



Capital controls in the 21st century

Barry Eichengreen, Andrew K Rose, 5 June 2014

Since the global financial crisis of 2008–2009, opposition to the use of capital controls has weakened, and some economists have advocated their use as a macroprudential policy instrument. This column shows that capital controls have rarely been used in this way in the past. Rather than moving with short-term macroeconomic variables, capital controls have tended to vary with financial, political, and institutional development. This may be because governments have other macroeconomic policy instruments at their disposal, or because suddenly imposing capital controls would send a bad signal.

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Capital controls are back. The IMF (2012) has softened its earlier opposition to their use. Some emerging markets – Brazil, for example – have made renewed use of controls since the global financial crisis of 2008–2009. A number of distinguished economists have now suggested tightening and loosening controls in response to a range of economic and financial issues and problems. While the rationales vary, they tend to have in common the assumption that first-best policies are unavailable and that capital controls can be thought of as a second-best intervention. One set of studies considers a setting in which output fluctuates because nominal wages are rigid and monetary policy is not available to manipulate the price level (Schmitt-Grohe and Uribe 2012a, 2012b, Farhi and Werning 2012). A second strand characterises capital controls as a device for optimally manipulating the international terms of trade (De Paoli and Lipinska 2013). A final strand argues for the flexible use of capital controls to buttress financial stability (Ostry et al. 2012, Forbes et al. 2013).

However intriguing the arguments, the approach they recommend is one with which we have little experience. As we show in a new CEPR Policy Insight, governments have rarely imposed or removed capital controls in response to short-term fluctuations in output, the terms of trade, or financial-stability considerations. Once imposed, controls stay in place for long periods. Once removed, they are rarely restored. Rather than fluctuating at a business cycle frequency, the intensity of controls tends to evolve over long periods in line with variables like domestic financial depth and development, the strength of democratic checks and balances, and the quality of regulatory institutions, which similarly evolve slowly over time.

We as a profession simply have little knowledge of how the economy will operate if capital controls are adjusted at high frequency, since controls have historically been adjusted infrequently.

Persistence

In 1996, 169 countries and territories provided the IMF data concerning controls on capital market securities; 127 of these had restrictions.¹ That is to say, these controls were pervasive. Of those same 127 countries, some 116 (91.3%) still had such controls in 2012. That is, controls were *persistent*. And, as shown in Table 1, what was true of controls on capital market securities was true of other capital control measures as well.

Table 1. Percentage of 1996 controls persisting in 2012

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IMF AREAER Control	Controls in 2012/Controls in 1996 (percentage)
Capital Market Securities	116/127=91.3%
Money Market Instruments	94/111=84.7%
Collective Investment Securities	89/105=84.8%
Derivatives and other Instruments	52/78=66.7%
Commercial Credits	72/103=69.9%
Financial Credits	87/112=77.7%
Guarantees, Sureties, Fin'l Backup Facilities	52/82=63.4%
Direct Investment	128/144=88.9%
Liquidation of Direct Investment	32/54=54%
Real Estate Transactions (1997, series start)	105/119=88.2%
Personal Capital Movements	47/64=73.4%
Commercial Bank, other Credit Institutions	129/133=96.7%
Institutional Investors	57/60=95%

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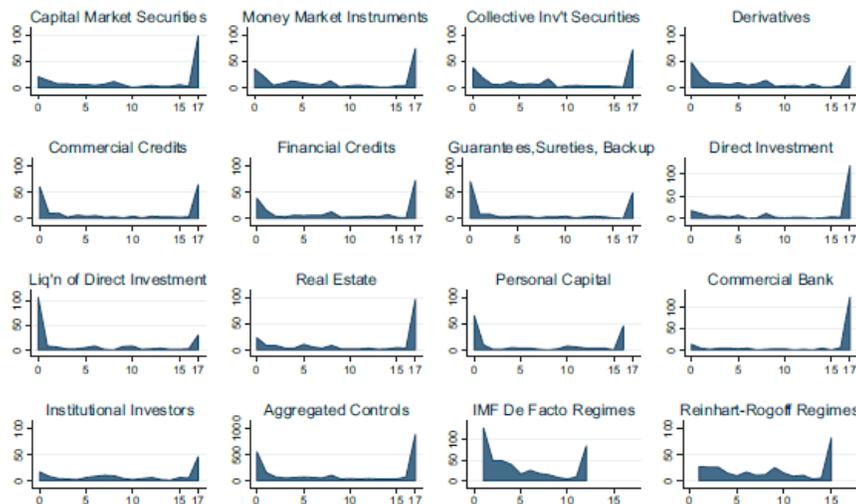
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Figure 1 contains a series of histograms showing the length of spells of different types of capital controls. The top-left graph presents the length of spells for controls on capital market securities. A subset of countries had no such controls between 1996 and 2012; these countries make up the peak at the left of the graph. As the eye moves to the right, the line falls – few countries had controls in place for periods of one, two, three or more years – until one arrives at the extreme right of the graph where the series ends with a spike. Fully 98 countries had capital market security controls in place for all seventeen years between 1996 and 2012. And controls on capital market securities are typical of the other types of controls. In the bottom row, second panel from the left, the different kinds of controls are aggregated, and the resulting aggregate displays the same pattern.

Figure 1. Histograms of capital control duration



Source: IMF AREAER database.

Exchange-rate regimes and financial crises

What determines the prevalence of controls? Two natural variables to examine are the country's exchange-rate regime and susceptibility to financial crises; both are linked in theory and accepted wisdom to the incidence of controls. But in practice, exchange-rate regimes are only weakly correlated with controls (for details, see Table 2 in the appendix below). Results using financial crises instead of exchange-rate regimes are similar. What is striking is the infrequency of significant correlations between things that we think might matter and capital controls.

Macroeconomic, financial, and institutional correlates

Although recent theoretical literature points to the possibility that governments may adjust controls in response to cyclical developments and macro-prudential considerations, we are skeptical of the empirical relevance of these arguments. It seems difficult to understand the sluggish nature of capital controls with cyclic macroeconomic and financial phenomena. Still, these are testable hypotheses. In our work, we have attempted to link the incidence of capital controls to inflation, GDP growth, the terms of trade, the lagged capital account as a percentage of GDP, and domestic credit growth adjusted for inflation. In practice we find little sign that governments impose or remove controls in response to changes in these variables. One partial exception is domestic credit growth, where there appears to be some tendency for governments to loosen or remove controls when credit growth accelerates – the opposite of what the macro-prudential rationale would imply.

Since controls move slowly, it seems more plausible to attempt to relate them to country characteristics like financial depth and

development, the strength of democratic checks and balances, and the quality of regulatory institutions, that are themselves slow-moving. In our new paper, we present some evidence suggesting that these factors could indeed be responsible for the movements in controls. In particular, we find a robust, statistically significant negative correlation between the incidence of controls, on the one hand, and these measures of financial development, political development, and institutional development, on the other. The same is true for almost all measures of capital controls considered.

Exceptions

A handful of countries have succeeded in adjusting their capital controls counter-cyclically – tightening them when large amounts of foreign capital are flowing in and loosening them when the surge subsides. Sometimes the aim is to insulate asset prices and domestic credit extension from the effects of the inflow, other times to prevent the real exchange rate from appreciating undesirably, and still other times for a combination of these reasons. Brazil is a prominent case in point, having repeatedly tightened and loosened its controls with the ebb and flow of capital movements. A few other examples – Indonesia, Thailand, and South Korea – can similarly be cited. But, as our evidence shows, they are exceptions.

This reluctance to adjust controls at a cyclical frequency has two explanations. First, imposing controls in a country with no recent history of them runs the risk of sending a negative signal (Bartolini and Drazen 1997). It reflects the presumption that first-best policies are unavailable. Resorting to controls to damp down the inflation associated with capital inflows may be taken as an indication that more conventional instruments, such as a tighter monetary policy, are not available because of, *inter alia*, the adverse impact on a fragile banking system. Resorting to controls to limit real exchange rate appreciation may be taken as an indication that the political system lacks the capacity to implement a more conventional tightening of fiscal policy. This adverse signal will be absent or at least weaker for a country that regularly uses controls and has adjusted them previously.

Second, adjusting controls at a cyclical frequency will be easier, from a technical standpoint, for a country with some form of controls already in place. It will possess the relevant bureaucracy, obviating the need to set up a new one. It will have systems for monitoring financial transactions, which is more convenient than having to establish entirely new ones. Brazil, for example, had a long history of capital controls, most of which it finally removed by the middle of the last decade, at which point it had an all but fully open capital account.

Conclusion

Recent years have seen a reassessment of capital controls as instruments of macroeconomic and macro-prudential management. While this reassessment is welcome, resort to these instruments for the purposes of macroeconomic and macro-prudential management identified in these recent papers is rare. Any new policy initiative mandating frequent shifts in controls is based on theory rather than data-driven experience.

We have pointed to several explanations for this disjuncture.

- First, policymakers continue to attempt to implement first-best policy responses where possible, using conventional monetary and fiscal policies in response to macroeconomic cycles and conventional regulatory instruments at the domestic level in response to financial risks.

Bhagwati and Ramaswami (1963) famously made the argument in the context of trade policy that, when there exists a domestic distortion, intervening with the first-best domestic intervention beats responding with a second-best tariff or quota. That argument applies in the current context as well.

- Second, governments are reluctant to resort to controls where a control apparatus is not already in place.

Doing so may send an adverse signal. It may be taken as an indication that the first-best policies on which policymakers previously relied are not available. Enforcement is difficult where the relevant bureaucratic apparatus has been dismantled. The lesson here is that countries anticipating having to resort to controls for purposes related to macroeconomic or macro-prudential management should hesitate before dismantling their control apparatus. Having done so and moved all the way to capital account convertibility, it can be difficult and costly to go back.

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Appendix 1. Exchange-rate regimes and capital controls

Table 2 shows the connection. Each row shows coefficient estimates from a regression of a particular capital control (listed in the left column) on dummy variables for hard fixes and floats, of the form:

$$\text{CapControl}_{it} = \{\alpha_i\} + \{\beta_t\} + \gamma \text{ERR}_{it} + \varepsilon_{it}$$

where CapControl_{it} is a particular type of capital control present in country i at time t , $\{\alpha_i\}$ and $\{\beta_t\}$ are mutually exclusive and jointly exhaustive sets of fixed country- and time-specific effects, ERR denote dummy variables for hard fix and floating exchange-rate regimes, and ε denotes a composite disturbance. The vector of coefficients of interest γ should be interpreted as deviations from the omitted intermediate regime of managed-floating. Of the 26 coefficients, just two are significantly different from zero at the 5% confidence level. Clearly, variation in the exchange-rate regime explains little of the persistence of capital controls.²

Table 2. Controls and exchange-rate regimes

IMF AREAER Control	Hard Fix	Float
Capital Market Securities	.01 (.02)	.00 (.03)
Money Market Instruments	-.03 (.03)	-.00 (.04)
Collective Investment Securities	-.03 (.03)	-.00 (.04)
Derivatives and other Instruments	-.04 (.04)	-.01 (.04)
Commercial Credits	.00 (.02)	-.03 (.03)
Financial Credits	-.03 (.03)	.06 (.03)
Guarantees, Sureties, Fin'l Backup Facilities	.03 (.03)	.03 (.03)
Direct Investment	-.05* (.02)	-.04 (.03)
Liquidation of Direct Investment	.02 (.03)	-.01 (.02)
Real Estate Transactions (1997, series start)	.01 (.03)	.01 (.03)
Personal Capital Movements	-.03 (.03)	-.04 (.03)
Commercial Bank, other Credit Institutions	-.01 (.02)	.00 (.02)
Institutional Investors	.07 (.04)	-.08* (.04)

Notes: IMF de facto definition of exchange-rate regime (from 2001), backfilled with Reinhart-Rogoff (to 1996). Least squares panel regressions with fixed country and time effects; robust standard errors in parentheses. One (two) asterisk(s) indicate significantly different from zero at .05 (.01) significance level. Omitted variable is intermediate exchange-rate regime.

Table 3 presents analogous results but using financial crises instead of exchange-rate regimes. Again, what is striking is the infrequency of significant correlations.

Table 3. Controls and financial crises

IMF AREAER Control	Banking	Currency	Inflation	Sovereign, Domestic	Sovereign, External	Stock Market
Capital Market Securities	.09 (.05)	-.00 (.03)	.15 (.10)	-.11* (.04)	.08 (.05)	.00 (.04)
Money Market Instruments	.05 (.06)	.02 (.03)	.21* (.09)	-.06 (.11)	.00 (.05)	.02 (.04)
Collective Investment Securities	-.15* (.06)	.05 (.03)	.24 (.12)	-.20* (.08)	.04 (.05)	.01 (.03)
Derivatives and other Instruments	-.15* (.08)	.08 (.05)	.11 (.14)	-.19 (.13)	-.03 (.07)	-.01 (.03)
Commercial Credits	.04 (.05)	.01 (.03)	.26* (.11)	-.09 (.14)	.01 (.06)	.01 (.02)
Financial Credits	-.13* (.06)	-.01 (.05)	.29* (.11)	.08 (.23)	-.06 (.06)	.00 (.03)
Guarantees, Sureties, Fin'l Backup Facilities	-.03 (.07)	.03 (.04)	.14 (.13)	.12 (.16)	.09 (.11)	-.04 (.03)
Direct Investment	.11* (.05)	.02 (.03)	.10 (.12)	-.08 (.06)	.04 (.07)	.02 (.03)
Liquidation of Direct Investment	-.05 (.04)	-.02 (.02)	.02 (.07)	.07 (.18)	.05 (.06)	.03 (.03)
Real Estate Transactions (1997, series start)	.01 (.06)	.03 (.04)	.07 (.11)	-.07 (.04)	.07 (.07)	-.01 (.03)
Personal Capital Movements	-.02 (.06)	.03 (.04)	.22 (.13)	.02 (.26)	-.05 (.08)	.00 (.02)
Commercial Bank, other Credit Institutions	.01 (.05)	.02 (.02)	-.01 (.02)	-.00 (.01)	-.01 (.01)	-.02 (.03)
Institutional Investors	.01 (.05)	.02 (.03)	.08 (.09)	.02 (.10)	-.07 (.16)	-.01 (.03)

Notes: Reinhart-Rogoff crises. Least squares panel regressions with fixed country and time effects; robust standard errors in parentheses. One (two) asterisk(s) indicate significantly different from zero at .05 (.01) significance level.

1 We begin in 1996 following a switch by the IMF in the way these data are collected.

2 These regressions can be changed in different ways. For instance, since the regressand is a set of dummy variables, panel logit or probit can be used. Also, one can use lags of the regressors rather than simply contemporary values. We have experimented with such perturbations, and they seem to make little difference in practice.

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