figure 6. Net Capital Flows to Emerging Markets by Type of Flow, 1970–2013 (in USD bln.)



Source: IMF's IFS and WEO databases.

Note: Net capital flows exclude official liabilities of the general government and foreign exchange reserves.

Chile was not the only country to experiment with inflow controls in the early 1990s—others included Brazil, Colombia, Malaysia, and Thailand. Yet such measures were not viewed favorably, and the general trend during much of the 1990s was very much toward greater financial openness, culminating in IMF's Managing Director Michel Camdessus' 1995–97

³⁶ Reported statistics are from Díaz-Alejandro (1985).

³⁷ Initially, the URR covered foreign loans (except trade credits), but to prevent circumvention, coverage was later extended to foreign currency deposits, secondary American Deposit Receipts, and foreign direct investment (FDI) deemed to be of a speculative nature (Ariyoshi et al., 2000). The URR was raised to 30 percent until capital inflows abated in the context of the 1997/98 Asian crisis, at which point the URR was eliminated.

initiative to amend the IMF's Articles, and give it jurisdiction over the capital account in addition to the current account. Abdelal (2006) quotes an interview with Camdessus:

Exchange controls may help insulate a country's authorities, but only for a very short time. Even the best conceived and effective exchange control system will be circumvented within six months. Speculators and crooks are extremely sophisticated. And then, after a year, exchange controls are effective only against the poor. The French experience of the beginning of the '80s had been extremely convincing for me. I preached on every possible occasion that you cannot trust exchange controls in the long term.

It is noteworthy that the French experience that Camdessus alludes to in the above quote was that of capital *outflow* controls. The proposed amendment, however, would have given the IMF formal jurisdiction over members' financial regulations—generally prohibiting the imposition of new (inflow or outflow) controls without its approval—and an explicit mandate to promote capital account liberalization.

But in the end, the amendment was never passed. Opposition came from two quarters. Perhaps surprisingly, the US financial community opposed the initiative because it potentially gave the IMF too much power, including scope to legitimize capital controls of which it *did* approve. At the other end of the spectrum was opposition from emerging market and developing countries, who alarmed by the unfolding East Asian crisis, were concerned that—even with transitional arrangements—the IMF would use this mandate to force premature liberalization on reluctant countries. That left only the European countries championing the amendment, and by 1999 the initiative was effectively dead.

The IMF nevertheless continued giving advice on capital account management. An Independent Evaluation Office (IEO, 2005) review found that during the 1990s, the IMF staff had given advice on how to manage capital flows in 19 cases corresponding to 16 EMs (out of 27 EMs that experienced large inflows); of those 19 episodes, tightening inflow controls was recommended in just 2 cases. Thus, in contrast to the vision of Keynes and White, policy advice had moved away from viewing inflow controls as an essential policy tool to manage potentially destabilizing, speculative inflows.³⁸

³⁸ Abdelal (2006, p. 196–199) suggests that following the Asian financial crisis, the IMF became more cautious about promoting capital account liberalization. It, however, did not encourage the adoption or strengthening controls by countries that had already

Table 2. Selected Cases of Inflow Controls Tightening in Emerging Market Economies

Country	Years	Measures	Context
Brazil	1993-97	<ul style="list-style-type: none"> - Minimum term for foreign borrowing, and foreign borrowing eligible for exemption from income tax on interest - Reduced (raised) limit on authorized banks' short (long) position in the forex market - Imposed foreign transactions tax on proceeds from foreign borrowing - Restricted portfolio investment by foreign investors in fixed income instruments to a single class of fixed income funds, and to a foreign transactions tax - Increased the period for exchange contracting on exports to delay the flow of export revenues 	To avoid real exchange rate appreciation, overheating, and the fiscal costs associated with sterilization
	2008	Tightened foreign exchange transaction tax ¹	
Chile	1991-98	- Introduced URR on foreign borrowing, later extended to cover nondebt flows, American Depository Receipts, and potentially speculative FDI	To avoid overheating; maintain competitiveness; and change the composition of inflows
Colombia	1993-98	- Introduced URR on external borrowing (limited to loans with maturities up to 18 months), and later extended to cover certain trade credits	To control exchange rate appreciation and manage heavy capital inflow
	2007-08	<ul style="list-style-type: none"> - Introduced URR of 40 percent on foreign borrowing and portfolio inflows - Imposed limits on the currency derivative positions of banks (500 percent of capital) 	
Croatia	2004-08	- Introduced marginal reserve requirements (MRRs) on bank foreign financing. The MRRs were: (i) 40 percent and unremunerated on the net increase in foreign liabilities, (ii) 15 percent on the increase in nonresidents' funds, and (iii) 55 percent on nonresidents' transactions	To slowdown domestic credit growth and mitigate financial dollarization
Malaysia	1994	<ul style="list-style-type: none"> - Sale of private and government debt securities with less than 12 month maturity and money market instruments to nonresidents was prohibited - Prohibited of commercial banks to engage in non-trade-related swaps or forward transactions with nonresidents - Ceilings on banks' net liability position (excluding trade related and FDI flows) were imposed - A non-interest bearing deposit requirement for commercial banks against ringgit funds of foreign banks² 	To reestablish monetary control amid rising inflationary pressures and to limit financial sector risks
Thailand	1995-96	<ul style="list-style-type: none"> - URR imposed on bank's nonresident baht accounts - Introduced open position limits for short and long positions with smaller limits on short foreign currency positions to discourage foreign borrowing - Imposed reporting requirements for banks on risk control measures in forex and derivatives trading 	Manage the volatility of inflows, and reduce currency appreciation pressures
	2006-08	- URR of 30 percent imposed on foreign currencies sold	

Sources: IMF's AREAER, Ariyoshi et al. (2000), and Magud and Reinhart (2007).

1/ Stated aim of the increase in tax was to raise fiscal revenues.

2/ Subsequently, banks' eligible liability base was redefined to include all foreign inflows, subjecting them to reserve and liquid asset requirements.

largely liberalized their capital accounts (see, e.g., de Rato, 2007). Cohen and Chiu (2014) argue that “the stigma attached to controls, and the limits this placed on policy autonomy, were applied informally by official and private actors. A government intent on introducing controls expected criticism from advanced market economies and international organizations and feared triggering an adverse response from financial markets and credit rating agencies.”

Despite the general disapproval, as capital flows surged to EMEs in mid-2000s, some countries deployed controls on inflows. Colombia, for instance, imposed a URR on foreign borrowing and portfolio inflows in 2007 (while also limiting the currency derivative positions of banks), and Brazil tightened its foreign exchange tax on inflows in the runup to the crisis in January 2008 (Table 2). In some cases, however, attempts to impose such controls backfired. In Thailand, for example, concerned by the sharp rise of the Thai baht, the central bank imposed a 30 percent URR (with a 10 percent penalty if the funds were withdrawn in less than one year) on all foreign inflows in December 2006. Market reaction to this announcement was brutal: the Thai stock market plunged 15 percent in less than one day, with indices in other regional markets declining by 2–3 percent in contagion selling. As the financial press noted, the episode “evoked memories of the currency crisis nearly a decade earlier ...” even though “the difference was that rather than trying to stop a plunge in the baht, Thailand was acting to stop sharp increases in its currency, which hit a nine-year high against the dollar Monday after rising 16 percent this year.”³⁹ Financial markets thus sent a clear signal that they associated inflow controls with outflow controls (and the latter with failed policies and financial crises) to the point that both were considered to be equally alarming.

D. The Global Financial Crisis and its Aftermath

With the collapse of Lehman Brothers in September 2008, EMs faced a sudden stop (Figure 7). Emerging Europe—which was the most financially open in the runup to the crisis—was hit the hardest, with net flows falling by about US\$ 150 billion between the last two quarters of 2008.

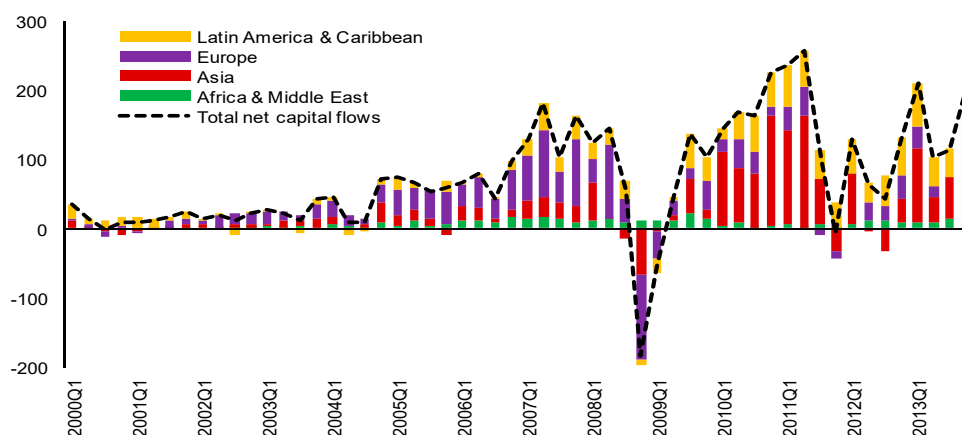
By mid-2009, however, flows to EMs had rebounded sharply against the backdrop of accommodative monetary policies in advanced countries, and their own strong growth prospects. In an effort to manage the macroeconomic and financial-stability risks of the inflow surge, several countries (e.g., Brazil, Indonesia, Korea, Peru) adopted measures that either directly targeted inflows through the imposition of capital controls, or indirectly influenced them through the use of (currency-based) prudential measures.

Confronted with the task of policy advice to EMs on how to cope with the challenges posed by the large capital inflows, the IMF produced a series of research (Ostry et al., 2010,

³⁹ *New York Times*, December 19, 2006.

2011) and policy papers—culminating in the IMF’s *Institutional View on the Liberalization and Management of Capital Flows* (IMF, 2012a), which not only explicitly acknowledged that controls on inflows could form a legitimate part of the policy toolkit, but also established that currency-based prudential measures, commonly considered to be superior to capital controls on efficiency grounds, were often economically indistinguishable from capital controls.

Figure 7. Net Capital Flows to Emerging Markets, 2000Q1–2013Q4 (in USD bln.)



Source: IMF’s IFS database.

Note: Flows exclude official liabilities of the general government (typically official loans) and foreign exchange reserves.

The IMF papers helped spark a wider debate in both policy and academic circles about the appropriate role of capital controls, and the optimal degree of capital account liberalization. Some critics (e.g., Caruna, 2011; Olson and Kim, 2013; De Gregorio, 2014) opposed the IMF’s stance, preferring orthodox measures over capital controls to manage inflows, on the grounds that controls are costly, pervasive, and ineffective.

Probably an important contribution of the IMF’s work (including notably its *Institutional View*) was to give inflow controls a bit more “respectability”—helping to disassociate them (somewhat) from outflow controls with their various connotations. EMs have, in recent years, made greater use of inflow controls (in those instances where they faced inflow surges)—and have generally not suffered the same violent market reaction that Thailand’s 2006 inflow controls elicited. Nevertheless, countries mostly prefer to refer to these measures, especially

when imposed for financial-stability reasons, as macroprudential rather than as “capital controls” or “capital flow management” (CFM) measures.⁴⁰

III. UNRAVELING THE THINKING BEHIND INFLOW CONTROLS

Why does the use of inflow controls still evoke opposition? Resentment of outflow controls is understandable: domestic residents will often want to invest or safeguard their money abroad, and foreign investors will want to be able to repatriate their funds when their investments mature. More puzzling is the current opposition to the use of inflow controls by emerging market and developing countries. After all, notwithstanding the general trend toward financial liberalization, there are precedents of advanced economies using inflow controls to curb speculative flows (as documented in Table 1). That advanced economies abandoned their use for prudential purposes was, at least in the case of Britain and the US, partly driven by the desire to be global financial centers, and in the case of Europe, to enhance regional economic integration.⁴¹

Based on our historical survey, we hypothesize that a key reason why inflow controls are shunned today is because they suffer from a form of “guilt by association,” whereby they are damned by being linked with outflow restrictions that were usually employed by more autocratic regimes, governments resorting to financial repression, or in countries with failed macroeconomic policies, poor economic performance, and financial crises.⁴² Though such governments generally imposed both inflow and outflow controls, typically only the latter were binding and relevant, since few foreigners would want to invest in such countries anyway, while many resident investors wanted to flee. That the adoption of capital controls on inflows has been tainted by the widespread use of controls (mostly on outflows) by less democratic governments or countries in crisis is evident from the interwar period, when the American authorities rejected the use of inflow controls because of their association with outflow measures by the Nazi,

⁴⁰ The term capital flow management measures (CFMs) has been introduced by the IMF (2012a) to refer to measures that are designed to limit capital flows. CFMs comprise both residency-based measures affecting cross-border financial activity that discriminate on the basis of residency (i.e., capital controls), and other measures that do not discriminate based on residency, but are nonetheless designed to limit capital flows (such as some prudential measures that differentiate transactions on the basis of currency, as well as other measures, e.g., minimum holding periods, that are typically applied to the non-financial sector)

⁴¹ To some degree, post-global financial crisis changes in the international financial architecture being championed by advanced economies—such as the Basel III countercyclical capital buffer “reciprocity” requirement—represent a return to policies that de facto deter capital inflows, albeit, tellingly, under the guise of “prudential measures.” (Under Basel III reciprocity, supervisors in the home country are required to impose the same counter-cyclical capital charge—up to a specified maximum—on their international banks’ exposures in the host country, as the host is imposing on its own domestic banks. In effect, such reciprocity would serve as a control on capital inflows to the host country.)

⁴² The main exception was the US use of outflow controls (IET) during the 1960s—though even in that case, the country ultimately suffered a balance of payments crisis that forced the suspension of gold convertibility of the dollar.

Soviet, and other repressive regimes. Similarly, as discussed earlier, the imposition of inflow controls in December 2006 in Thailand brought jitters to the market as it brought back memories of the currency crises a decade earlier when outflow controls had been imposed in the region. Another case in point is Brazil, which imposed controls in 2009 as capital inflows surged, generating competitiveness and financial-stability concerns. But the measures ignited strong disapproval from market participants, who viewed them as a ‘blunt instrument,’ and reminiscent of the widespread controls in the region during the hyperinflation and weak economic performance years of the 1980s.⁴³ (Even former Governor Carstens’ speech cited in the introduction was about how countries should cope with capital *inflows*—yet, his criticism applies more to outflow controls when he further remarked that controls “present reputational effects. Usually investors look at where the exit is. If there is no exit, they will not come in.”)

That the antipathy toward outflow controls is an important driver of the disapproval for inflow controls is also apparent from some of the other criticisms typically levied against inflow controls. It is often argued, for instance, that inflow controls are highly persistent and pervasive. But that is generally true for outflow controls, when to prevent capital flight, authorities need to resort to heavy-handed measures that are broad-based and are only gradually removed as the domestic economy stabilizes as pent up demand may precipitate a fresh crisis (Dornbusch, 1998). The nature of (ad hoc) restrictions to control inflows is different—typically being taxes on certain types of (more risky) flows; and withholding taxes or higher reserve requirements on nonresident investments. Such measures are easy to reverse and *are* usually removed when the tide turns. It is noteworthy, for instance, that Iceland’s outflow controls following its 2008 crisis took more than 7 years to remove, whereas Brazil’s capital inflow tax, which had been raised gradually since 2009 in the face of large inflows to 6 percent in 2011, was promptly reduced to zero in 2013 as flows receded.

A further criticism of inflow controls is that they are ineffective—yet ample evidence exists that they are successful in titling the composition of flows toward less risky and longer-maturity flows (Magud and Reinhart, 2007; Ostry, Ghosh, and Qureshi, 2015), which strengthens the case for their use as prudential instruments.⁴⁴ By contrast, anecdotal evidence (see, for

⁴³ See, e.g., “Brazil ‘Bizarre’ Taxes May Undo Gains, Federated Says,” *Bloomberg*, November 19, 2009; “Capital Controls Roil Latin America Bond Markets by Evoking ‘80s,” *Bloomberg*, January 19, 2011.

⁴⁴ In fact, one reason why inflow controls are unpopular with market participants is because they are effective, and increase the cost of domestic investment. Mohammad El-Erian, e.g., notes that inflow controls “do exactly what they are intended to do: put sand in the market... We think twice, or three times” (source: “Capital—Just in Case,” *The Economist*, October 12, 2013).

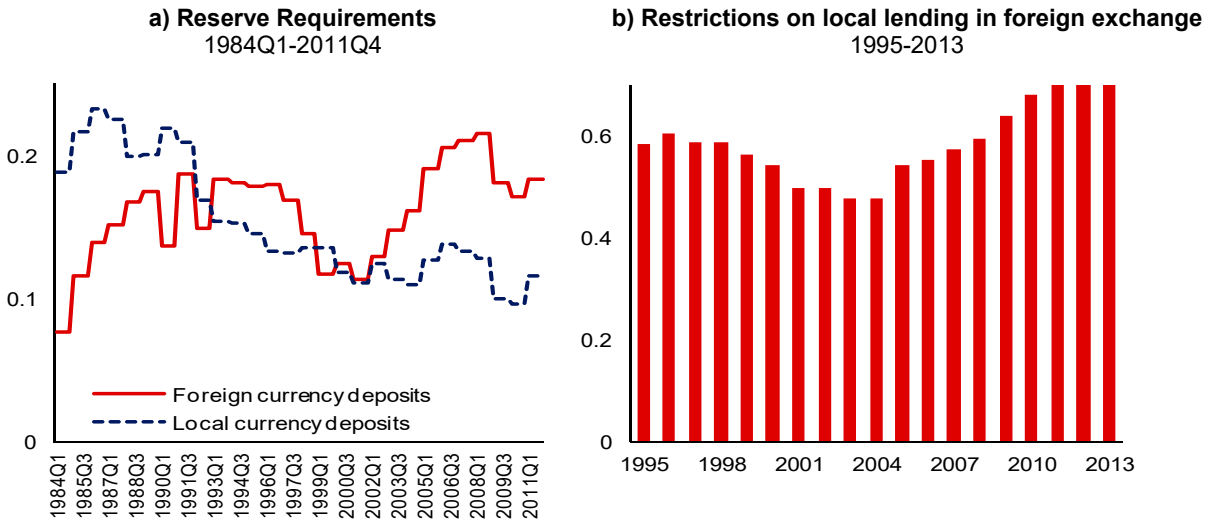
instance, Michel Camdessus' quote above), and formal studies suggest that capital outflow controls tend to be ineffective in *preventing* a crisis by limiting the drain of foreign exchange reserves and permitting time for corrective policies (e.g., Edwards, 1999; Edison and Reinhart, 2001). Again, therefore, part of the criticism of inflow controls seems to be rooted in their confusion with outflow controls.

Related to this guilt by association, another reason for the resistance to inflow controls is that capital account restrictions are often associated with current account restrictions. This is because, historically, the most common form of capital controls was exchange restrictions that impeded the movement of both goods and capital. As countries embraced greater trade liberalization, in contrast to the Keynes-White thesis, they viewed capital controls as *incompatible* with free trade rather than as *aiding* free trade. Growing internationalization of commercial activity by multinational corporations, also made it more difficult to enforce capital account restrictions without also having an impact on current transactions. Capital account restrictions were thus abolished along with current account restrictions, despite not being part of the original Washington Consensus. This trend was further accentuated by the rise of regional trade agreements and bilateral investment treaties (especially those with the United States) that increasingly incorporated clauses prohibiting the adoption of capital controls (except under highly exceptional circumstances).

More generally, under the rising free market ideology of the 1980s and 1990s, all government intervention was inherently bad. Hence, capital controls, traditionally viewed as instruments to fine-tune the economy (since part of their justification under the "trilemma" is that they give policy autonomy), became discredited more generally. This is not to say that EMs became entirely oblivious to the vagaries of capital flows, but they attempted to rely on the more benign-sounding "macroprudential measures," which were also viewed as more market friendly, to tackle the financial-stability risks posed by capital inflows. Yet, for some of these measures, especially, those related to foreign currency transactions, the ultimate effect on capital flows is economically largely indistinguishable to that of more direct capital inflow controls (Ostry et al., 2011; IMF, 2012a). That the use of such currency-based measures has increased notably since the Asian financial crisis, and tends to move with the capital flow cycle of EMs (Figures 6 and 8), suggests that these measures are probably being used as a substitute for traditional inflow controls that were imposed for prudential purposes. But if this is the case, then it is merely a re-

branding of capital controls, confirming that it is the negative connotation associated with the word “controls” that is the problem.

Figure 8. Foreign Currency-Related Prudential Measures in Emerging Market Economies



Sources: Federico, Vegh, and Vuletin (2014), and IMF’s AREAER (various issues).

Note: Panel [a] presents the yearly average of reserve requirements on demand, savings, and term deposits in emerging markets. Panel [b] presents the yearly average of a binary variable (one indicating the presence of a restriction, zero otherwise) for emerging markets.

A. Guilt by Association: Some Theory

Building on the historical narrative, we formalize the idea of “guilt by association” impeding the use of inflow controls by developing a simple signaling model in which, even though inflow controls are beneficial for crisis prevention, “good” governments may choose not to impose them for fear of being identified with “bad” governments and capital outflow controls.⁴⁵ In the model—presented in detail in the Appendix—countries borrow from foreign investors and are subject to potential liquidity crises due to capital outflow shocks that are triggered by events exogenous to the borrowing country (e.g., shocks to the global risk appetite, US interest rates, etc.). Whether the shock materializes into a liquidity crisis depends on the maturity structure of the country’s external liabilities, with short-term debt making it more vulnerable.

The country’s government may be of type G (for “good”) or type B (for “bad”), but creditors cannot directly observe the type of government. The two types of government differ only in their willingness to undertake economic adjustment in the face of liquidity crises, with the bad government less willing to adjust. Before the country borrows from foreign investors, the

⁴⁵ See Bartolini and Drazen (1997) for a signaling model in which controls on capital outflows in one period signal that the type of government is such that it is more likely to impose outflow controls in subsequent periods.

government may choose to impose *ex ante* controls on capital inflows, which improves the maturity structure of the country's external liabilities (e.g., by shifting the composition from short-term toward longer term liabilities), and thereby lowers the likelihood that, should an external shock occur, it results in a liquidity crisis. In the face of sufficiently large outflow shocks, the government must decide whether to undertake costly economic adjustment and/or to impose capital outflow controls. The latter, however, is tantamount to default (since foreign investors are unable to repatriate their capital and lose it) and incurs a reputational cost. (As an empirical matter, autocratic governments are more likely to default on their external obligations than are democratic governments.⁴⁶)

When foreign investors lend, they charge a risk premium to compensate for the probability of default, which depends, *inter alia*, on the government's willingness to undertake adjustment. As the type of government is not directly observable, however, investors must charge a premium based on their belief about the type of government, potentially updating their beliefs on observable actions—namely whether the government imposes an *inflow* control.

As shown in the Appendix, if there is no guilt by association related to the use of inflow controls (for instance, if such controls are unobservable), then the model solution will be a pooling equilibrium in which both types of government impose inflow controls, lowering the risk of crisis. Otherwise, the solution may entail a separating equilibrium in which the good government does *not* impose inflow controls because the risk premium penalty of being tarred as a bad government outweighs the crisis-reduction benefit of inflow controls, while the bad government imposes inflow controls (and outflow controls in the event of crisis).

The model thus establishes that it might be rational for governments that are committed to pursuing sound macroeconomic policies to abjure the use *inflow* controls, not for any ideological reason, but simply from fear of being associated with governments that are likely to pursue poor policies and fail to undertake the adjustment required to avoid default. Moreover, the model shows that a separating equilibrium is more likely to obtain when the adjustment-aversion of the bad government, the reputational cost of outflow controls, and the effectiveness of inflow controls in reducing crisis likelihood are all greater (albeit only up to a point, since eventually the

⁴⁶ Using the polity index to classify the type of government (below median polity score as autocratic and above median polity score as democratic) and the Reinhart-Rogoff indicator of external default to create a panel dataset of 5,894 observations (for 67 countries over 1900-2008), the proportion of autocratic government observations with an external default (0.24) is significantly greater (p -value=0.00) than the corresponding proportion of democratic government observations (0.11).

benefit to the good government of reducing the likelihood of a liquidity crisis outweighs the cost of being tarred as a bad government whose risk penalty is also decreasing in the effectiveness of inflow controls).

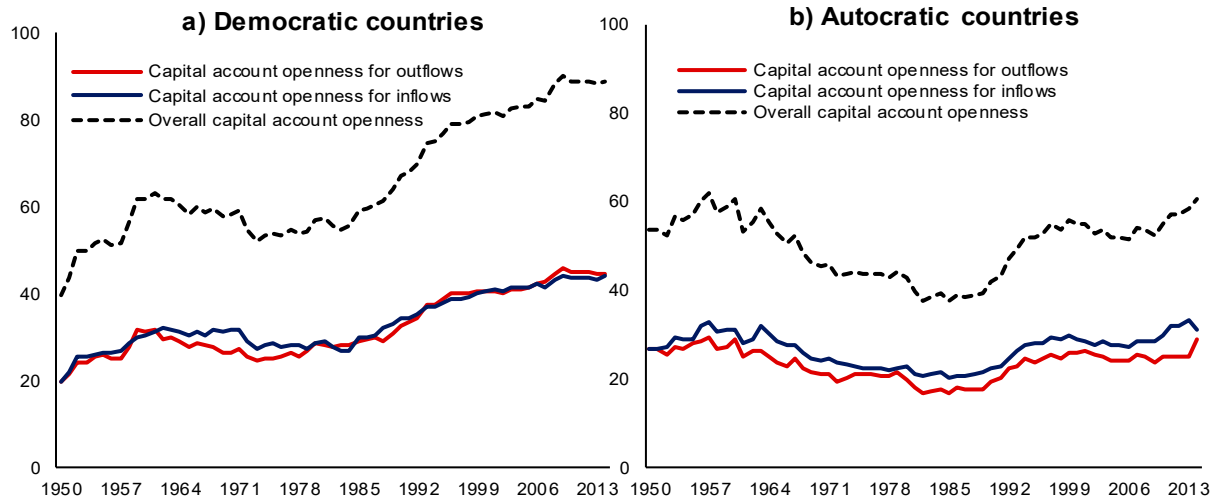
In this regard, it is plausible that as macroeconomic performance in EMs improved during the 1990s and 2000s, it was only the more extreme governments (or those in dire straits) that resorted to outflow controls and faced greater opprobrium for doing so—not surprisingly, other governments sought to distance themselves from such measures, including by eschewing inflow controls. Conversely, as evidence mounts that inflow controls may have significant crisis-prevention benefits, even “good” governments—i.e., those committed to sound policies—will be tempted to adopt them (perhaps preferring to call them “macroprudential measures” to avoid the bad connotations with the moniker “capital controls”).

B. Suggestive Empirics

Formally testing our hypothesis that inflow controls suffer from a guilt by association—beyond the historical narrative approach adopted above—is of course extremely difficult given the lack of consistent historical data on capital controls and other macroeconomic and structural variables, but some simple empirics are suggestive.

Figure 9 traces the openness to capital inflows and outflows in advanced and EM countries over the years, distinguishing between countries with more or less democratic governments—defined as being above- or below median scores on the polity index (in what follows, we refer to these as “democratic” and “autocratic” countries, respectively). Beyond the overall trend toward liberalization (higher values of the index indicate less restrictive capital controls), especially as the 1980s free market ideology and Washington Consensus gained momentum, three conclusions may be drawn from the Figure. First, on average, countries with democratic governments have been more financially open (fewer capital controls) than countries with autocratic regimes (the difference in means of the two series is 32.1; *p-value*: 0.00). Second, while countries with democratic governments exhibit little difference in their inflow and outflow restrictiveness, autocratic governments have tended to be less open in regard to outflows than to inflows (the difference between means for inflow and outflow openness indices in autocratic regimes is 12.2; *p-value*: 0.00). Third, since the late 1950s and early 1960s, there appears to be a *lagged negative* association between autocratic regimes using outflow or inflow restrictions and democratic governments doing so.

Figure 9. Capital Account Openness and Polity



Source: Authors' estimates based on Quinn and Toyoda's (2008), and the Center for Systemic Peace's Polity IV database.
 Note: Charts present the average of indices for capital account openness for residents (outflows), nonresidents (inflows), and the overall openness (sum of outflow and inflow indices) for countries with above and below median polity scores. Higher values indicate greater openness, and above (below) median polity scores indicate democratic (autocratic) countries.

The negative association between controls in autocratic countries and controls in democratic countries is supported by regression analysis. In Table 3, columns [1]-[4] present the results for the composite measure of capital account openness index—i.e., the sum of the outflow and inflow openness indices—averaged across countries in the respective polity group for the different years in the sample. Regressing the average openness index for the democratic countries in the sample on its own lag, and the lagged openness index for autocratic countries yields a negative and statistically significant coefficient on the latter (col. [1]); in other words, as autocratic regimes became more *restrictive*, democratic countries (with a lag) became more *open*. Moreover, differentiating between instances where the change in the openness index for autocratic countries is toward greater openness from cases where the change is toward greater restrictiveness (by including an interaction term between the openness index in autocratic countries and a dummy variable equal to one if the change in openness in these countries was negative) yields a statistically significant coefficient on the interaction term (col. [2]), implying that autocratic regimes becoming more restrictive has a more pronounced (lagged) effect on democratic governments becoming more liberal.

Interestingly, however, no such lagged negative association is apparent between the behavior of democratic governments and the subsequent behavior of autocratic regimes.

Regressing the openness index for autocratic countries on its own lag and the lagged openness index for democratic countries yields positive coefficients on both (cols. [3]-[4]).

Table 3. Capital Account Openness in Democratic and Autocratic Countries

	Cross-section ^a				Panel data ^b			
	Democratic countries	Democratic countries	Autocratic countries	Autocratic countries	Democratic countries	Democratic countries	Autocratic countries	Autocratic countries
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
L1.KA openness in democracies	1.041*** (0.021)	1.041*** (0.020)	0.092*** (0.034)	0.092*** (0.034)	0.179*** (0.021)	0.181*** (0.021)	0.134*** (0.030)	0.134*** (0.030)
L1.KA openness in autocracies	-0.080** (0.039)	-0.081** (0.033)	0.849*** (0.073)	0.849*** (0.074)	-0.121*** (0.038)	-0.121*** (0.038)	-0.050 (0.040)	-0.049 (0.040)
L1.KA openness in autocracies x dummy for greater restrictiveness		-0.021** (0.008)		-0.001 (0.010)		-0.016*** (0.005)		-0.005 (0.007)
L1.KA openness					0.872*** (0.015)	0.872*** (0.015)	0.872*** (0.024)	0.871*** (0.024)
Country-fixed effects	No	No	No	No	Yes	Yes	Yes	Yes
Observations	55	55	55	55	2,599	2,599	2,263	2,263
R-squared	0.985	0.987	0.928	0.928	0.936	0.937	0.932	0.932

Note: KA openness in democracies (autocracies) is the average Quinn-Toyoda capital account openness index in countries with above (below) median polity scores. Dummy for restrictiveness is a binary variable equal to one if the lagged capital account openness in autocratic countries indicates a decline in openness, and zero otherwise. Sample covers the period 1960-2014. Constant is included in all specifications. Robust and clustered (by country) standard errors are reported in parentheses in cols. [1]-[4] and cols. [5]-[8], respectively. *** and ** indicate statistical significance at 1 and 5 percent levels, respectively.

a/ Dependent variable is cross-country average of openness index in democratic countries in cols. [1]-[2], and in autocratic countries in cols. [3]-[4].

Democratic (autocratic) countries are those with above (below) median polity scores. Cols. [1]-[4] are estimated using the ordinary least squares method.

b/ Dependent variable is capital account openness index in democratic countries in cols. [5]-[6], and in autocratic countries in cols. [7]-[8]. Democratic (autocratic) countries are those with above (below) median polity scores. Cols. [5]-[8] are estimated using the fixed effects method.

Similar results are obtained if panel data is used instead, and country-fixed effects are included in the model.⁴⁷ Thus, focusing on a sample of democratic countries, and regressing the composite capital account openness index on its own lag, and the lag of average openness in democratic as well as in autocratic countries, shows strong persistence in capital account openness, while also indicating that democratic countries respond positively to openness in other democratic countries but negatively to openness in autocratic countries (Table 3, cols. [5]-[6]). However, for autocratic countries, there is no lagged negative association with the behavior of democratic governments. That the results survive the inclusion of country-fixed effects implies that they are not driven exclusively by the cross-sectional dimension of the panel dataset, but also reflect the time-series dimension, and control for all possible country-specific effects.

Disaggregating the composite index in Table 4 to differentiate between the use of outflow and inflow controls in countries with democratic and autocratic governments suggests that (i) there is a significantly negative association between the use of outflow controls by democratic governments and the (lagged) use of outflow controls by autocratic regimes (top panel; cols. [1],

⁴⁷ The panel regressions are effectively Granger-causality tests, since the independent variables are lagged and the regressions include the country's own lagged capital control index.

[2], [4], [5]); (ii) there is a similar negative association between the use of inflow controls by democratic governments and the lagged *intensification* of outflow controls by autocratic regimes (bottom panel; cols. [2], [5]); (iii) no such *negative* association exists between the use of outflow controls by democratic governments and the subsequent use of outflow or inflow controls by autocratic regimes (cols. [3], [6]). These results are even stronger if instead of defining the median of the polity index as the cut-off for autocratic and democratic regimes, we use the middle of the range, “neutral” polity score of zero as the threshold, in which case the negative association between the use of inflow controls by democratic governments and the lagged use of outflow controls by autocratic regimes is statistically significant at the 5 percent level (bottom panel; cols. [7], [8])—and confirm that the use of outflow controls by autocratic regimes may discourage the use of controls by more democratic regimes.

Overall, this simple statistical evidence is consistent with our hypothesis that the use of capital controls—especially outflow restrictions—may have given such measures a bad name, and deterred more democratic governments from using capital controls, including on capital inflows, for fear of appearing autocratic, market unfriendly, or institutionally weak. Thus, much of the criticism against inflow controls seems to be “guilt by association” with outflow controls. Consequently, when EMs attempted to liberalize their capital accounts in the 1980s and 1990s, they did not distinguish much between inflow and outflow controls, and often jettisoned both at the same time (as is evident from Figure 6). That the distinction between the two types of restrictions got blurred is even more apparent from the debates that surfaced in the aftermath of the Asian financial crisis, when calls for reining in speculative inflows to preserve financial stability and prevent financial crises (e.g., Bhagwati, 1998; Rodrik, 1998, Stiglitz, 2002) were overshadowed by the more contentious debate on capital outflow controls imposed by Malaysia (see, e.g., Krugman, 1998; Wade and Veneroso, 1998). Yet, many of those who favored unrestricted capital mobility, and vehemently argued against outflow controls, preferred a “system of preventive capital controls that limits the extent of capital inflows in the first place or, at least, structures their maturities” (Dornbusch, 1998).

Table 4. Outflow and Inflow Openness in Democratic and Autocratic Countries

	[A] Outflow openness								
	Cross-section^a			Panel^b			Panel^c		
	Democratic countries	Democratic countries	Autocratic countries	Democratic countries	Democratic countries	Autocratic countries	Democratic countries	Democratic countries	Autocratic countries
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
L1.Outflow openness in democracies	1.038*** (0.021)	1.036*** (0.020)	0.083** (0.034)	0.195*** (0.022)	0.196*** (0.022)	0.130*** (0.035)	0.228*** (0.028)	0.219*** (0.028)	0.134*** (0.040)
L1.Outflow openness in autocracies	-0.094** (0.046)	-0.099** (0.041)	0.829*** (0.082)	-0.150*** (0.050)	-0.152*** (0.050)	-0.055 (0.059)	-0.171*** (0.030)	-0.169*** (0.030)	0.008 (0.048)
L1.Outflow openness in autocracies x dummy for greater restrictiveness		-0.030*** (0.011)			-0.019** (0.008)			-0.025*** (0.007)	
L1. Outflow openness				0.856*** (0.016)	0.856*** (0.016)	0.865*** (0.021)			
Country-fixed effects	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Observations	55	55	55	2,599	2,599	2,263	3,035	3,035	1,751
R-squared	0.984	0.986	0.868	0.921	0.922	0.921	0.924	0.924	0.927
	[B] Inflow openness								
	Cross-section^a			Panel^b			Panel^c		
	Democratic countries	Democratic countries	Autocratic countries	Democratic countries	Democratic countries	Autocratic countries	Democratic countries	Democratic countries	Autocratic countries
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
L1.Inflow openness in democracies	1.008*** (0.021)	1.011*** (0.021)		0.141*** (0.022)	0.144*** (0.022)		0.174*** (0.028)	0.170*** (0.028)	
L1.Outflow openness in autocracies	-0.004 (0.047)	-0.010 (0.045)	0.834*** (0.098)	-0.027 (0.041)	-0.030 (0.042)	-0.012 (0.041)	-0.066** (0.027)	-0.067** (0.027)	-0.014 (0.039)
L1.Outflow openness in autocracies x dummy for greater restrictiveness		-0.018* (0.011)			-0.011* (0.006)			-0.015*** (0.005)	
L1.Outflow openness in democracies			0.166*** (0.043)			0.117*** (0.030)			0.127*** (0.035)
L1.Inflow openness				0.871*** (0.013)	0.870*** (0.013)	0.847*** (0.025)			0.842*** (0.026)
Country-fixed effects	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Observations	55	55	55	2,599	2,599	2,263	3,035	3,035	1,751
R-squared	0.976	0.977	0.863	0.921	0.921	0.920	0.919	0.919	0.932

Note: Democracies and autocracies are defined as those with above and below median polity scores, respectively, in cols. [1]-[6], and with above and below the neutral polity score of zero in cols. [7]-[9], respectively. Outflow openness in democracies (autocracies) is the average Quinn-Toyoda capital account openness index for residents in democratic/autocratic countries. Inflow openness in democracies is the average Quinn-Toyoda capital account openness index for nonresidents in democratic countries. Dummy for restrictiveness is a binary variable equal to one if the (average) lagged outflow openness index in autocratic countries indicates a decline in openness, and zero otherwise. Sample covers the period 1960-2014. Constant is included in all specifications. Robust and clustered (by country) standard errors are reported in parentheses in cols. [1]-[3] and cols. [4]-[9], respectively. *** and ** indicate statistical significance at 1 and 5 percent levels, respectively.

a/ Dependent variable is cross-country average of openness index in democratic countries in cols. [1]-[2], and in autocratic countries in col. [3]. Cols. [1]-[3] are estimated using the ordinary least squares method.

b/ Dependent variable is openness index in democratic countries in cols. [4]-[5], and in autocratic countries in col. [6]. Cols. [4]-[6] are estimated using the fixed effects method. Democratic/autocratic countries are defined as those above and below median polity score, respectively.

c/ Dependent variable is openness index in democratic countries in cols. [7]-[8], and in autocratic countries in col. [9]. Cols. [7]-[9] are estimated using the fixed effects method. Democratic/autocratic countries are defined as those above and below the polity score of zero, respectively.

IV. CONCLUSION

This paper examines why capital controls on inflows have a “bad” name by delving into historical record dating back to the gold standard era—tracing both the use of capital controls and how thinking about them has evolved. Throughout history, boom-bust cycles in capital flows have been a recurring theme and thinking with regards to capital controls has tended to be influenced by experience in the previous years. The dangers of unfettered capital mobility were not lost to the advanced economies as they pursued their own domestic and external financial liberalization in the latter half of the last century, and they often resorted to temporary capital controls as preventive measures to restrict speculative inflows.

Our reading of the history suggests that the foremost reason why inflow controls evoke such visceral opposition today is that, in the minds of many, inflow and outflow controls are inextricably linked. Traditionally, the latter were more prevalent, more stringent, and typically associated with autocratic and repressive regimes preventing capital flight; governments trying to prop up failed macroeconomic policies; and financial crisis. The word “controls” thus brings to mind outflow controls, and inflow measures are often damned by this “guilt by association.” This is also evident from some of the typical criticisms on inflow controls, which are actually much more pertinent to outflow controls (for instance, that they are persistent, pervasive, and ineffective). Thus, when emerging markets embraced more market-friendly policies, and liberalized their capital accounts, they often jettisoned both outflow and inflow controls simultaneously, without taking into account the important prudential role of the latter.

We formalize this guilt by association idea by developing a simple signaling model, which suggests that governments that are committed to sound economic policies—and who would not want to impose outflow controls—might be reluctant to impose inflow controls despite their crisis-prevention benefit for fear of being tarred by the same brush as less responsible governments. Examining data on capital controls dating back to the 1950s supports our hypothesis, and we find that as autocratic governments became more restrictive in terms of capital account openness, democratic governments subsequently became more liberal. Conversely, we find no such feedback from the behavior of democratic governments on autocratic governments.

Inflow controls thus appear to have an undeservedly bad name. Like any other policy instrument, they have their pros and cons—yet, in our view, they seem to be judged not so much on their merits as by pure prejudice that is rooted in history—damned largely because of their association with outflow controls but also because of ideological battles that have little to do with their specific use. Correcting unfounded perceptions is important to ensure that policymakers respond optimally to manage the risks associated with fickle capital flows, and do not shy away from using measures simply because of the connotations their name evokes.

References

- Abdelal, R., 2006, "Writing the Rules of Global Finance: France, Europe, and Capital Liberalization," *Review of International Political Economy*, 13 (1): 1–27.
- Ariyoshi, A., K. Habermeier, B. Laurens, I. Ötoker-Robe, J. Canales-Kriljenko, and A. Kirilenko, 2000, *Capital Controls: Country Experiences with their Use and Liberalization*, IMF Occasional Paper 190 (Washington DC: International Monetary Fund).
- Australian Treasury, 1999, "Australia's Experience with the Variable Deposit Requirement," *Economic Roundup*, Winter: 45–56.
- Bakker, A., and B. Chapple, 2002, *Advanced Country Experiences with Capital Account Liberalization*, IMF Occasional Paper 214 (Washington DC: International Monetary Fund).
- Bartolini, L., and A. Drazen, 1997, "Capital-Account Liberalization as a Signal," *American Economic Review*, 87 (1): 138–154.
- Bhagwati, J., 1998, "The capital myth. The Difference between Trade in Widgets and Dollars" *Foreign Affairs*, 77 (May/June): 7–12.
- Bloomfield, A., 1946, "Postwar Control of International Capital Movements", *American Economic Review*, Vol. 36, No. 2, PP. 687-709/
 _____, 1950, *Capital Imports and the American Balance of Payments, 1934-39* (Chicago: University of Chicago Press).
- _____, 1968, "Patterns of Fluctuation in International Investment before 1914," *Princeton Studies in International Finance* No. 21 (Princeton: International Finance Section, Department of Economics).
- Bordo, M., Owen Humpage, and Anna Schwartz, 2010, "U.S. Foreign-Exchange-Market Intervention during the Volcker-Greenspan Era," NBER Working Paper 16345 (Cambridge, MA: NBER).
- Brown, B., 1987, *The Flight of International Capital: A Contemporary History* (London: Croom Helm).
- Caruna, J., 2011, "Capital Flows to the Emerging Market Economies: A Perspective on Policy Challenges," remarks at the 46th SEACEN Governors' Conference, Colombo (<http://www.bis.org/speeches/sp110307.htm>).
- Cohen, B., and E. Chiu, 2014, *Power in a Changing World Economy: Lessons from East Asia* (London and New York: Routledge).
- Cooper, R., 1999, "Should Capital Controls be Banished?" *Brookings Papers on Economic Activity*, 30 (1): 89–142.
- Cordella, T., 2003, "Can Short-term Capital Controls Promote Capital Inflows," *Journal of International Money and Finance*, 22 (5): 737–745.
- Crabbe, L., 1989, "The International Gold Standard and U.S. Monetary Policy from World War I to the New Deal," *Federal Reserve Bulletin*, 75 (6): 423–440.
- de Rato, R., 2007, "Capital Flows in an Interconnected World," remarks made at the SEACEN Governors Conference, Bangkok, July 28, 2007. (<https://www.imf.org/external/np/speeches/2007/072807.htm>)
- De Gregorio, J., 2014, "Capital Flows and Capital Account Management," in *What Have We Learned? Macroeconomic Policy after the Crisis*, eds. G. Akerlof, O. Blanchard, D. Romer, and J. Stiglitz (Cambridge, MA: The MIT Press): 271–288.
- Diaz-Alejandro, C., 1985, "Good-bye Financial Repression, Hello Financial Crash," *Journal of Development Economics*, 19 (1–2): 1–24.
- Dornbusch, R., 1998, "Capital Controls: An Idea Whose Time is Past in *Should the IMF Pursue Capital-Account Convertibility*," *Essays in International Finance* 207, Princeton University.

- Edwards, S., 1999, "How Effective are Capital Controls?" *Journal of Economic Perspectives*, 13(4): 65–84.
- Eichengreen, B., 1992, *Golden Fetters* (New York: Oxford University Press).
- Einzig, P., 1970, *The History of Foreign Exchange* (London: Macmillan).
- Fanno, M., 1939, *Normal and Abnormal International Capital Transfers* (Minneapolis: University of Minnesota Press).
- Federico, P., C. Vegh, and G. Vuletin, 2014, "Reserve Requirement Policy over the Business Cycle," NBER Working Paper 20612 (Cambridge, MA: NBER).
- Fleming, J., 1962, "Domestic Financial Policies Under Fixed and Under Floating Exchange Rates," *IMF Staff Papers*, 9 (3): 369–379.
- Forbes, K., 2004, "Capital Controls: Mud in the Wheels of Market Discipline," NBER Working Paper 10284 (Cambridge, MA: National Bureau of Economic Research).
- Galati, G., and R. Moessner, 2014, "What Do We Know about the Effects of Macroprudential Policy?" DNB Working Paper No. 440 (Amsterdam: De Nederlandsche Bank).
- Ghosh, A., J. Ostry, and M. Qureshi, 2017, *Taming the Tide of Capital Flows: A Policy Guide* (Cambridge, MA: MIT Press).
- Gold, J., 1962, *The Fund Agreement in the Courts* (Washington DC: International Monetary Fund).
- Goode, R., and R. Thorn, 1959, "Variable Reserve Requirements Against Commercial Bank Deposits," *IMF Staff Papers*, 7 (1): 9–45.
- Goodman, J. B., and L. Pauly, 1993, "The Obsolescence of Capital Controls? Economic Management in an Age of Global Markets" *World Politics*, 46 (1): 50–82.
- Edison, H., and C. Reinhart, 2001, "Stopping Hot Money," *Journal of Development Economics*, 66 (2): 533–553.
- Helleiner, E., 1994, *States and the Re-emergence of International Finance: From Bretton Woods to the 1990s* (Ithaca: Cornell University Press).
- Helleiner, E., 2015, "Controlling Capital Flows 'At Both Ends': A Neglected (But Newly Relevant) Keynesian Innovation from Bretton Woods," *Challenge*, 58 (5): 413–427.
- Horsefield, K., 1969, *The International Monetary Fund, 1945–1965: Volume I: Chronicle* (Washington DC: International Monetary Fund).
- International Monetary Fund, 2005, *Evaluation Report: The IMF's Approach to Capital Account Liberalization* (Washington DC: International Monetary Fund).
- _____, 2012a, *The Liberalization and Management of Capital Flows: An Institutional View* (Washington DC: International Monetary Fund).
- Keynes, J., 1929, "The German Transfer Problem", *The Economic Journal*, Vol. 39, No. 153 pp. 1-7
- Krugman, P., 1998, "Saving Asia: It's Time to Get Radical," *Fortune*, September 7: 75–80.
- League of Nations, 1931, *Memorandum on International Trade and Balance of Payments 1927-29—Volume II: Balances of International Payments* (Geneva: League of Nations).
- _____, 1932, *World Economic Survey, 1932* (Geneva: League of Nations).
- _____, 1938, *Report on Exchange Control* (Geneva: League of Nations).
- _____, 1939, *Balance of Payments, 1938* (Geneva: League of Nations).

_____, 1944, *International Currency Experience: Lessons from the Interwar Period* (Princeton: Princeton University Press).

_____, 1948, *Balance of Payments, 1939-1945* (Geneva: League of Nations).

Magud, M., and C. Reinhart, 2007, "Capital Controls: An Evaluation," in ed., S. Edwards, *Capital Controls and Capital Flows in Emerging Economies: Policies, Practices and Consequences*, 645-674 (Cambridge, MA: NBER).

Mills, J., 1922, *The Genoa Conference*. (London: Hutchinson & Co.).

Mundell, R., 1963, "Capital Mobility and Stabilization Policy under Fixed and Flexible Exchange Rates," *The Canadian Journal of Economics and Political Science*, 29 (4): 475-485.

Ohlin, B., 1929, "The Reparation Problem; A Discussion" *The Economic Journal*, Vol. 39, No. 154 pp. 172-182.

Obstfeld, M., and A. Taylor, 1998, "The Great Depression as a Watershed: International Capital Mobility in the Long Run," in *The Defining Moment: The Great Depression and the American Economy in the Twentieth Century*, eds. M. Bordo, C. Goldin, and E. White, (Chicago: University of Chicago Press): 353-402.

Olson, R., and A. Kim, 2013, "Congress Should Query IMF Support for Capital Controls," The Heritage Foundation Issue Brief No. 3949 (Washington DC: The Heritage Foundation).

Ostry, J., A. Ghosh, K. Habermeier, M. Chamon, M. Qureshi, and D. Reinhardt, 2010, "Capital Inflows: The Role of Controls," IMF Staff Position Note 10/04 (Washington DC: International Monetary Fund).

Ostry, J., A. Ghosh, K. Habermeier, M. Chamon, M. Qureshi, L. Laeven, A. Kokenyne, 2011, "Managing Capital Inflows: What Tools to Use?" IMF Staff Discussion Note 11/06 (Washington DC: IMF).

Ostry, J., A. Ghosh, M. Chamon, and M. Qureshi, 2012, "Tools for Managing Financial-Stability Risks from Capital Inflows," *Journal of International Economics*, 88 (2): 407-421.

Pollard, S., 1985, "Capital Exports, 1870-1914: Harmful or Beneficial?" *The Economic History Review*, 38 (4): 489-514.

Quinn, D., 1997, "The Correlates of Change in International Financial Regulation," *American Political Science Review*, 91 (3): 531-551.

Quinn, D., 2003, "Capital Account Liberalization and Financial Globalization, 1890-1999: A Synoptic View," *International Journal of Finance & Economics*, 8 (3): 189-204.

Rueff, J., 1929, "Mr. Keynes' View of the Transfer Problem" *The Economic Journal*, Vol. 39, No. 155 pp. 308-488.

Rodrik, D., 1998, "Who Needs Capital-Account Convertibility?" in *Should the IMF Pursue Capital-Account Convertibility*, Essays in International Finance No. 207 (New Jersey: Princeton University).

Schenk, C., 1998, "The Origins of the Eurodollar Market in London: 1955-1963," *Explorations in Economic History*, 35: 221-238.

Schularick, M., 2006, "A Tale of Two 'Globalizations': Capital Flows from Rich to Poor in Two Eras of Global Finance," *International Journal of Finance & Economics*, 11 (4): 339-354.

Shiller, R., 2017, "Narrative Economics," *American Economic Review*, 107 (4): 967-1004.

Solomon, R., 1982, *The International Monetary System: 1945-1981* (New York: Harper & Row).

Staley, E., 1935, *War and the Private Investor* (New York: Doubleday, Doran and Co.)

Stiglitz, J., 2002, "Capital Market Liberalization, Economic Growth, and Instability," *World Development*, 28 (6): 1075-1086.

Summers, L., 1998, "Building an International Financial Architecture for the 21st Century," Remarks to the Cato Institute, 16th Annual Monetary Conference, Washington, DC, October 22.

Viner, J., 1928, "Political Aspects of International Finance," *Journal of Business of the University of Chicago*, 1 (2): 141–173.

Volcker, P., and T. Gyohten, 1992, *Changing Fortunes: The World's Money and the Threat to American Leadership* (New York: Three Rivers Press).

Wade, R., and F. Veneroso, 1998, "The Gathering World Slump and the Battle over Capital Controls," *New Left Review*, No. 231 (September-October): 13–42.

Williamson, J., 1990, "What Washington Means by Policy Reform," in *Latin American Adjustment: How Much Has Happened?* ed. J. Williamson (Washington DC: Institute of International Economics).

Appendix I. A Formal Model of Guilt by Association

In this appendix, we formalize the idea of “guilt by association” impeding the use of inflow controls by developing a simple signaling model in which, even though inflow controls are beneficial for crisis prevention, “good” governments may choose not to impose them for fear of being identified with “bad” governments and capital outflow controls.

In the model, countries borrow from foreign investors and are subject to potential liquidity crises due to capital outflows that are triggered by shocks that are exogenous to the borrowing country (e.g., shocks to the VIX, global risk appetite, US interest rates). Whether the outflow shock triggers a liquidity crisis depends on the maturity structure of the borrower’s liabilities, with short-term debt making the country more vulnerable.

The country’s government may be of type G (for “good”) or type B (for “bad”), but the type of government is not directly observable. The two types of government differ only in their willingness to undertake economic adjustment in the face of liquidity crises, with the bad government less willing to adjust. Before the country borrows from foreign investors, the government may choose to impose *ex ante* controls on capital inflows, which improves the maturity structure of the country’s external liabilities (e.g., by shifting the composition from short-term toward longer term liabilities), and thereby lowers the likelihood of a liquidity crisis. In the face of outflow shocks that are sufficiently large to generate a liquidity crisis (given the maturity structure of the country’s external liabilities), the government must decide whether to undertake costly economic adjustment and/or to impose capital outflow controls. The latter, however, is tantamount to default (since foreign investors are unable to repatriate their capital and lose it), and incurs a reputational cost; in what follows, we use the term default interchangeably with the imposition of capital outflow controls.

When foreign investors lend, they charge a risk premium to compensate for the probability of default, which depends, *inter alia*, on the government’s willingness to undertake adjustment. As the type of government is not directly observable, however, investors must charge a premium based on their belief about the type of government, potentially updating their beliefs depending upon observable actions—namely whether the government imposes an *inflow* control. Let q^0 denote investors’ belief that the government is of type G conditional on not observing inflow controls, and let q^1 be the corresponding probability when they do observe inflow controls.

The country avoids a crisis if the following liquidity condition is met:

$$(1) \quad xD \leq (\theta + \delta^k), \quad k = 0, 1$$

where D stands for short-term debt and x captures a capital outflow shock (as a share of short-term debt), which is uniformly distributed between 0 and 1. θ is the liquidity available from the country's macroeconomic fundamentals (e.g., current account surpluses, foreign reserves, etc.), and δ^k represents the liquidity benefit of inflow controls: the benefit is equal to $\delta > 0$ if inflow controls are introduced ($\delta^1 = \delta > 0$) and zero otherwise ($\delta^0 = 0$).⁴⁸

If the capital outflow or liquidity shock, x , is sufficiently small that the liquidity condition (1) is met, then there is no need for macroeconomic adjustment or for outflow controls, and the country avoids default. Otherwise, the country can either adjust to generate additional liquidity and avoid default, or choose to default by imposing outflow controls—in which case the country avoids the macroeconomic adjustment cost but suffers from a fixed reputational cost. In what follows, we normalize D to 1, and assume that $0 < \theta + \delta < 1$, implying that a liquidity crisis could occur even when inflow controls are in place. We define crisis as an event in which the available liquidity *before* adjustment is insufficient to meet the capital outflows and define default as an event where the country imposes outflow controls such that the foreign investors receive nothing.

When deciding on whether to impose inflow controls, the government's objective is to minimize its (expected) loss which consists of three components—the economic adjustment cost, the reputational cost (which arises only if the country imposes outflow controls), and the financial cost (arising from the default premium charged by investors). To be specific, the expected loss for country of type j is linear in these three costs, and is given by:⁴⁹

$$(2) \quad L_j = E[a_j A_j + O \cdot R + b \cdot \pi], \quad a_j, b > 0, \quad j = G, B$$

where E represents the expectation taken with respect to x . The term A_j represents the adjustment that the country may undertake, R is the fixed reputation cost, and π the default probability *perceived by investors*. O is an indicator function which equals 1 if the country

⁴⁸ For a theoretical treatment of inflow controls providing a liquidity benefit, see Cordella (2003); for empirical evidence, see Ostry et al. (2012).

⁴⁹ The linear specification is assumed for simplicity. The qualitative results of the analysis remain unchanged if, for example, a quadratic adjustment cost is assumed instead.

imposes capital outflow controls, and 0 otherwise. The last term, $b \cdot \pi$, reflects the financial cost arising from the default premium.⁵⁰ Note that, in any pooling equilibrium, π is common to both types of government because investors must decide what default premium to charge without knowing the type of government. We normalize $a_G = 1$ and $a_B = a > 1$ to capture the idea that the government of type B is more averse to adjustment than type G.

Let L_j^k be the expected loss for a government of type j according to whether inflow controls are imposed ($k = 1$) or not ($k = 0$). It is straightforward to show that:

$$(3) \quad L_j^k = E[a_j A_j^k + p_j^k \cdot R + b \cdot \pi^k], \quad k = 0, 1$$

where p_j^k is the *actual* default probability of type j government. Given this specification, consider the country's optimal decision on adjustment and outflow controls. If x is small enough to meet the liquidity condition in (1), neither adjustment ($A_j^k = 0$) nor default occurs ($p_j^k = 0$), and the expected loss reduces to $L_j^k = b \cdot \pi^k$. If the liquidity condition is violated, the country needs to adjust to avoid default or may default by imposing outflow controls. The requisite adjustment is given by:

$$(4) \quad A_j^k = x - \theta - \delta^k$$

Given the linear specification of the expected loss and the fixed reputation cost, the government will be willing to adjust only if $a_j A_j^k \leq R$ or, equivalently, only if $x \leq \bar{x}_j^k = \theta + \delta^k + R/a_j$. For outflow shocks greater than \bar{x}_j^k , therefore, the country would not adjust at all ($A_j^k = 0$) and the government would optimally default by imposing outflow controls. The actual default probability of a government of type j is then given by:

$$(5) \quad p_j^k = \Pr[x > \bar{x}_j^k] = \max\{1 - \theta - \delta^k - R/a_j, 0\}, \quad k = 0, 1$$

It is easily shown that the following inequalities should always hold:

$$(6) \quad p_G^0 \leq p_B^0, \quad p_G^1 \leq p_B^1, \quad p_G^1 \leq p_G^0, \quad \text{and} \quad p_B^1 \leq p_B^0$$

where the first two inequalities follow from the greater aversion to adjustment of the type-B government, and the second two inequalities follow from the liquidity benefit of imposing inflow controls.

⁵⁰ Assuming that the risk-free interest rate is zero and that investors get nothing upon default, the default premium would be $r = \pi/(1 - \pi)$, which is increasing in π .

Finally, the perceived default probability, π^k , $k = 0, 1$, which can depend only on observables—namely, whether the government imposes inflow controls—is given by

$$(7) \quad \pi^k = q^k p_G^k + (1 - q^k) p_B^k,$$

where q^k is investors' perceived probability that the government is of type G. In any pooling equilibrium, this is simply investors' prior beliefs; in a separating equilibrium, that prior belief will be updated based on the signal from the imposition of inflow controls.

Pooling Equilibrium with no “Guilt by Association”

Suppose that the notion of “guilt by association” does not apply to inflow controls (or, for instance, that investors cannot observe whether the government has imposed inflow controls). In this case, (not) imposing inflow controls has no signaling value about the type of government, and investors cannot update their beliefs based on inflow controls, so $q^1 = q^0$. It is straightforward to show that in this case, for all parameter configurations consistent with the restrictions (6), the model yields a unique pooling equilibrium in which both types of governments optimally introduce inflow controls ($k = 1$).

The intuition is simple: from (1) and (4), inflow controls reduce both the requisite adjustment and the likelihood of a liquidity crisis. Moreover, from (5) and (7), these measures also lower both the actual and perceived probability of default/outflow controls, and hence reduce the financial cost of foreign borrowing.⁵¹ All these effects help to lower the expected loss for both types of government (i.e., $L_j^1 \leq L_j^0$ for $j = G, B$), hence imposing inflow controls is the dominant strategy for both good and bad governments, and—consistent with investors' beliefs— inflow controls carry no signaling value about the type of government.

Separating Equilibrium with “Guilt by Association”

We are interested in establishing whether there can exist a separating equilibrium (SE) in which the type-G government optimally chooses *not* to impose inflow controls (despite their liquidity benefit) because it wants to distinguish itself from the type-B government in the minds of investors. We interpret such behavior by the type-G government as “guilt by association” preventing the use of otherwise beneficial inflow controls. In our model, such a SE can emerge if and only if the following two conditions are simultaneously met:

⁵¹ There can still be shocks that are sufficiently large that even the good government will, ex post, impose outflow controls/default.

$$(8) \quad L_G^1 - L_G^0 > 0 \quad \text{and} \quad L_B^1 - L_B^0 < 0$$

That is, for a good government, the expected loss from imposing inflow controls must be greater than the expected loss from not imposing them, while for the bad government, the opposite must be true. Suppose investors set $q^0 = 1$ and $q^1 = 0$, which means that investors believe the country with no inflow controls is of type G with probability 1 and 0 otherwise (i.e., inflow controls are a perfect signal about the type of government). For a SE to exist, investors' beliefs must be rational: a type-G government must optimally choose not to impose inflow controls, while the type-B government must optimally choose to impose them. From the government's perspective, the possibility of guilt by association creates a tradeoff between adjustment /reputation costs on the one hand, and the financial cost of borrowing on the other. Inflow controls act, *ceteris paribus*, to reduce the adjustment/reputation cost for a given outflow shock by lowering actual default probabilities, but tend to increase the financial cost for given actual default probabilities. This implies that $\pi^1 > \pi^0$ is a necessary condition for a SE to emerge in the model. In other words, the type-G country should optimally choose not to impose inflow controls because the increase in the financial cost more than offsets the reduction in adjustment/reputation cost associated with the liquidity benefit of inflow controls. By contrast, for a type-B government, the reduction in adjustment/reputation costs must be large enough to more than offset the increase in the financial cost.

Substituting $q^0 = 1$ and $q^1 = 0$ into (7) yields investors' perceived default probabilities:

$$(9) \quad \pi^0 = p_G^0 \quad \text{and} \quad \pi^1 = p_B^1$$

Define $P = \{p_G^0, p_B^0, p_G^1, p_B^1\}$; since each actual default probability in P is either positive or zero, there are in principle 16 ($=2^4$) different sets for P . Given the inequalities in (6), however, there are only three sets for P where $\pi^1 > \pi^0$ can possibly hold (Table A1), which are the combinations of interest here since that is a necessary condition for a SE.

Table A1. Actual and Perceived Default Probabilities

Case	p_G^0	p_B^0	p_G^1	p_B^1	π^0	π^1
1	0	+	0	+	0	+
2	+	+	0	+	+	+
3	+	+	+	+	+	+

In what follows, we consider each of these three cases in turn. For ease of exposition, we assume that $b > \delta$, which implies that the financial cost is not trivial to either type.

Case 1: $p_G^0 = 0$, $p_B^0 > 0$, $p_G^1 = 0$, $p_B^1 > 0$

In this case, the good government never defaults/imposes outflow controls, whereas the bad government may do so (regardless of whether it imposed ex ante inflow controls) depending upon the magnitude of the shock. From (5), for the Case 1 probabilities to hold, R and a must satisfy:

$$(10) \quad R \geq (1 - \theta) \quad \text{and} \quad a > R/(1 - \theta - \delta)$$

Before discussing SE solutions, two points are worth emphasizing. First, the assumed configuration of default probabilities means that, in equilibrium, the relevant tradeoff for the type-G government is between the adjustment cost and the financial cost—since (in this case) the type-G government never imposes outflow controls, the reputational cost is irrelevant to it. Conversely, because the type-B government (in this case) defaults with positive probability regardless of whether it had imposed inflow controls (though the probability is lower if it does impose them), the expected adjustment cost is the same, and this term does not figure in its optimal decision on whether to impose inflow controls.⁵² For the type-B government, therefore, the relevant trade-off is between the higher financial cost if it imposes inflow controls and the reputational cost if it defaults. The second point is that inflow controls, if applied, would raise the financial cost by the same amount for both types of government (though in a SE, the type-G government does not impose inflow controls, and hence does not incur this financial penalty).

Using (3)-(5) and (9), we can show that:

$$\begin{aligned} L_G^0 &= \int_{\theta}^1 (x - \theta) dx = (1 - \theta)^2/2 \\ L_B^0 &= a \int_{\theta}^{\theta+R/a} (x - \theta) dx + p_B^0 R = R^2/2a + (1 - \theta - R/a)R \\ L_G^1 &= \int_{\theta+\delta}^1 (x - \theta - \delta) dx + b\pi^1 = (1 - \theta - \delta)^2/2 + b(1 - \theta - \delta - R/a) \\ L_B^1 &= a \int_{\theta+\delta}^{\theta+\delta+R/a} (x - \theta - \delta) dx + p_B^1 R + b\pi^1 = R^2/2a + (R + b)(1 - \theta - \delta - R/a) \text{ and} \\ (11) \quad L_G^1 - L_G^0 &= b(1 - \theta - \delta - R/a) - \delta[2(1 - \theta) - \delta]/2 \\ L_B^1 - L_B^0 &= b(1 - \theta - \delta - R/a) - \delta R \end{aligned}$$

Substituting (11) into the equilibrium conditions in (8) results in the following strict inequalities that define the set of parameters for which a SE will exist in Case 1:

⁵² This is an artifact of the uniform distribution for the outflow shock, but it simplifies the exposition.

$$(12) \quad \delta R > b((1 - \theta - \delta) - (R/a)) > (\delta/2)[2(1 - \theta) - \delta]$$

The equilibrium conditions in (12) can be rearranged to yield the following strict inequalities which are given by,

$$(13) \quad K > (R/a) > H$$

where

$$(14) \quad H = (1 - \theta - \delta) - \frac{\delta R}{b} \quad \text{and} \quad K = (1 - \theta - \delta) - \frac{\delta[2(1-\theta)-\delta]}{2b}$$

Note that H is decreasing in R but K is independent of R . It is easily shown that $H < K$ and $H < R$ whenever R is in the permissible range defined in (10). Moreover, it is possible that $H \leq 0$, in which case the second inequality in (13) holds trivially for any $a > 1$. Based on these considerations and for ease of exposition, we introduce the following thresholds for δ and a , which are given by

$$(15) \quad \begin{aligned} \delta_1 &= b(1 - \theta)/(b + R) & s^g &= 2bR/[2(b - \delta)(1 - \theta - \delta) - \delta^2] \\ \delta_2 &= (1 - \theta + b) - \sqrt{b^2 + (1 - \theta)^2} & s^b &= bR/[b(1 - \theta - \delta) - \delta R] \end{aligned}$$

The thresholds, δ_1 and δ_2 , are the value of δ at which $H = 0$ and $K = 0$, respectively. It can be easily verified that $\delta_1 < \delta_2 < (1 - \theta)$ for all R in the permissible range. The thresholds, s^g and s^b , which are drawn in Figure A1, are obtained as the value of a at which the first and second inequalities in (13) hold as an equality, respectively. It is easy to show that s^g and s^b are both increasing in δ , s^g is strictly less than s^b , and s^g satisfies the parameter restriction on a shown in (10), provided s^g and s^b are both strictly positive. As shown in Figure A1, s^g and s^b together determine the range of a , denoted by (s^g, s^b) , for which a SE exists.

The following properties of these thresholds (assuming s^g and s^b are both strictly positive, and treating θ and b as given parameters) are worth highlighting:

$$(16) \quad \frac{\partial \delta_1}{\partial R} < 0, \quad \frac{\partial \delta_2}{\partial R} = 0, \quad \frac{\partial s^g}{\partial R} > 0, \quad \text{and} \quad \frac{\partial s^b}{\partial R} > 0$$

These properties are used in Figure A1(b) to show how the equilibrium range, (s^g, s^b) , changes as R —the size of reputational cost—varies. It is straightforward to show that a SE exists only if $\delta < \delta_2$ because otherwise $K \leq 0$ and hence the first inequality in (13) cannot hold. For all $\delta < \delta_2$, a SE exists because appropriate values of s^g and s^b can always be chosen to satisfy the inequalities in (13) simultaneously—given that $H < K$. In addition, it is worth noting that the range (s^g, s^b) becomes unbounded from above (i.e., s^b is essentially infinite) if $\delta_1 <$

$\delta < \delta_2$, because in this case $H \leq 0$, and thus the second inequality in (13) holds trivially for any $a > 1$.

Collecting the results discussed thus far, Table A2 describes the SE solutions for Case 1.

Table A2. Separating Equilibrium When $R \geq (1 - \theta)$

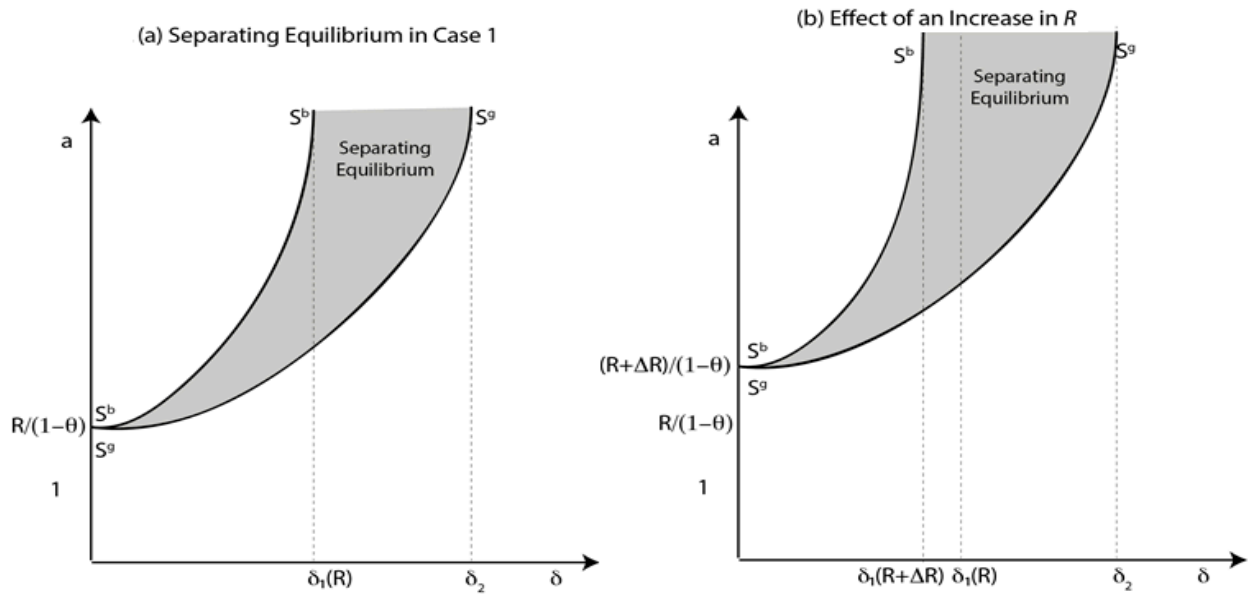
δ	Existence of Separating Equilibrium	a
$\delta \geq \delta_2$	No	...
$\delta_1 \leq \delta < \delta_2$	Yes	$a > s^g$
$\delta < \delta_1$	Yes	$s^g < a < s^b$

To gain some intuition about the conditions for the existence of a SE, note that the center term in (12) is related to the financial cost associated with the imposition of inflow controls (which signals a type-B government)—which is decreasing in R (the reputational cost of default because a higher reputational cost makes default less likely), increasing in a (the adjustment-aversion of the type-B government which makes default more likely), and of course increasing in b (the weight on the financial cost in the loss function).

The left-hand inequality in (12) corresponds to the requirement that the type-B government's expected saving on reputational costs of default by imposing inflow controls exceed the financial cost of imposing inflow controls (and being identified as a type-B government), which is necessary for the type-B government not to try to mimic the type-G government by abjuring inflow controls. This condition is more likely to be fulfilled the greater the value of δ (the effectiveness of the inflow control), the greater is R (the reputational cost of default/outflow controls), and the smaller is a (the type-B government's adjustment aversion). This locus, S^b , is drawn in Figure A1(a) for given R , while Figure A1(b) shows the effect of a parametric increase in R .

The right-hand inequality in (12) then corresponds to the requirement that the financial cost to a type-G government of mimicking a type-B government (by imposing inflow controls) be greater than the expected saving on adjustment costs from imposing inflow controls, which is increasing in δ . Thus, the condition for the type-G government not to seek to mimic a type-B government (and thus for the SE to exist) is more likely to be fulfilled, the greater is a , the lower is R , and the lower is δ .

Figure A1. Separating Equilibrium in Case 1



Source: Authors' illustration.

A guilt by association SE exists (in Case 1) in the parameter space defined by the two loci, S^g S^g and S^b S^b . In this region, a type-G government will not impose inflow controls—despite their crisis-prevention benefit—for fear of being labelled as a type-B government and being associated with a greater likelihood of imposing outflow controls. For given δ , there is a range of a for which the SE exists: too low a value of a , and the two types of government are too similar to sustain a SE; too large a value of a , and the financial penalty for being identified as a type-B government is sufficiently high that the type-B government will try to mimic the type-G government by eschewing inflow controls. Likewise, for given a , too low a value of δ means that type-B government will not find it worthwhile to pay the financial penalty of revealing its type by imposing inflow controls; too high a value of δ , and the type-G government will adopt inflow controls as well. Finally, an increase in R shifts the loci upward—thus raising the minimum value of a for which the SE can exist—and rotates both schedules counter-clockwise. The net effect on the region of the SE is ambiguous: a higher value of R raises the value of inflow controls for the type-B government (since the reputational cost for default is higher), but for a type-G government, a higher value of R , by reducing the financial penalty of imposing inflow controls (and being identified as a type-B government) because it makes default less likely, makes imposing inflow controls more attractive.

Case 2: $p_G^0 > 0$, $p_B^0 > 0$, $p_G^1 = 0$, $p_B^1 > 0$

In this case, the type-G government defaults with positive probability when it does not have inflow controls (but not when it does have inflow controls in place), while the type-B government defaults with positive probability regardless of whether it has inflow controls (though with lower probability when it does have inflow controls). The assumed configuration of actual default probabilities requires the following restrictions on R and a :

$$(17) \quad (1 - \theta - \delta) \leq R < (1 - \theta) \quad \text{and} \quad a > R/(1 - \theta - \delta)$$

It is noteworthy that the tradeoff faced by the type-G government is more complicated than in Case 1, because by assumption, it defaults with positive probability when it does not have inflow controls. Thus, all three cost elements in the loss function are relevant for the equilibrium solution. The type-B government faces with essentially the same tradeoff as in Case 1—between the reputational cost and the financial cost. For any given R/a , the *increase* in the financial cost under inflow controls is less than in Case 1 because the type-G government defaults with positive probability if it does not introduce inflow controls.

The expected loss, L_j^k , $j = G, B$, $k = 0, 1$, can be expressed as follows:

$$(18) \quad \begin{aligned} L_G^0 &= R^2/2 + (R + b)(1 - \theta - R) \\ L_B^0 &= R^2/2a + (1 - \theta - R/a)R + b(1 - \theta - R) \\ L_G^1 &= (1 - \theta - \delta)^2/2 + b(1 - \theta - \delta - R/a) \\ L_B^1 &= R^2/2a + (R + b)(1 - \theta - \delta - R/a) \text{ and} \\ L_G^1 - L_G^0 &= (1 - \theta - \delta)^2/2 + R^2/2 - (1 - \theta)R + b[R - \delta - R/a] \\ L_B^1 - L_B^0 &= b(R - \delta - R/a) - \delta R \end{aligned}$$

Substituting (18) into the equilibrium conditions in (8) yields the following strict inequalities, which are given by:

$$(19) \quad \delta R > b(R - \delta - R/a) > [R^2 - (1 - \theta - \delta)^2]/2 + R(1 - \theta - R)$$

The conditions for SE in (19) can be rearranged into the following strict inequalities, which are given by:

$$(20) \quad N > (R/a) > M$$

where

$$M = \frac{(b-\delta)R-b\delta}{b} \quad \text{and} \quad N = \frac{(b-\delta)R-b\delta}{b} + \frac{[R-(1-\theta-\delta)]^2}{2b}$$

It readily follows that $M < N$ for all R in the permissible range defined in (17), except for $R = (1 - \theta - \delta)$ in which case the strict inequalities in (20) cannot hold simultaneously (because $M = N$) and hence no SE can emerge. Note that the second inequality holds trivially if $M \leq 0$.

As before, we define the following thresholds for δ and a , which are given by

$$(21) \quad \begin{aligned} \delta_3 &= bR/(b + R), & \delta_4 &= (1 - \theta + b) - \sqrt{Z(b, R; \theta)} \\ s^g &= 2bR/[\{R - (1 - \theta - \delta)\}^2 + 2\{(b - \delta)R - b\delta\}] \\ s^b &= bR/[(b - \delta)R - b\delta] \end{aligned}$$

where $Z(b, R; \theta) = (1 - \theta + b)^2 - [R - (1 - \theta)]^2 - 2bR$. The thresholds, δ_3 and δ_4 , obtain as the value of δ at which $M = 0$ and $N = 0$, respectively. It can be easily verified that $\delta_3 < \delta_4$ for all R in the permissible range defined in (17), and that δ_4 (which depends on R) converges to δ_2 as R approaches to $(1 - \theta)$, the upper bound of the permissible range. As in Case 1, therefore, no SE can emerge if $\delta \geq \delta_2$. The thresholds, s^g and s^b , which are drawn in Figure A2, are the values of a at which the first and second inequalities hold as an equality, respectively. They determine the range of a , denoted by (s^g, s^b) , for which a SE exists. Provided both s^g and s^b are strictly positive, it can be readily shown that $R/(1 - \theta - \delta) < s^g < s^b$, satisfying the restriction on a in (17).

The thresholds defined in (21) have the following properties which are given by:

$$(22) \quad \frac{\partial \delta_3}{\partial R} > 0, \quad \frac{\partial \delta_4}{\partial R} > 0, \quad \frac{\partial s^g}{\partial R} < 0, \quad \frac{\partial s^b}{\partial R} < 0, \quad \lim_{\delta \rightarrow 0} s^g = \lim_{\delta \rightarrow 0} s^b = 1$$

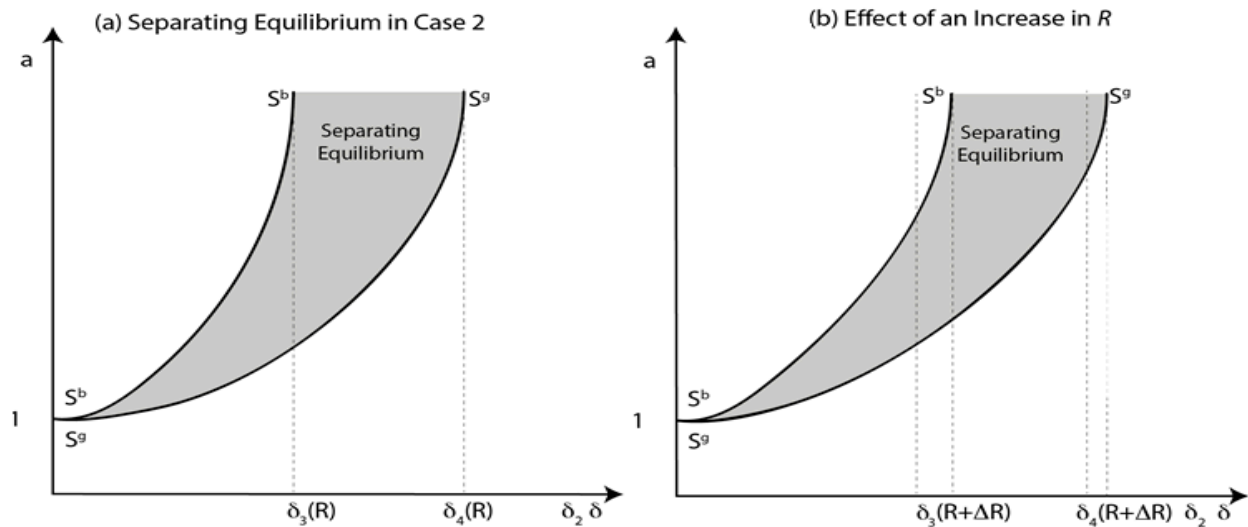
where the limiting properties of s^g and s^b obtain from the limiting property of R such that $\lim_{\delta \rightarrow 0} R = (1 - \theta)$ for all R in the permissible range defined in (17). These properties are used for Figure A2 to show how the equilibrium range, (s^g, s^b) , changes as δ and R vary. Table A3 summarizes the SE solutions for Case 2.

Table A3. Separating Equilibrium when $(1 - \theta - \delta) < R < (1 - \theta)$

δ	Existence of Separating Equilibrium	a
$\delta \geq \delta_4$	No	...
$\delta_3 \leq \delta < \delta_4$	Yes	$a > s^g$
$\delta < \delta_3$	Yes	$s^g < a < s^b$

To gain some intuition, note that the term in the center of (19) represents the additional financial cost of imposing inflow controls and being identified as a type-B government. The left-hand inequality in (19) is the condition under which the type-B government does not try to mimic the type-G government by not imposing inflow controls. This requires that the benefit of the expected reputational cost of default exceed the financial cost of imposing inflow controls. This condition is more likely to be met the greater the effectiveness of inflow controls, δ , the smaller the reputational cost of default, R , the lower the welfare weight on the financial cost, b , or the lower the adjustment aversion, a (which reduces the financial cost of being identified as type-B government).

Figure A2. Separating Equilibrium in Case 2



Source: Authors' illustration

The right-hand inequality corresponds to the requirement that in any SE, the type-G government not have the incentive to mimic the type-B government and impose inflow controls. This requires that the cost of imposing inflow controls (and being identified as a type-B government) exceed the benefit, which consists of two components. The first is the expected saving on adjustment costs: the maximal adjustment that the type-G government will do is R , and any liquidity benefit of inflow controls raises the expected saving on adjustment costs. Therefore, the greater the effectiveness of inflow controls, δ , the less likely is the condition to be fulfilled. The second component is the expected saving on reputational costs of default afforded by the imposition of inflow controls, equal to the reputational cost multiplied by the probability of default without inflow controls (recall, in case 2, a type-G government defaults with positive probability in the absence of inflow controls). Figure A2 shows the loci satisfying the type-B and

type-G “no-mimicking” constraints, and defining the parameter space for which the SE will exist. In general, as the maximal adjustment that the two types of government are willing to undertake (R , and R/a , for the G- and B-governments, respectively) becomes more similar, the harder it becomes to sustain a separating equilibrium.

Case 3: $p_G^0 > 0$, $p_B^0 > 0$, $p_G^1 > 0$, $p_B^1 > 0$

In this case, both types of government default with positive probability regardless of whether they have imposed inflow controls. The assumed configuration of actual default probabilities implies the following permissible ranges for R and a :

$$(23) \quad R < (1 - \theta - \delta) \quad \text{and} \quad a > 1$$

As before, the expected loss, L_j^k , $j = G, B$, $k = 0, 1$, can be expressed as follows:

$$L_G^0 = R^2/2 + (1 - \theta - R)R + b(1 - \theta - R)$$

$$L_B^0 = R^2/2a + (1 - \theta - R/a)R + b(1 - \theta - R)$$

$$L_G^1 = R^2/2 + (1 - \theta - \delta - R)R + b(1 - \theta - \delta - R/a)$$

$$L_B^1 = R^2/2a + (1 - \theta - \delta - R/a)R + b(1 - \theta - \delta - R/a)$$

By using these results, it can be easily shown that

$$L_G^1 - L_G^0 = L_B^1 - L_B^0 = -\delta R + b(R - R/a - \delta)$$

These results indicate that the equilibrium conditions in (8) cannot be satisfied simultaneously and, therefore that no SE emerges. This is somewhat an artifact of the linear welfare function (in a more general specification, there could still be a region in which a SE exists), but it is illustrative of the intuition above that as the governments become more similar, it becomes harder to sustain the separating equilibrium (i.e., as $a \rightarrow 1$, the restrictions on the remaining parameters for a SE to exist become more severe).

Appendix II. Measurement of Capital Controls, 1950-2010

This appendix describes the construction of capital control indices presented in Figure 6 of the main text. The underlying information for the indices is obtained from various issues of IMF's *Annual Report on Exchange Arrangements and Exchange Restrictions* (AREAER). The sample comprises the G7 countries (Canada, France, Germany, Italy, Japan, United Kingdom, and United States), and those emerging markets that were IMF members in 1950 (Argentina, Brazil, Chile, Colombia, Ecuador, Egypt, India, Indonesia, Korea, Malaysia, Mexico, Pakistan, Peru, Philippines, South Africa, Thailand, Tunisia, Turkey, Uruguay, and Venezuela).

To construct the outflow and inflow capital control indices for individual countries, we begin by grouping the restrictions on capital transactions described in the IMF's AREAER (1950 onwards) into the following broad categories: (i) no restrictions; (ii) no restrictions but the free market (and not official) exchange rate is applied to transactions; (iii) capital mobility allowed within the sterling area, but heavily restricted with countries outside the area;⁵³ (iv) restrictions on repatriation; (v) surrender requirements on foreign currency borrowing or earnings; (vi) approval requirements; (vii) license/registration requirements; (viii) maturity requirements on foreign borrowing/lending; (ix) limits on inward/outward investment; (x) taxes; (xi) restrictions on inward/outward investment by the financial sector for prudential reasons, and (xiii) outright bans on transactions. In the next step, we code the restrictions as none (0), mild (0.25), significant (0.75), and extreme (1) based on their intensity and coverage, exercising some judgment in each case. Thus, for example, simple reporting requirements are treated as no restrictions, while an approval requirement for inflows or outflows in any sector, or a complete ban on transactions is treated as extreme restrictions. Moreover, we include repatriation restrictions as inflow measures because, even though they apply to outflows, their economic effect is likely to be a deterrence of capital inflows.

⁵³ The sterling area referred to a group of countries (mostly members of the British Empire and Commonwealth) that either pegged their currencies to the pound sterling or had the pound as legal tender.