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# Capital Mobility and Regulation

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“Capital flow management” has become a buzzword to talk about policy measures aimed at smoothing the boom-bust cycle in capital flows to emerging-market economies. Although John Williamson is perhaps better known for his ideas and proposals about exchange rate regimes and for having coined the term “Washington Consensus,” a significant part of his work has been about capital flow management.

This chapter addresses the current analytical and policy questions on capital mobility and regulation and draws links to John Williamson’s work in the area. First, I review the evolution of John’s ideas on international capital flows and their management, and put them in the context of the events and debates of the time. As background for this discussion, figure 8.1 reports the net capital inflows to upper-middle-income countries since 1978. I then review the current research agenda on capital mobility and regulation, which is becoming increasingly active, and discuss how it relates to the themes developed in John’s work.

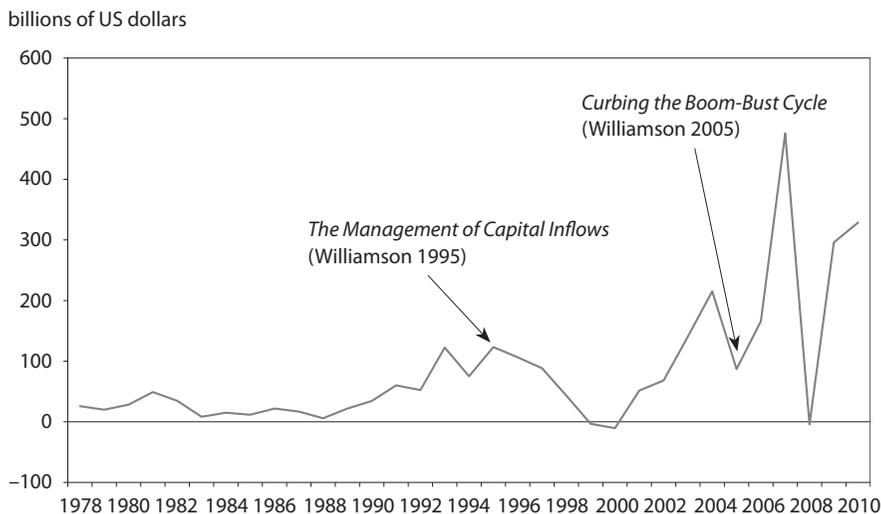
## The 1990s

John Williamson’s work in the 1960s, 1970s, and 1980s touched on capital flows, of course, but it was focused mainly on other topics such as exchange rate regimes and reform of the international monetary system. John seems to have taken increased capital mobility as a fact of life for advanced econo-

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**Figure 8.1 Net capital inflows to upper-middle-income countries, 1978–2010**



Note: Capital inflows were measured as the current account balance net of the accumulation of reserves (minus gold).

Source: World Bank, *World Development Indicators*, <http://data.worldbank.org/data-catalog/world-development-indicators> (accessed on July 31, 2012).

mies.<sup>1</sup> One theme that pervades his work on exchange rates—and that would later pervade his work on capital flows—is that they should not be left entirely to market forces and should be managed by governments.

John’s first papers that were specifically dedicated to capital flows appeared in the early 1990s: “On Liberalizing the Capital Account” in 1991 and two papers published in Spanish, “Acerca de la liberalización de la cuenta de capitales” in 1992 and “El manejo de los flujos de entrada de capitales” in 1995.<sup>2</sup> Since these papers provide an early version of John’s views on capital flows (and these views have not substantially changed since), I dedicate a substantial part of my discussion to summarizing them. My discussion is based mainly on the 1995 paper, which gives the most complete exposition of John’s ideas.

1. In private correspondence, John tells me that he did not have strong opinions on the issue of capital mobility until his writing in the 1990s. He pointed out early on that increasing capital mobility would make it increasingly difficult for adjustable pegs to survive (Williamson 1965). “When Thatcher opened the UK capital account in 1979, I approved (but not publicly),” he wrote.

2. The 1992 paper is a Spanish translation of the 1991 paper, “On Liberalizing the Capital Account.” The 1995 paper, which is translated as “The Management of Capital Inflows,” is available in English on the Peterson Institute for International Economics website, [www.piie.com/publications/papers/paper.cfm?ResearchID=277](http://www.piie.com/publications/papers/paper.cfm?ResearchID=277) (accessed on July 31, 2012).

In these papers, John developed an early analysis of the problems that may be caused by excessive capital inflows to emerging-market economies. In retrospect, he was one of the rather few mainstream economists to have expressed serious reservations about unfettered emerging-market finance and to have opposed the pressure for capital account liberalization in the emerging markets during the first half of the 1990s.

The 1995 paper (“The Management of Capital Inflows”), more specifically, was written as a warning to countries in Asia and central Europe that were receiving large volumes of capital inflows at the time. Capital inflows can be excessive, as shown by the experience of Latin America in the 1970s and 1980s. John was strongly in favor of the Chilean attempt to repel excessive inflows rather than the decision of Mexico, for example, to absorb the inflows and let them finance an increase in domestic spending.

John’s case against unfettered capital mobility relied on several arguments. First, large capital inflows lead to a real appreciation of the currency that erodes the competitiveness of the domestic tradable goods sector (Dutch disease). This may be a problem if and when there is a capital flow reversal because the country will not be able to rely on a robust tradable goods sector to repay the external debt. And even if the capital inflow is permanent, the damage to the tradable goods sector caused by the real appreciation can harm the country’s prospects for long-term growth—a view, John notes, that lacks a sound theoretical foundation but is “held quite strongly by many economists” (Williamson 1995).

As a rule of thumb, John proposed that the external liabilities of a country should be limited to 40 percent of its GDP, but he notes that the composition of capital inflows also matters. Equity-like liabilities such as foreign direct investment are less likely to generate a capital account crisis than debt, and the maturity of debt matters. As a second rule of thumb, he proposed to “treat a dollar of a foreign non-debt claim as something less than a dollar’s worth of debt, e.g., to give it a 50 percent weight” (Williamson 1995).

Another problem with a surge in capital inflows is that it may lead to domestic imbalances, including bubbles in asset prices:

One undesirable consequence of such a bubble is typically a decline in the local savings rate, as individuals discover that their asset accumulation objectives are being achieved without the need for anything so tedious as abstaining from consumption. Another undesirable consequence can be a financial crisis, and the danger of a recession, when the bubble bursts. (Williamson 1995)

Although John wrote this in 1995 with emerging-market economies in mind, it would be difficult to find a more apt and succinct description of the link between current account deficits and the boom-bust in credit and asset prices in the United States observed before and during the Great Recession (Obstfeld 2012).

“The Management of Capital Inflows” also contains a list of 12 possible policy actions for curbing the effects of a surge in capital inflows. The list

includes currency appreciation (number 1), the accumulation of reserves (number 2), and several measures that would now be called “macroprudential” (such as increasing regulatory bank reserves). These policy actions are not listed by order of preference, but rather in the order that a policymaker would typically consider them. John noted the costs associated with letting the currency appreciate (mentioned above) as well as the quasi-fiscal costs of holding large stocks of international reserves. The imposition of controls on capital inflows was ranked 11th on the list not because it was viewed as one of the least desirable measures, but because John thought that capital controls would typically be considered by default, after other measures have been tried and proved insufficient. This being said, it is fair to say that John did not see capital controls as a panacea or even as a frontline defense.

At the same time, however, the Washington Consensus was moving toward a view of the gains that emerging-market economies can derive from capital inflows that was less burdened than John’s with caveats and qualifications.<sup>3</sup> In his famous characterization of the Washington Consensus given at a conference held at the Institute for International Economics in 1989 (and published in Williamson 1990), there was some emphasis on the benefits of foreign direct investment inflows, but liberalization of foreign financial flows was “not regarded as a high priority” for developing economies. But the 1990s started to see a strong push for capital account liberalization coming from the investor community and the official sector, including the International Monetary Fund (IMF). This culminated in the debate over giving the IMF jurisdiction over its member countries’ capital accounts in order to promote their orderly liberalization.

The 1994–95 Mexican crisis did not change the prevailing optimism about capital account liberalization in emerging-market economies as much as it perhaps should have. The crisis could be seen as an isolated case due to problems that were specific to Mexico, and one whose international repercussions were contained by official crisis lending. There was volatility in Mexico and in the countries subsequently affected by the so-called Tequila crisis, but an outright default was avoided, and by contrast with the debt crisis of the 1980s, the Mexican crisis marked nothing like the beginning of a “lost decade” of growth.

In a speech at the IMF’s Annual Meetings in 1997, Stanley Fischer made the case for financial globalization and advocated an amendment to the IMF’s articles, the purpose of which “would be to enable the Fund to promote the orderly liberalization of capital movements.”<sup>4</sup> Around the same time, Rudiger Dornbusch declared capital controls “an idea whose time is past” and that “the correct answer to the question of capital mobility is that it ought to be unrestricted” (Dornbusch 1998, 20).

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3. A history of the Washington Consensus is presented in Williamson (2008).

4. Stanley Fischer, “Capital Account Liberalization and the Role of the IMF,” speech at the Annual Meetings of the International Monetary Fund, Washington, September 19, 1997.

The enthusiasm for capital account liberalization was dampened by the next bout of capital flow volatility in Southeast Asia, which John observed from a good vantage point as chief economist for the South Asia Region at the World Bank in 1996–99. He examined the lessons from that crisis in Williamson (1998, 1999). Although the crisis was to some extent a vindication of the fears that he had expressed in “The Management of Capital Inflows,” John did not claim credit for having told us so (he actually does not cite his 1991 or 1995 pieces in his post-Asian crisis papers). That being said, consistent with his earlier work he laid the blame for the crisis mainly at the door of premature and excessive capital account liberalization, leading to the accumulation of short-term foreign currency external liabilities (Williamson 1998). And he took the crisis as an opportunity to refine his earlier insights on the desirable composition of capital flows (Williamson 1999).

## The 2000s

The Southeast Asian crisis opened a debate (that is still going on) about reforming the international financial architecture, but it did not make capital controls come back into vogue. In fact, it is at the time of the Southeast Asian crisis that Chile abandoned the system of capital controls that John Williamson had been praising earlier in the decade.<sup>5</sup> The Central Bank of Chile had grown tired of administering these controls and during the 1990s had been producing a steady stream of research that was skeptical or hostile toward them. In his defense of the intermediate option for exchange rate regimes, John argued that this new research was too negative and somewhat inconsistent because it claimed at the same time that the controls were both ineffective and distortionary (Williamson 2000). But the debate on the international financial architecture tended to focus on other measures, such as collective action clauses in sovereign debt, the creation of a new sovereign debt restructuring mechanism (Krueger 2001), measures to relieve the “original sin” of foreign currency borrowing in emerging-market economies (Eichengreen and Hausmann 2003), and the “bipolar view” that balance of payments crises could be avoided by having exchange rates that were either floating or irrevocably fixed (Summers 2000).

Be that as it may, capital flows to emerging-market economies started to boom again in 2003. John restated and refined his analysis of the need to regulate and manage capital flows in *Curbing the Boom-Bust Cycle: Stabilizing Capital Flows to Emerging Markets* (2005).<sup>6</sup> There he compared the contribution of different types of capital flows to economic volatility, and emphasized that the flows that are the most dangerous (such as short-term foreign currency

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5. Chile phased out its system of controls on capital inflows (the *encaje*) in September 1998.

6. Some of the analysis in Williamson (2005) was prefigured in a chapter that John wrote for a book edited by Ricardo Ffrench-Davis and Stephany Griffith-Jones entitled *From Capital Surges to Drought* (Williamson 2003). Similar themes were developed by José Antonio Ocampo (2003).

debt) are also the ones that seem to contribute the least to economic development, since (unlike foreign direct investment) they finance little investment and bring no access to intellectual property.<sup>7</sup> John concluded by proposing an action program with seven measures, including macroprudential measures to reduce the procyclicality of bank lending, measures to reduce foreign currency borrowing by emerging-market economies and encourage the development of equity-like financial instruments, and prudential capital controls on inflows.

Meanwhile, emerging-market economies responded to the surge in capital inflows not by using capital controls but by accumulating international reserves to an unprecedented extent.

A new period of capital flow volatility came with the Great Recession and the financial turmoil caused by the collapse of Lehman Brothers in the fall of 2008. Bank flows to emerging-market economies suddenly dried up, but this sudden stop did not last long. One year later, many emerging-market economies had to deal with the opposite problem—a new surge in capital inflows. This time, the type of prudential capital controls that John had advocated for almost 20 years came back into use. These controls were now more in the spirit of the times, with its emphasis on countercyclical macroprudential regulation to smooth the effects of booms and busts in credit and asset prices.

Brazil, rather than Chile, was the new poster child for prudential capital controls. Brazil introduced a 2 percent tax on all capital inflows except direct investment in October 2009. The tax rate was increased to 6 percent in October 2010, and the coverage of the controls was extended to derivatives. The controls seem to have been successful in stopping the appreciation of the real, although this effect may also have resulted from other concomitant factors. The tax is paid rather than evaded, in large part because it has remained relatively small. Several other emerging-market economies, including Korea, Taiwan, Thailand, and Indonesia, experimented with controls on capital inflows in 2009 and 2010.

At the same time, the official community started to show more tolerance, and even sympathy, toward the use of prudential capital controls (IMF 2011; Ostry et al. 2010, 2011). Capital controls were presented as legitimate instruments in the policy “toolbox” that emerging-market economies can use to reduce the impact of volatile capital flows (Ostry et al. 2011). As IMF Chief Economist Olivier Blanchard put it in his summary remarks at the end of a conference on managing capital flows coorganized by the IMF and the Brazilian authorities: “While the issue of capital controls is fraught with ideological overtones, it is fundamentally a technical one, indeed a highly technical one” (Blanchard 2011).

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7. The large empirical literature on the impact of international financial integration on growth and development generally fails to detect a robust connection between the two, except perhaps for foreign direct investment and equity market liberalization. See Rodrik and Subramanian (2009) for a review of that literature, and Cline (2010) for an interpretation of the evidence that is more optimistic about the gains from integration.

In a monograph entitled *Who Needs to Open the Capital Account?* that I coauthored with John Williamson and Arvind Subramanian, we observe an asymmetry between international trade in goods and trade in assets: there is no international rule or discipline for capital account policies but there is (most notably with the World Trade Organization) a strong international regime for trade policies (Jeanne, Subramanian, and Williamson 2012). We find this asymmetry problematic and propose to develop international rules for capital account policies. On the one hand, the lack of commonly agreed-upon rules implies that capital controls are still marked by a certain stigma, so the appropriate policies may be pursued with less than optimal vigor. On the other hand, certain capital account policies may have harmful multilateral effects and negative spillovers on the global economy. This is particularly the case with policies that repress domestic demand and, through a combination of reserve accumulation and restrictions on inflows, maintain a current account surplus, as in China. Those policies have the same economic effects as trade protectionism and undermine the global public good that is free trade. Thus, we see a need for an international regime that would legitimize the use of capital account policies that are appropriate and discourage the use of those that are not.

## Research Questions

John's writings about capital flow management contain many insights, some of which have been incorporated into the modern research literature, and some of which have not. The way open macroeconomics is taught to graduate students today is very different from the way it was taught when John was a student of Fritz Machlup at Princeton in the early 1960s. Modern macroeconomic theory is grounded in the behavior of rational and intertemporally optimizing agents. This marks progress in some respects, but it has come at an important cost: valuable insights about the economy have been downplayed or even forgotten because they do not fit neatly into the new framework. I will review how John's insights about capital flow management are captured (or not) by the modern literature, and how these insights can provide inspiration for new research.

One thing that we are starting to better understand is the welfare case for curbing the boom-bust cycle in capital flows. The research agenda on the new welfare economics of prudential capital controls is reviewed, for example, by Anton Korinek (2011a). This literature explains the need for regulating capital flows by systemic externalities generated by financial frictions. It explains precisely in which sense capital inflows can be deemed to be "excessive" from the point of view of the country's welfare, which occurs when private agents do not internalize the contribution of their own borrowing to the risk and severity of a systemic crisis. This literature also provides models that can be used to quantify the optimal countercyclical Pigouvian taxation of capital inflows (Bianchi 2011, Korinek 2010). This literature validates John's insight

that different types of capital flows should be regulated in a differentiated way that takes into account their contribution to systemic risk.

Stephanie Schmitt-Grohé and Martín Uribe (2012) make a slightly different case for prudential controls.<sup>8</sup> These authors consider a small open economy with downward nominal rigidity that pegs its nominal exchange rate (they have euro area members in mind). The nominal wage (and so the real wage, given the fixed nominal exchange rate) increases during a boom in capital inflows. But the wage does not fall when there is a reversal, leading to unemployment. The externality in this case is that agents do take into account the impact of increasing their nominal wages on future unemployment. A tax on capital inflows helps to contain the increase in nominal wage during the boom and raises average employment. The magnitude of these effects is potentially large. Under plausible calibrations, the optimal capital controls are shown to lower the average unemployment rate by 10 percentage points, reduce average external debt by 10 to 50 percent, and increase welfare by 2 to 5 percent of consumption per period.

One idea that John emphasized in his work, but which has still not been provided with a clear theoretical foundation, is that real exchange rate fluctuations should be smoothed because of a Dutch disease externality. Dutch disease may justify undervaluing the real exchange rate (although a better policy would be to subsidize the tradable goods sector), but it does not clearly justify smoothing the real exchange rate in the boom-bust cycle. Ricardo J. Caballero and Guido Lorenzoni (2009) present a model of Dutch disease in which the real exchange rate should be smoothed, but the mechanism in their paper involves a financial friction.

Another question that I encourage my graduate students to work on is how reserve accumulation works. Policymakers believe that reserve accumulation is a powerful tool to resist currency appreciation and maintain a trade surplus, and there is some evidence that this is true (Gagnon 2012). However, modern models with rational expectations imply that in the absence of friction, reserve accumulation should have no effect because of Barro-Ricardian equivalence. We know of several reasons why Barro-Ricardian equivalence might not hold, but we do not really know which ones are the most relevant in the real world. Is it because of external or domestic financial frictions? Is it because of agents' limited rationality? It would seem important to have a better sense of the underlying reason in order to design the appropriate policies, and in particular the weight that they should put on capital controls versus reserve accumulation.

The research reviewed so far has focused on small open economies and so has little to say about the international spillovers and strategic interactions related to capital account policies. An important area for further research is the theoretical case for pursuing international coordination of capital account

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8. In a recent related paper, Emmanuel Farhi and Ivàn Werning (2012) study capital controls in the context of a dynamic optimizing model with nominal stickiness.

policies of the type advocated in Jeanne, Subramanian, and Williamson (2012). The nascent literature on this question does not provide clear-cut conclusions (Jeanne 2012). First, there is a theoretical presumption that international cooperation is desirable for capital account policies for the same reason that it is desirable in the area of international trade. At an abstract level, capital controls are taxes on intertemporal trade between countries, and there is no reason to believe that they should be less of a collective concern than taxes on intratemporal trade (i.e., tariffs). Even when capital account restrictions are justified by a domestic externality, they have an impact on the rest of the world that needs to be taken into account. For example, Kristin Forbes et al. (2012) find that capital controls in Brazil caused investors to increase the share of their portfolios allocated to other Latin American countries, possibly shifting vulnerabilities from one country to another.

Unlike for trade policies, for which the welfare benefits of international cooperation have been studied in a large literature, there has been relatively little research on the international coordination of capital account policies. Recent exceptions are Arnaud Costinot, Guido Lorenzoni, and Ivàn Werning (2011) and Anton Korinek (2011b), who reach different conclusions.

Both papers point out that international cooperation is warranted if countries are large enough to influence their intertemporal terms of trade (the world real interest rate). However, in the two-country model of Costinot, Lorenzoni, and Werning (2011), the country that borrows can raise its welfare relative to the *laissez-faire* level by imposing a tax on capital inflows, and in this way lower the interest rate that it must pay to the lending country. Conversely, the lending country will want to impose a tax on capital outflows in order to raise the world interest rate. The Nash equilibrium of this game leads to a Pareto inefficient “capital war” in which both countries see their welfare decreased. This is essentially the transposition to intertemporal trade of the classical “optimal tariff” argument for free trade.

Korinek (2011b), on the other hand, shows that international cooperation is less justified if countries are small and use capital account restrictions to redress domestic externalities. The Nash equilibrium in this case may look like a capital war and lead to a decrease in the world real interest rate, but it is Pareto efficient. The reason is that there is no true international externality: the spillovers that countries impose on each other are mediated through a price (the real interest rate) in a perfectly competitive market (the global capital market), so that the first welfare theorem applies to the decentralized equilibrium between countries.

These papers make significant inroads, but important questions remain to be explored. In particular, it would be interesting to better understand how capital account policies interact in a Keynesian model of the global economy with insufficient global demand. Presumably, international cooperation might be justified to prevent a Nash equilibrium in which countries use capital account policies to implement beggar-thy-neighbor depreciations that boost domestic employment at the expense of foreign employment.

Finally, one way in which the world has changed since John Williamson's early writings on capital flow management is the increasing international integration of banking. The international repercussions of the collapse of Lehman Brothers in 2008 were not, for certain emerging-market countries such as Korea, like anything we had seen before. Korean banks are integrated into the global banking system, and fund themselves in the dollar wholesale funding market—a source of funding that suddenly dried up in the fall of 2008. This episode and others raise important questions about the way liquidity and lending of last resort can be effectively provided to the global banking system in a crisis, questions that have been discussed in the postcrisis G-20 debates about global financial safety nets. Banking is unique, and there may be a need to reconsider, as a separate topic, the gains and costs of international banking integration.<sup>9</sup>

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9. See Shin (2012) for evidence and theory on how global banking contributed to credit easing in the United States up to 2007 and may thus have been a key factor behind the global financial crisis.

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