# Are capital controls countercyclical?

Andrés Fernández [a], Alessandro Rebucci [b], Martín Uribe [c,d,*]

[a] Inter-American Development Bank, United States
[b] Johns Hopkins University Carey Business School, United States
[c] Columbia University, United States
[d] NBER, United States

## ARTICLE INFO

## ABSTRACT

A growing theoretical literature advocates the use of countercyclical capital control policy, that is, the tightening of restrictions on net capital inflows during booms and the relaxation thereof during recessions. We examine the behavior of capital controls in 78 countries over the period 1995–2011. We find that capital controls are remarkably acyclical. Booms and busts in aggregate activity are associated with virtually no movements in capital controls. These results are robust to controlling for the level of development, external indebtedness, and the exchange-rate regime. They also obtain around the great contraction of 2007.

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## 1. Introduction

Capital controls have gone from villains to heroes with little transition. During the 1990s, a decade characterized by vigorous financial flows toward emerging countries, the predominant view was that capital controls are undesirable because they distort the international allocation of capital and in that way hinder long-run growth. In accordance with this view, policymakers in emerging countries, with few exceptions, allowed international capital to move largely unfettered. But many of these experiments with free capital mobility ended in sudden stops followed by severe financial or exchange-rate crises or both (Southeast Asia and Russia in the late 1990s, South America in the early 2000s, and peripheral Europe in the late 2000s). These failures persuaded many to look at capital controls with more benign eyes. Increasingly, free capital mobility has been blamed for causing real-exchange-rate overvaluation, excess nominal wage growth, and overborrowing during booms, opening the door to exacerbated rates of unemployment and bankruptcy during the downward phase of the cycle. An indication of the magnitude of this change of sentiment toward capital controls is that the International Monetary Fund, which until recently held a long-standing position against restrictions on international financial transactions, now considers capital controls an appropriate instrument for macroeconomic stabilization (International Monetary Fund, hereafter IMF, 2011).

A recent theoretical literature characterizes environments in which countercyclical capital-control policy is desirable. In general, these models describe economies with externalities, in which capital controls represent second-best remedies. These new theories of countercyclical capital-control policy can be broadly divided into two classes. In one class, countercyclical capital-control policy is beneficial because it can promote financial stability.[1] In the second class, countercyclical capital control policy is

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* Corresponding author at: Columbia University, Department of Economics, 420 W. 118th Street, Room 1109A, New York, NY 10027, United States. Tel.: +1 212 851 4008.
E-mail addresses: andresf@iadb.organized (A. Fernández), arebucci@jhu.edu (A. Rebucci), mu2166@columbia.edu (M. Uribe).

[1] See for example, Lorenzoni (2008), Korinek (2010), Jeanne and Korinek (2011), Bianchi (2011), Bianchi and Mendoza (2010), Fernández-Arias and Lombardo (1998), and Benigno et al. (2014).

desirable because it can improve macroeconomic adjustment in economies with nominal rigidities and suboptimal monetary or exchange-rate policy.[2] In both classes of models there is an externality caused by the individual agent's failure to internalize the fact that his own spending behavior during booms is exacerbated by signals that are distorted by the presence of financial or nominal frictions. Also, under both classes of models, it is optimal for the policymaker to impose capital controls during booms, because, by putting sand in the wheels of international borrowing, they contribute to curbing aggregate spending, thereby mitigating the inefficiencies caused by the externality.

In this paper, we investigate whether capital control policy has indeed been used in a countercyclical manner as suggested by these new theories. To this end, the first contribution of this paper is to update Schindler (2009) index of capital controls, which covers the period 1995–2005, by incorporating the period 2006–2011. The new data set covers 91 countries over the period 1995–2011 at an annual frequency. The data set provides information on restrictions on capital inflows and outflows separately and distinguishes six categories of assets and the residency of the transacting agent.

We use the updated data on capital controls to study the observed behavior of the cyclical component of capital controls. We report three main findings: First, the unconditional standard deviation of the cyclical component of capital controls is small. Essentially, policymakers do not change capital controls over the business cycle, contrary to what an active countercyclical stance would suggest. Second, the cyclical components of controls on capital inflows and outflows are positively correlated. This fact also suggests that capital controls are not primarily used as a stabilization instrument. For if this was the case, one would expect that during expansions policymakers increase capital controls on inflows and decrease capital controls on outflows and vice versa during contractions, inducing a negative correlation between the two types of restrictions.

The third and most important result emerges from examining the behavior of capital controls conditional on the economy being in a macroeconomic boom or bust. We define boom and bust episodes for three separate macroeconomic indicators, the output gap, the cyclical component of the real effective exchange rate, and the cyclical component of the current account. We find that, on average, controls on capital inflows or outflows are virtually unchanged during macroeconomic booms or busts. This finding suggests that over the past one and a half decades countries around the world have not systematically applied capital controls in a countercyclical fashion, as advocated by the theories described above.

These findings are robust to disaggregating the data along a number of dimensions, including, individual asset categories, individual asset location, income levels, the exchange-rate regime, and the level of external indebtedness. The results also hold when we limit attention to the global crisis of 2007 or to countries that actively change capital controls (or gates, in the terminology coined by Klein, 2012).

Our index of capital controls is based on a binary variable at the level of individual assets and location. However, the fact that the index includes many asset categories and asset locations allows it to capture the intensity with which capital controls are imposed, as the coverage of this type of restrictions varies over asset categories and asset locations across time. We illustrate this property of the capital control index by analyzing its behavior for Brazil during the late 2000s. This case is of interest because of the availability of capital control tax rates (which fully capture the intensive margin), and because it has become an emblematic case study for the analysis of countercyclical capital control policy. We show that our index tracks well the behavior of effective capital control taxes in Brazil during the great contraction years. Also, we find that the Brazilian case is an unusual one, in the sense that on average, other countries did not appeal to capital control restrictions to counteract the capital inflows of the pre-great-contraction period.

Additionally, we test the robustness of our results by using two alternative indices of capital controls, namely the Chinn–Ito (2006) and the Quinn (1997) indices. The latter is of particular interest because, although it does not distinguish between controls on inflows and outflows, it is based on a finer classification of restrictions at a granular level than the index used in this paper.

Our results allow for at least two interpretations. One is that, in light of the recent growing theoretical literature arguing that countercyclical capital control policy can be welfare improving, our findings point at a case of theory running ahead of policy practice. Under this view, one would expect that as time goes by and the message of the new theories percolate into policymaking circles, capital controls will become more cyclical. A second possible interpretation is that these theories may not be capturing all of the relevant economic or political factors that determine the cyclical properties of optimal capital controls. To the extent that policymakers have a better grasp of the complexity of factors determining optimal capital controls, our results could be interpreted as policy practice running ahead of theory.

The present paper is related to a fast growing empirical literature on capital controls. The primary focus of this literature has been to ascertain the effectiveness of capital controls as macroeconomic stabilizers. See, among others, Ostry et al. (2010), Klein, 2012, and Forbes et al. (2013). Our work departs from this literature in that its primary focus is not to gauge the ability of capital controls to affect macroeconomic outcomes, but to address the question of whether governments systematically impose capital controls in a countercyclical fashion.

The remainder of the paper is organized as follows. Section 2 describes the data. Section 3 documents the unconditional acyclicality of capital controls. Section 4 studies the behavior of capital controls during booms and busts in aggregate activity. Section 5 analyzes the dynamics of capital controls during booms and busts in the real exchange rate and the current account. Section 6 focuses on the behavior of capital controls around the global contraction of 2007–2009. Section 7 analyzes the issue of intensity of our capital-control measure. Section 8 concludes.

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[2] See, for instance, Schmitt-Grohé and Uribe (2015) and Farhi and Werning (2012).