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Comment

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Edwards's paper is an interesting effort to discuss with rigor and empirical content capital movements in Latin America and the effects of capital controls. In these comments I will focus on the Chilean experience during the 1990s. As Edwards argues, "The . . . Chilean experience is particularly important since its practice of imposing reserve requirements has been praised by a number of analysts, including senior staff of the multilateral institutions, as an effective and efficient way of reducing vulnerability associated with capital flows volatility." I will briefly discuss how it has worked. Then I will review the effects it has had on interest rates, the real exchange rate, and debt structure. Then I will comment on some aspects of the Chilean experience usually ignored in the literature and finish with some lessons that can be drawn.

The most important and well-known restriction applied in Chile is the unremunerated reserve requirement (URR, or *encaje*) introduced in June 1991 and set to zero, but not eliminated, in late 1998. The Chilean case is interesting because the controls were applied in a period of massive inflows, during which the country experienced very strong economic performance (see table 7C.1). Output and exports grew strongly. Savings and investment were also high by Chile's historical standards. Finally, inflation declined and the fiscal position was strong.

Chile has been a country characterized by widespread foreign exchange and capital controls. This was particularly important after the debt crisis, when many controls were put in place to prevent outflows and to secure external financing. In this context, with the surge of capital flows to emerging markets in the late 1980s and early 1990s, the economy started opening up the capital account and easing many restrictions. For example, restrictions on international investment by pension funds, mutual funds, and other institutional investors had been relaxed. However, a minimum holding period for foreign investment remained in place and the unremunerated reserve requirement was introduced.

The specifics of the reserve requirement have changed over time, but from 1992 to 1998 they basically imposed the obligation for most inflows to deposit 30 percent in the central bank.[1] This deposit would not be remunerated, resulting in a financial cost for the investor. In practice this works as a fixed cost of entry. Therefore, the longer the inflow stays in Chile the less the relative cost of this entry fee is. Hence, the URR penalizes more short-term inflows compared to long-term inflows, since the for-

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1. For a description and discussion of the evidence, see Nadal de Simone and Sorsa (1999). For a recent assessment, see De Gregorio, Edwards, and Valdés (1998).

Table 7C.1 **Chile: Macroeconomic Indicators**

	1990	1991	1992	1993	1994	1995	1996	1997	1987–97 Average
GDP growth (%)	3.7	8.0	12.3	7.0	5.7	10.6	7.4	7.1	7.8
Inflation (Dec.–Dec.)	27.3	18.7	12.7	12.2	8.9	8.2	6.6	6.0	14.0
Fiscal surplus[a] (% GDP)	0.8	1.5	2.3	2.0	1.7	2.6	2.3	1.9	1.8
Gross national saving (% GDP)	23.2	22.3	21.5	20.9	21.1	23.8	20.8	21.4	21.6
Fixed investment (% real GDP)	24.2	22.4	24.7	27.2	27.4	30.6	31.2	33.0	26.0
Current account (% GDP)	−1.6	−0.3	−2.3	−5.7	−3.3	−2.1	−5.4	−5.3	−3.0
Quantum of exports (%)	11.5	9.9	16.7	3.3	11.1	7.7	17.2	10.8	10.9
Real exchange rate (86 = 100)	112.8	106.4	97.6	96.9	94.2	88.9	84.7	78.2	98.5
Terms of trade (80 = 100)	95.9	95.4	94.5	86.2	97.7	116.0	94.4	98.3	98.5

Source: Central Bank, Ministry of Finance, and Instituto Nacional de Estadisticas.

[a]Central government.

mer can spread the cost along a longer horizon.[2] The minimum holding period for foreign investment is currently one year, and it was reduced from three years in 1995. This minimum holding period has barred many investment funds from investing in Chile because of regulations that do not allow them to invest in countries with this type of restriction.

The URR was introduced with the purpose of allowing interest rates higher than those abroad, limiting the extent of capital inflows and the appreciation of the exchange rate (Zhaler 1998).[3] Because the interest rate is the main instrument used to control aggregate demand and to reduce inflation, and because Chile is a country with a large exports base and a strong pro-export orientation, authorities thought that with the URR the objectives of remaining competitive and having high interest rates could be made compatible. So, the URR attempted to delink tight domestic monetary policy, with an exchange rate objective, from monetary conditions abroad. This explains the evolution of the URR. First it was used only for bank credit. Then, as other forms of inflows exempted from the URR were taking advantage of high interest rates, authorities started extending this restriction to other capital inflows, such as portfolio investment.

Therefore, a first evaluation of the URR must look at its effects on interest rates and the real exchange rate. The evidence at this juncture is still controversial, but one can conclude that no strong effects on the real exchange rate have been found. There are some short-term effects, but they are small compared to the ex post evolution of Chile's real exchange rate. Of course, it is always possible that the empirical work done until now has not been performed properly. However, during the period 1990–97 the real exchange rate appreciated at an annual rate of about 4–5 percent per year (see table 7C.1), and no theory could support the argument that the URR could have prevented this from happening.

Regarding real interest rates some effects have been found. For example, Edwards's paper shows that despite the fact that the URR may affect the short-run response of interest rates, it does not appear to have long-run effects. Similarly, De Gregorio, Edwards, and Valdés (1998) also find in VARs that "transitory shocks" to the URR have "transitory" effects on the real interest rate. This is not surprising, since most fluctuations of the URR are due to changes in international interest rates; but the most important effect is a once-and-for-all impact on arbitrage conditions when the URR is introduced, and this effect could be permanent. The fixed cost of entry generates an option value of investing and liquidating that investment in Chile, which could reduce the direct cost of the fee. Indeed, Her-

2. Calculations by De Gregorio, Edwards, and Valdés (1998) indicate that for a London Inter-Bank Offering Rate (LIBOR) of 6 percent, the URR is equivalent to an additional annual financial cost of 23 percent for operations at the one-month holding period, 8 percent at three months, and 1 percent at two years.

3. See also De Gregorio 1997.

rera and Valdés (1997) made this point and they have shown that the URR could support at most interest rate differentials between 1 and 2 percent. If the authorities overestimated its effect, they could have increased interest rates beyond the cost of the URR inducing more capital inflows.

Another objective for the URR, which began to be emphasized some time after its introduction, was to "discourage hot money." Official declarations were that Chile was very open, and opening up, to all long-term investment, but that it was not interested in short-term "speculative inflows." This was an important objective, but its importance has changed over time. For example, when the URR was reduced to zero in 1998 it was done to stimulate inflows and to defend the currency from depreciating. Whether capital inflows in 1998–99 are speculative or not, it is no longer an issue.

There is no evidence that the URR would have reduced the magnitude of capital inflows. But there is strong evidence that shows that the URR has changed the maturity structure of Chile's external debt, tilting the composition toward longer maturities. A cursory look at the evidence confirms this conclusion. In table 7C.2 it can be observed that there has been a sharp decline in the share of short-term debt. There has been some discussion about the central bank figures, since the Bank for International Settlements (BIS) reports that Chile's share of short-term debt is much higher than is shown by official figures (see Eichengreen et al. 1998). But a look at BIS figures, which effectively show more short-term debt, reveals two facts that support the view that in Chile the maturity has tilted toward the longer term. First, the share of Chile is one of the smallest among emerging markets, and second, it is the country with the smallest increase in the share of short-term debt among emerging markets during the 1990s (see De Gregorio, Edwards, and Valdés 1998).

Therefore, one can argue that effectively the URR has lengthened the maturity of Chile's external debt. However, when using Chile's example to argue in favor of controls in other countries, several issues, often ignored in the discussion, have to be taken into account:

- The Chilean economy had strong fundamentals, solid public finances, an independent central bank, and a very open and competitive economy when the URR was introduced and applied. The international environment was very positive and there were massive amounts of capital available to be invested in emerging markets. All of that can explain the impressive performance achieved during 1990–97. Capital controls did not signal any problems in the economy. In fact, they may have signaled very strong conditions, which ultimately could have increased incentives for inflows (Cordella 1998). The lesson is that being heterodox when the economy is doing well and is attempting to smooth the boom is not the same as introducing controls to stop an imminent crisis.

Table 7C.2 **External Debt (US$ millions)**

	1990	1991	1992	1993	1994	1995	1996	1997
Total external debt	17,425	16,364	18,242	19,186	21,478	21,736	22,979	26,701
Private	5,633	5,810	8,619	10,166	12,343	14,235	17,816	21,613
Public	11,792	10,554	9,623	9,020	9,135	7,501	5,163	5,088
Long and medium term	14,043	14,165	14,767	15,699	17,613	18,305	20,344	25,414
Short term	3,382	2,199	3,475	3,487	3,865	3,431	2,635	1,287
Short term/total (%)	19.4	13.4	19.0	18.2	18.0	15.8	11.5	4.8

Source: Central Bank.

- Capital flows play an important role so there are clear welfare losses. They provide financing in capital scarce countries. They allow consumption smoothing, especially in economies that are subject to strong volatility of income, such as Chile because of the importance of copper. Some of these flows take the form of short-term capital. Restricting those flows has clear implications for welfare losses as the extent of consumption smoothing and investment is limited.
- There are other distortions that need to be taken into account when evaluating the URR. In Chile, small and medium-size firms without access to long-term international financing are the most affected by this restriction. Large firms that can borrow long term abroad can avoid the URR, while small and medium-size firms have to pay high domestic interest rates. Thus, the URR, despite being a market-based control, introduces an artificial distortion that makes domestic short-term borrowing vis-à-vis long-term foreign borrowing more expensive.
- Policy makers can rely too heavily on the URR under the mistaken belief that it is very efficient. Indeed, it is possible that they overstate their power in Chile. As argued above, some of the benefits expected when the URR was introduced, providing monetary autonomy, are limited. Therefore, financial policies may be implemented under the assumption that they will not strongly affect the real exchange rate or capital inflows.

The main effect capital controls have had in Chile is the lengthening of maturity of external debt. Vulnerability has been reduced since it is not necessary to roll over a significant part of external debt every quarter or year. However, its effects in allowing monetary independence and in preventing a steep appreciation are less clear. For this reason, and given the distortions that the URR generates, it does not seem necessary to extend it to all capital flows, as suggested by the need of monetary independence. It is advisable not to use the URR as an instrument to significantly increase interest rates and avoid an appreciation. Its main function is to avoid liquidity problems by lengthening the maturity of foreign liabilities, in particular, external debt. Of course, the problem is that using the URR only on external debt may induce loopholes and short-term debt may take other forms to avoid paying the URR. However, these loopholes appear precisely when interest rates are very high, under the assumption that the economy is protected, which usually is not the case. Of course the URR is not the only instrument for avoiding liquidity problems. In particular, the URR does not help if liquidity problems arise domestically. For this reason establishing tight liquidity requirements on the banking system, such as those applied in Argentina, may be an alternative to capital controls. In general, prudential supervision and sound regulation of the banking system are a key to reducing vulnerability and avoiding the welfare costs of capital controls.

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