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*CAPITAL FLOWS COMMENT*

# Doubts About Capital Controls

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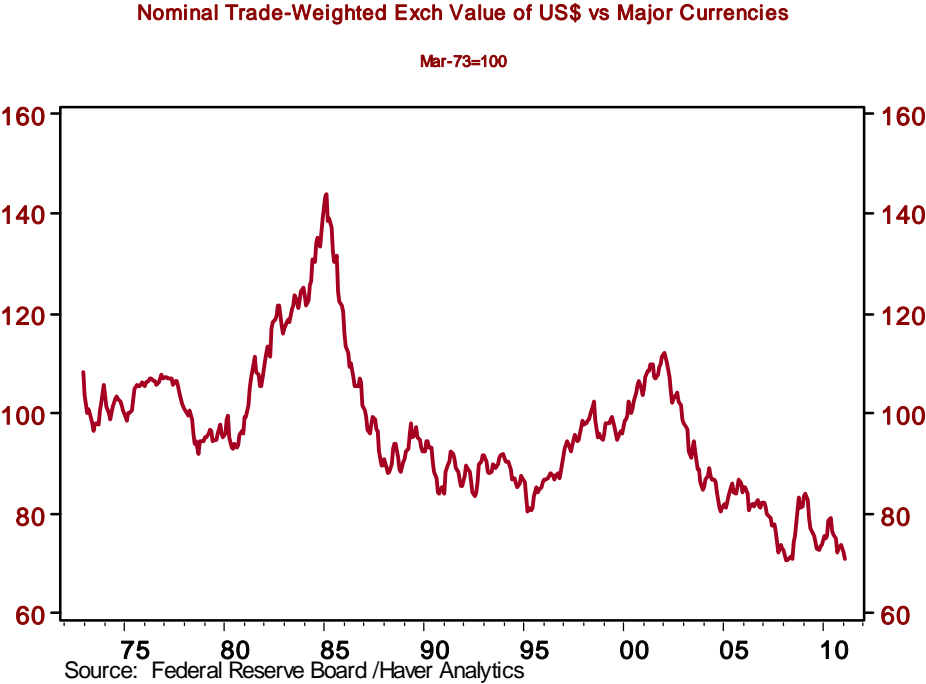
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INTRODUCTION

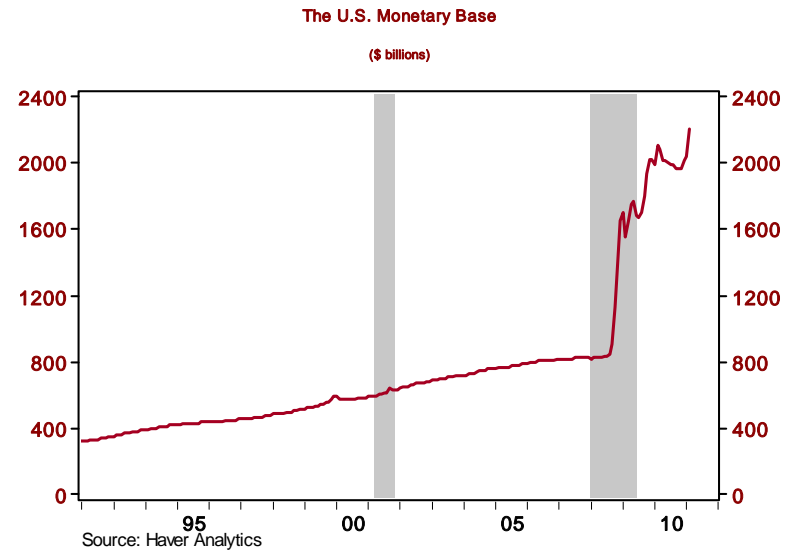
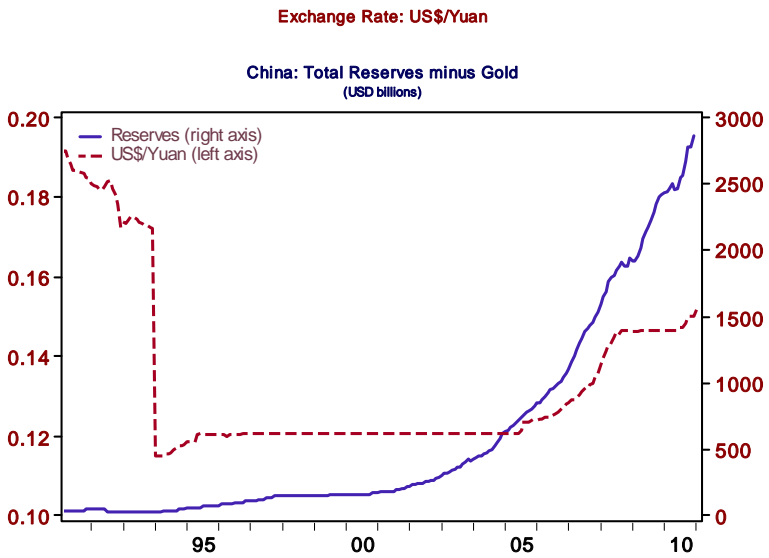
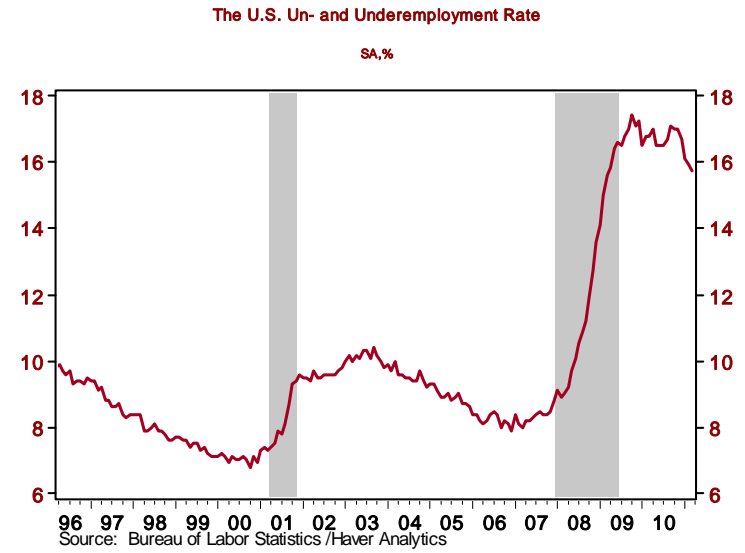
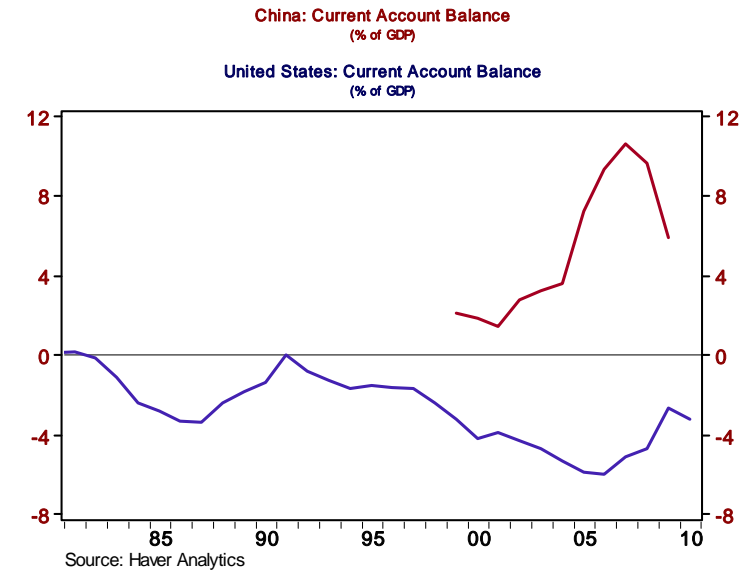
Currency wars are a feature of today’s international financial landscape. China actively holds down the yuan’s value in order to boost exports. The United States, which complains about China’s exchange rate policy, can correctly claim that it does not actively manage the value of dollar. Regardless, the recent U.S. policy mix of fiscal paralysis—and, now, fiscal contraction—and super-accommodative monetary policy has an obvious effect: the dollar has fallen sharply (see Figure 1). Europe, big enough to defend itself, is seemingly caught in the crossfire; the euro has been appreciating sharply, something many European countries neither need nor want. But what about the smaller minnows in the global pool of international capital? What should they do?

Figure 1



Four facts, depicted in Figure 2, lurk in the background. The United States runs a large and persistent current account deficit (accompanied in the 1990s by a surge of investment that added to productive capacity, but in the 2000s by less-productive surges in government and household consumption), while China runs sizeable current account surpluses. China manages the value of its currency vis-à-vis the U.S. dollar; the exchange rate does not fluctuate for years at a time, and China’s central bank acquires enormous international reserves. The U.S. economy and its people are suffering; while the employment situation has brightened of late, the un- and underemployment rate is still double the level of the previous two decades. The Fed has tried mightily to spur economic growth and redoubled its efforts the past few months; its second bout of “quantitative easing,” known as QE2, has pushed the monetary base to its highest level ever.

Figure 2



From the perspective of emerging economies, China and the United States are both creating a massive wave of funds searching for higher returns. The resulting flows into emerging economies have buoyed asset markets, but too much of a good thing has led to problems in the past. Plentiful capital tends to result in bad investment decisions (witness how the United States managed its surge in inflows over the past decade). And prolonged surges in capital inflows excite fear for the apparently good reason that they tend to end abruptly. In the view of many analysts, plentiful flows of portfolio capital have a way of morphing into “sudden stops.”

As well as threatening to inflate asset bubbles, capital inflows into emerging markets cause unwelcome currency appreciation. Over the past year the Thai baht, Brazilian real, and South African rand, along with many other emerging-market currencies, have all appreciated against the U.S. dollar. In the short run, the appreciation is good for some stakeholders in emerging markets—consumers and importers, for example, might be perfectly happy with a stronger local currency. Appreciation should also make policymakers’ task of controlling inflation easier. But a rising currency can inflict short-run pain on exporters. And exporters tend to be large and politically well-organized, so in the policy influence game their views carry great weight.

The pressures created by strong capital inflows into emerging markets are well understood. But the appropriate policy response is controversial—and perhaps not well understood. Over the past year or so, policymakers in emerging markets have tried to restrict inflows by resurrecting the tool of capital controls. The contrast with just half a decade ago is striking. In the period from mid-2004 to mid-2008, emerging market currencies also appreciated sharply against the U.S. dollar.<sup>1</sup> But we did not witness a wave of new capital controls then.

What is different this time around is that international financial institutions, led by the International Monetary Fund (IMF), have blessed capital controls.<sup>2</sup> To be sure, the IMF advises emerging economies to manage capital inflows using a variety of policies, and does not recommend capital controls as a first resort. But what is new and surprising is its agreement that capital controls should be an important part of the tool kit.

Is this policy shift justified? Perhaps not. The new consensus rests on three pillars that appear shaky. First, it appears to assume that international investors are “returns chasers” (also known as momentum traders) who rush into hot markets. If this assumption is correct, then policymakers are right that international flows tend to create more volatility by amplifying market cycles. Second, the new consensus assumes that capital surges into emerging markets are triggered by monetary conditions in the rich economies rather than by economic fundamentals in emerging ones. Again, the implication is that capital flows can be destabilizing: rather than providing capital to emerging economies when they are growing fast and have plentiful uses for it, an open global system may be force-feeding capital to emerging economies when they have few constructive ways of deploying it. Third, the new consensus assumes that policymakers should focus analysis on net capital inflows rather than on gross ones. But recent research, discussed in this paper, suggests that there is much to be learned from analyzing gross flows—and that the lessons might give policymakers reason to reconsider support for capital controls.

It must be stated emphatically that to highlight these assumptions is not to say that the research coming out of the IMF is shoddy. Some of the best empirical economists in the world ply their trade there. Rather, the takeaway should be that any empirical research is the outcome of a series of ad hoc decisions—carefully thought out, but ultimately ad hoc—and in this case research designed slightly differently comes to polar opposite conclusions. Are we so sure of our empirical work that we are comfortable blessing capital controls?

## ARE GLOBAL INVESTORS DESTABILIZING RETURNS CHASERS?

Yes, according to the IMF's October 2010 *Global Financial Stability Report*. International investors are indeed returns chasers, with high returns in a country leading to greater inflows that then lead to higher returns that then lead to greater inflows, fueling an unstable spiral.

“This self-reinforcing cycle between flows and returns exacerbates market movements on the upside and on the downside, with important implications for financial stability. Higher returns and lower volatilities resulting from elevated foreign inflows can lead to perceptions of higher risk-adjusted returns and an underpricing of risk. By the same token, if flows to emerging markets reverse suddenly, a self-reinforcing cycle of outflows and lower risk-adjusted returns could follow, potentially resulting in a deep market sell-off.”<sup>3</sup>

The IMF then goes on to suggest that in the face of such potentially destabilizing capital flows, the imposition of capital controls might indeed be a reasonable policy response. This sounds right. Momentum trading can drive asset prices further and further way from anything justified by fundamentals until some bad event leads to a reassessment of risk, at which point the capital flows reverse themselves and emerging economies become cut off from global capital markets. If this is the way the world works, perhaps capital controls should be implemented early in such a cycle.

But is the evidence the IMF brings to this question adequate to address this issue? The IMF bases its assessment of the trading behavior of international investors on bilateral flow data from the proprietary iFlow database of the Bank of New York (BONY). The IMF's analysis of the BONY flow data, which is compiled from BONY custodial accounts, shows that global investors chase past returns. This is in line with seminal research on international capital flows from the 1990s, which found a positive correlation between U.S. flows into a country's equity market and past returns in that market (and also labeled U.S. investors as returns chasers).<sup>4</sup> It is also confirmed by more recent U.S. Treasury International Capital (TIC) data on capital flows: In the TIC data, the correlation between U.S. equity flows to a country and that country's past returns is positive.

This positive relationship between bilateral flows and past returns is at the heart of most analysis of returns chasing by international macroeconomists. But can we really say anything about trading behavior by observing bilateral flows, whether from the U.S. TIC system or BONY's iFlows?

Recent research suggests evidence on trading behavior that arises from flow data should be reassessed.<sup>5</sup> Because the focus of this recent research is narrow—it uses data on U.S.-based investors and is limited to international equity investments—the results should be confirmed in other settings. But the results are striking. For one large and important group of global investors (U.S. investors), a flows-based assessment of trading behavior—the type of assessment at the heart of many policymakers' views about global capital flows—is almost entirely incorrect.

How can this be? Past research assumed that financial wealth was constant. Once that assumption is made, it becomes straightforward to use bilateral flows to infer changing asset demands on the part of investors. With constant financial wealth, if U.S. demand for Brazilian equities increases, then (all else equal) there would be positive U.S. flows to Brazil and negative U.S. flows to some other country. The bilateral flows would be an accurate representation of the active change in country weights in U.S. investors' portfolios.

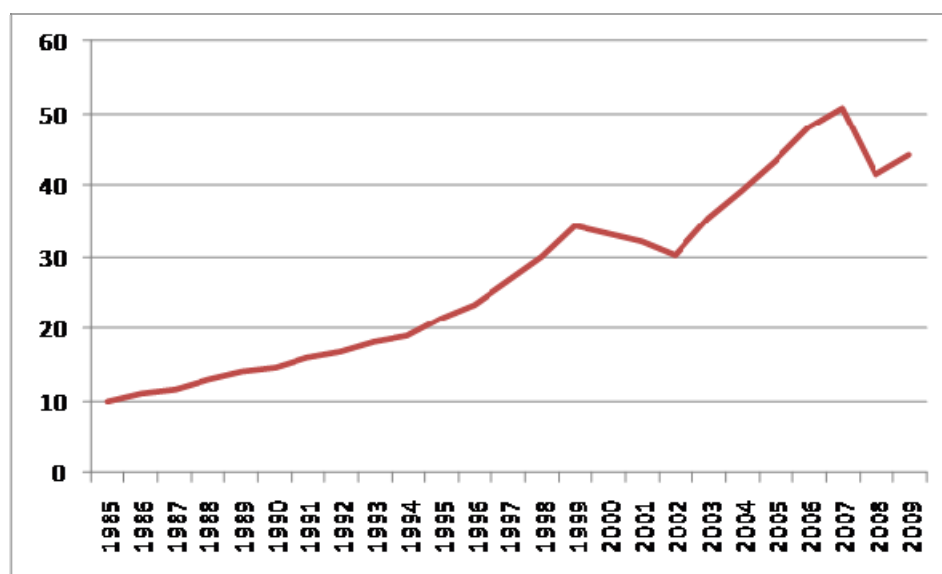
But what if financial wealth is not constant? If wealth increases, there could conceivably be positive flows to all countries, as that new wealth is distributed across many investments, even if investors' relative demands have not changed at all. And, in fact, a positive flow to Brazil, for example, could actually be associated with a *reduction* of Brazil's weight in investors' portfolios.

Consider a simplistic case in which you suddenly received a \$1 million windfall and decided to place it in the only two investments you had: Brazilian equities and Australian equities. But you were worried about the

Brazilian equity market and only put \$1 in Brazil, with the remaining \$999,999 going to Australia. In bilateral flows data, both countries received positive flows. If returns in Brazil were high the preceding period, you may well be branded a returns chaser: the correlation between your flows to Brazil and past returns is indeed positive. But, you contest, you are no returns chaser. To the contrary, you have reduced Brazil's weight in your portfolio. And because you have already shifted away from Brazil, the risk you pose to Brazilian stability is moderate. Bad news about Brazil will not scare you into a panicky fire sale of Brazilian equities because you have anticipated that bad news already and positioned your portfolio accordingly.

Financial wealth is not constant (see Figure 3), so analysis of trading behavior must take into account the dynamics of portfolio weights, not bilateral flows. Doing so, at least in a 1990–2008 (monthly) sample that shows how U.S. investors shifted their global equity portfolios between forty-three markets, produces evidence that U.S. investors are not returns chasers in their international equity portfolios. That is, they do not, on average, increase the portfolio weight of a country just after it has posted strong returns. If anything, what one sees when analyzing the dynamics of portfolio weights is that U.S. investors tend to reduce their weighting of countries that recently performed well. This, rather than the destabilizing momentum trading portrayed by the IMF and others, can actually improve financial stability. U.S. investors are not piling into markets that recently performed well, driving asset prices in those markets ever higher, and they do not on average sell markets that recently performed poorly (which would further depress prices in those markets). Rather, they sell past winners. Far from exacerbating volatility, they tend to dampen it.<sup>6</sup>

Figure 3. U.S. Financial Wealth (in \$ trillions)



The figure shows U.S. financial wealth in trillions of U.S. dollars, measured as total financial assets of households and nonprofit organizations. *Source:* Line L.100, Federal Reserve Flow of Funds dataset.

More work on this important topic is needed. The recent research questioning the use of bilateral flow data in analyzing trading behavior is narrow, focusing on the equity allocations of U.S. investors. At the very least, though, this research should prompt policymakers to question the assumption that global investors exacerbate asset price cycles. And once that assumption is questioned, should not investors also question whether capital controls are really necessary?

## WHAT CAUSES SURGES IN CAPITAL INFLOWS?

The emerging-market policymaker might respond to the above analysis and say, “Okay, I will grant you that one. We should reexamine the evidence on the trading behavior of global investors. But regardless of what that analysis produces, we know that when interest rates in the U.S. are low, we will see a surge in capital inflows that can destabilize our markets.”

This is at the heart of Brazilian finance minister Guido Mantega’s much-noted public references to a “currency war,” fed in part by the Fed’s QE2 policy. The empirical literature on capital flows backs up Mantega’s view, as study after study has found that low interest rates in the United States lead to higher flows to emerging markets.<sup>7</sup>

Yet recent research suggests that this consensus should be reassessed. In particular, preliminary results from a broad study of capital flow waves, or episodes of extreme capital flows, in sixty countries suggest that surges of capital inflows are no more likely when U.S. rates are low.<sup>8</sup> Interestingly, that research suggests that what Mantega might have more to worry about is if the Fed succeeded. If the Fed and other central banks spur global growth, or if global money supply increases sharply (something that, in the aftermath to the global financial crisis, has not yet been witnessed), then yes, one would expect more surge episodes.

One factor that comes across as being strongly associated with an increased probability of a surge in capital flows is risk appetite. When risk appetite increases, an increase in surge episodes is very likely. A case that makes the point: In the darkest days of the financial crisis, the Fed aggressively eased monetary policy and U.S. long rates fell sharply. Did emerging markets experience a wave of capital inflows? No, because at that time investors had no appetite for risk. In an environment of low U.S. interest rates but heightened risk aversion, emerging economies will not experience a surge in inflows.

Some features of surges of capital inflows might seem unfair. For example, a country will tend to experience a surge in capital inflows if a neighbor is experiencing a surge; this could be due to sharing common traits with the neighbor, or perhaps global investors are not properly differentiating countries. Other features reflect how well a country is doing; when the country itself experiences greater than expected economic growth, a surge is more likely to follow. But low U.S. rates do not, by themselves, lead to an increase in surge episodes. Mantega’s concern about a Fed-induced wave of inflows is really a concern that the global economy recovers nicely and investors retain an appetite for risk.

## NET OR GROSS FLOWS?

Another point of above study is that it is important to consider the various components of the financial account. Earlier literature, and even much of the current wave of research, focuses on net inflows. Indeed, the IMF, in its April 2011 *Global Financial Stability Report*, asks whether *net* capital flows are reliable or fickle (and argues that they are fickle). Moreover, while many researchers and policymakers assess net inflows, in their minds (and words) they are really focusing on foreigners’ flows. But net inflows consist of distinct components: inflows and outflows from foreigners, and inflows and outflows from domestic investors.<sup>9</sup> Because of this comingling, when focusing on net inflows one never knows who, foreigners or locals, is behind the flows.

Consider a case in which a country sees that net inflows are increasing. It’s natural to assume that foreigners are behind the “surge” in inflows, but what if that assumption is incorrect? What if, perhaps, locals, knowing that prospects in the local economy are good, are repatriating funds or shipping fewer funds to foreign



markets? Looking at net inflows, and assuming any increase owes to increased inflows by foreigners, the policymaker might conclude that a tax on inflows is the right response. But suppose the “surge” owed to locals keeping money home, rather than foreigners wanting to invest in the country. In that case, policy would be addressing something (a surge in foreign inflows) that did not exist.

Similarly, net inflows can plummet either because foreigners rapidly exit the market, as is presumed in most research, or because locals, perhaps knowing that domestic returns are about to decrease, lead the rush to the exit. If such a “sudden stop” is troublesome, policymakers may well impose capital controls on foreigners to prevent a large buildup of positions that they might later liquidate (*en masse*). But if the stop owed to locals’ decision to leave—call it capital flight or, if preferred, sudden international diversification—are capital controls on foreigners really the right policy? Or should the conditions that prompted locals to flee be addressed?

How often might this confusion matter? That is unknowable—it requires peering into the minds of policymakers—but a forthcoming study shows that almost half (twenty-four of fifty-five) of previously defined “sudden stops” of net capital inflows are actually episodes of “sudden flight.”<sup>10</sup> The fall in net inflows reflected the actions of locals, not foreigners.

Moreover, the capital flow waves study mentioned in the previous section shows that during the darkest periods of the global financial crisis (2008 Q4 and 2009 Q1), analysis based on net flows data would have identified eleven countries as having surges of (net) capital inflows. Clearly such analysis would have been wildly misleading: during the financial crisis, there was no surge in hot capital seeking risk in foreign markets; to the contrary, investors were retrenching by bringing money home. By contrast, an analysis of gross flows data points to a far more believable reading of what happened. A sharp increase in the repatriation of capital by locals led net inflows to rise even as gross inflows from foreigners were falling.

The bottom line is that a focus on net flows can lead to a misleading understanding of the world. Policymakers should think carefully before implementing capital controls or other measures on the presumption that all surges and stops of net inflows reflect the behavior of foreigners. The formation of a proper policy response requires knowledge of the source of the distortion.

## *POLICY IMPLICATIONS*

Many of the points made in this paper have been advanced forcefully by José De Gregorio, governor of the Central Bank of Chile.<sup>11</sup> Since Chile is held up as a posterchild for its successful implementation of capital controls in the 1990s, Governor De Gregorio’s views deserve a wider audience than they have received during the recent debate on capital controls. Moreover, he makes two additional arguments that undermine the new consensus in favor of such restrictions.

A primary reason emerging economies want to implement capital controls is to limit exchange rate appreciation. In his 2000 article “Controls on Capital Inflows: Do They Work?”<sup>12</sup>, De Gregorio explained that the capital controls Chile implemented in the 1990s had no persistent effect on the real value of the peso. The controls did alter the *reported* composition of capital inflows, away from the type of flows that were taxed, toward other type of flows, but had no impact on the overall amount of inflows into the country. (Parenthetically, it is never clear if “reported” is equivalent to “actual”; financial engineers are paid to get around controls and, given enough time, they surely will.)

More recently, De Gregorio has criticized emerging economies’ other favorite response to capital inflows, which is to resist exchange-rate appreciation by accumulating foreign-currency reserves.<sup>13</sup> Reserve accumula-

tion is intended to prevent the nominal appreciation of a currency. But, as he correctly points out, it is not the nominal exchange rate that measures a country's international competitiveness, but the real exchange rate (the nominal exchange rate adjusted for inflation differentials). In almost every case, countries that limit nominal exchange rate appreciation through reserve accumulation experience a real appreciation anyway, because the reserve accumulation is inflationary. So they end up in the same place—with a real appreciation—and have only traded off nominal exchange rate appreciation for higher inflation.

De Gregorio makes one further point about capital controls that should be central in the current debate. It's known from international trade in goods that one country's protectionism (through tariffs or quotas, for example) can lead to similar responses by other countries. The same is true for international capital flows. If Brazil implements effective capital controls, flows will be diverted to other countries. Why, if Brazil does not welcome these flows, should its neighbors feel differently? If diverted flows went to Argentina, why wouldn't Argentina implement controls; and if these diverted flows went to Uruguay or the Philippines, why wouldn't those countries follow suit? De Gregorio correctly points out this collective action problem, a problem that has yet to be properly addressed. The IMF mentions this (briefly, on pages 40–42 of a ninety-five-page report),<sup>14</sup> but one gets the impression that it was an afterthought—a strange stance for a global institution whose distinctive contribution should be to focus on global public goods. Did the IMF's conclusion that seven of twenty-two countries they studied are good candidates for capital controls take this "flow diversion" into account?

Whether it did or did not, the prospect of flow diversion implies that the bar for blessing the implementation of capital controls should be high. Yet the empirical evidence supporting controls is open to question. The new consensus in favor of capital controls seems premature.

Appendix Table 1. Annotated U.S. BOP Presentation (\$billions unless otherwise noted)

	2004-2007	2008	2009	2010	
<b>1 Current Account Balance (% of GDP)</b>	<b>-5.6</b>	<b>-4.7</b>	<b>-2.7</b>	<b>-3.2</b>	<b>Recession-related improvement in the current account deficit reversing somewhat...</b>
2 Current Account Balance	-725	-669	-378	-470	
3 Trade Balance	-696	-699	-375	-496	...as trade deficit widens again.
4 Income Balance	72	152	121	163	Income balance, which measures income streams (dividends, coupon payments), remains positive, even though U.S. is a net debtor.
5 Current Transfers	-100	-122	-125	-137	
6 Capital Account Balance	4	6	0	0	
<b>7 Financial Account Balance</b>	<b>661</b>	<b>611</b>	<b>165</b>	<b>220</b>	<b>Sharp decrease in net financial inflows from pre-crisis levels.</b>
<b>8 US Outbound Flows</b>	<b>-1077</b>	<b>156</b>	<b>-140</b>	<b>-1025</b>	<b>US flows abroad plummeted in 2008 and 2009, resumed strongly in 2010.</b>
9 US DI Abroad	-253	-351	-269	-346	US direct investment abroad has maintained a reasonably high level.
10 US Flows into Foreign Securities	-288	198	-208	-167	US investors sold foreign securities in 2008, but moderate net purchases resumed in 2009 and 2010.
11 Foreign Equities	-139	39	-63	-79	
12 Foreign Bonds	-149	159	-145	-89	
13 US Flows into Foreign Banks	-538	844	-153	-518	Net banking flows (ie when combined with inflows, line 31) were negative in 2010.
14 US Government Assets	2	-534	489	6	US govt assets abroad unprecedently large during crisis, but across time sum to roughly zero.
<b>15 US Inbound Flows</b>	<b>1738</b>	<b>455</b>	<b>306</b>	<b>1245</b>	<b>Flows into the US fell sharply in 2008 and 2009, resumed strongly in 2010.</b>
<b>16 Foreign Official Flows into the US</b>	<b>407</b>	<b>551</b>	<b>450</b>	<b>298</b>	<b>Foreign official inflows are substantial but below previous years' levels.</b>
17 Treasury Securities	173	549	561	374	
18 Treasury Bonds and Notes	181	276	498	445	Official (and private, line 26) flows into Treasury bonds have been extremely high...
19 Treasury Bills	-7	272	63	-71	...but foreign officials pared down their holdings of Treasury bills...
20 Agency Bonds	133	43	-120	-77	...sold Agency bonds...
21 Corporate Securities	21	104	22	-2	...and stopped purchasing U.S. corporate securities.
22 Other FOI Inflows	79	-145	-13	3	
<b>23 Private Flows into the US</b>	<b>1332</b>	<b>-96</b>	<b>-144</b>	<b>947</b>	<b>Private flows into the US plummeted in 2008 and 2009, resumed strongly in 2010.</b>
24 FDI in the US	193	328	135	194	Foreign direct investment in the US held up...
25 US Equities	130	58	136	117	...as have foreign purchases of US equities.
26 Treasury Securities	62	191	35	335	Private flows into Treasuries surged in 2010...
27 Treasury Bonds and Notes	47	-20	86	262	
28 Treasury Bills	15	211	-51	73	
29 Agency Bonds	34	-173	-6	86	...and private foreigners resumed purchases of US agency bonds...
30 US Corporate Bonds	367	-51	-131	-27	...but not US corporate bonds.
31 Private Flows into US Banks	547	-448	-314	242	
32 Financial Derivatives	.	-33	51	.	
33 Statistical Discrepancy	51	85	163	235	The discrepancy is quite large, suggesting that reported data understate net capital inflows and/or overstate the current-account deficit.

Source: BEA and author's calculations. Note: all data are in BOP accounting terms (that is, outflows [-], inflows [+]).

Summary: Both U.S. flows abroad (line 8) and foreign flows into the United States (line 15) increased sharply in 2010, although the net inflow (net financial flows into the United States, line 7) remains subdued. U.S. flows abroad were buoyed by strong U.S. direct investment abroad (line 9) and continued moderate purchases of foreign equities and bonds (line 10). While foreign official flows into the United States continued (line 16), the surge in foreign flows into the United States owed primarily to the actions of private foreigners (line 23), with private foreign purchases of U.S. Treasury securities (line 26) being particularly strong in 2010. In contrast to the strong private demand for Treasury securities, demand for U.S. corporate bonds (line 30) remained virtually non-existent.

Appendix Table 2. Foreign Official Flows (\$billions, annual averages)

	2004–2008	2009	2010	2011	
<b>BEA's Quarterly Balance of Payment (BOP) Data</b>					
<b>1</b>	<b>Foreign official flows into the United States</b>	<b>435</b>	<b>450</b>	<b>298</b>	
2	U.S. Treasury securities	248	561	374	
<b>3</b>	<b>Short-term bills and certificates</b>	<b>49</b>	<b>63</b>	<b>-71</b>	
<b>4</b>	<b>Medium-to-long-term bonds and notes</b>	<b>200</b>	<b>498</b>	<b>445</b>	
5	U.S. agency securities	115	-120	-77	
6	Other foreign official inflows	72	9	1	
<b>Treasury's Monthly TIC Data</b>					
				January	
<b>7</b>	<b>Foreign official flows into the United States</b>	<b>202</b>	<b>26</b>	<b>-80</b>	<b>-15</b>
8	U.S. Treasury securities	133	232	100	-6
<b>9</b>	<b>Short-term bills and certificates</b>	<b>49</b>	<b>70</b>	<b>-66</b>	<b>-23</b>
<b>10</b>	<b>Medium-to-long-term bonds and notes</b>	<b>84</b>	<b>161</b>	<b>165</b>	<b>17</b>
11	U.S. agency securities	47	-43	-41	10
12	Other foreign official inflows	23	-162	-138	-18
	memo items: Selected Federal Reserve adjustments				
<b>13</b>	<b>Treasury bonds, foreign official flows</b>	<b>130</b>	<b>268</b>	<b>292</b>	
<b>14</b>	<b>Treasury bonds, private flows</b>	<b>-188</b>	<b>-224</b>	<b>-482</b>	
<b>New York Fed's Weekly H.4.1 Custodial Data</b>					
				through	
				March	
<b>15</b>	<b>Foreign official flows into the United States</b>	<b>290</b>	<b>437</b>	<b>392</b>	<b>53</b>
16	Change in holdings of Treasury securities	169	482	428	20
17	Change in holdings of agency securities	121	-45	-36	33

Annual averages, except for the partial 2011 data. Fed adjustments for 2010, only available through mid-year, are 2010H1 annualized.

*Summary:* As noted previously, there is no quick, easy, and failsafe method to get a read on foreign official flows into the United States. Appendix Table 2 presents an updated version of the table from Box 1 in the June 2010 CFQ, showing information from three sometimes conflicting data sources. For 2010, the three sources pointed to only a modest slowdown in foreign official inflows. BEA's BOP data suggest a slowdown from \$450 billion in official inflows in 2009 to \$298 billion last year (line 1). Top-line TIC data show net official outflows (line 7), although with the Fed "shuffle" factor (line 13, described in the 2010Q2 box) the picture shows net official outflows but rather a modest slowdown in inflows. Finally, FRBNY data (line 15) do not show a 2010 slowdown at all. Considering the three sources, the detailed data suggest that 2010 saw robust inflows but with some slowing from past levels. For 2011, what little evidence we have suggests a more pronounced slowing.

## Endnotes

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1. For example, the Federal Reserve's so-called Other Important Trading Partners trade-weighted dollar index—comprising the currencies of Mexico, China, Taiwan, Korea, Singapore, Hong Kong, Malaysia, Brazil, Thailand, Philippines, Indonesia, India, Israel, Saudi Arabia, Russia, Argentina, Venezuela, Chile, and Colombia—fell over 15 percent.
  2. See IMF, “Recent Experiences in Managing Capital Inflows—Cross-Cutting Themes and Possible Policy Framework,” prepared by the strategy, policy, and review department in consultation with legal, monetary and capital markets, research, and other departments, February 14, 2011; and Jonathan D. Ostry, Atish R. Ghosh, Karl Habermeier, Luc Laeven, Marcos Chamon, Mahvash S. Qureshi, and Annamaria Kokenyne, “Managing Capital Inflows: What Tools to Use?” IMF Staff Discussion Note SDN/11/06, April 5, 2011.
  3. See “Annex 1.3. Analyzing Portfolio Inflows to Emerging and Selected Advanced Markets” in Chapter 1 of the IMF's *Global Financial Stability Report*, October 2010.
  4. See Henning Bohn and Linda Tesar, “U.S. Equity Investment in Foreign Markets: Portfolio Rebalancing or Returns Chasing?” *American Economic Review*, vol. 86, no. 2, 1996, pp. 77–81, and Michael J. Brennan and H. Henry Cao, “International Portfolio Investment Flows,” *Journal of Finance*, vol. 52, pp 1851–80.
  5. Stephanie E. Curcuru, Charles P. Thomas, Jon Wongswan, and Francis E. Warnock, “U.S. International Equity Investment and Past and Prospective Returns,” *American Economic Review* (forthcoming). Working paper version available as NBER Working Paper 16677, <http://www.nber.org/papers/w16677>.
  6. Curcuru et al. find no evidence that U.S. investors buy past losers, just that they sell past winners.
  7. For evidence that low U.S. rates lead to increased flows to EMEs, see (among many others) P. Chuhan, Stijn Claessens, and N. Mamingi, “Equity and bond flows to Latin America and Asia: the role of global and country factors,” *Journal of Development Economics*, vol. 55, no. 2, 1998, pp. 439–63; Guillermo Calvo, Leonardo Leiderman, and Carmen Reinhart, “Inflows of Capital to Developing Countries in the 1990s,” *Journal of Economic Perspectives*, vol. 10, no. 2, 1996, pp. 123–39; and Peter Montiel and Carmen Reinhart, “Do capital controls and macroeconomic policies influence the volume and composition of capital flows? Evidence from the 1990s,” *Journal of International Money and Finance*, vol. 18, no. 4, 1999, pp. 619–35. For evidence that low U.S. rates lead to only a short-lived increase in flows to EMEs, see Hali Edison and Francis E. Warnock, “Cross-Border Listings, Capital Controls, and Equity Flows to Emerging Markets,” *Journal of International Money and Finance*, vol. 27, 2008, pp.1013–27.
  8. Kristin Forbes and Francis E. Warnock, “Capital Flow Waves: Surges, Stops, Flight, and Retrenchment,” mimeo.
  9. IMF, “International Capital Flows: Reliable or Fickle?” *Global Financial Stability Report* (chapter 4), April 2011.
  10. Alexander D. Rothenberg and Francis E. Warnock, “Sudden flight and true sudden stops,” *Review of International Economics* (forthcoming).
  11. See [http://www.bcentral.cl/jdegredo/eng/index\\_e.htm](http://www.bcentral.cl/jdegredo/eng/index_e.htm) for links to Governor De Gregorio's academic and policy writings.
  12. J. De Gregorio, S. Edwards and R. Valdés, “Controls on Capital Inflows: Do They Work?” *Journal of Development Economics*, vol. 63, no. 1, pp. 59–83, October 2000.
  13. See J. De Gregorio, “Adjustment in the Global Economy.” Presentation at the 2011 IIF Latin American Economic Forum, Institute of International Finance, Calgary, Canada, March 27, 2011, <http://www.bcentral.cl/eng/policies/presentations/board-members/pdf/2011/jdg27032011.pdf>.
  14. IMF, “Recent Experiences in Managing Capital Inflows—Cross-Cutting Themes and Possible Policy Framework.”

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