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Currency Returns During the Financial Crisis and Great Recession

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During the Great Recession (2007-09) and subsequent recovery, macroeconomic performance and policies in emerging and many other developing countries differed starkly from those in developed countries.[1] In the wake of the crisis, policy target interest rates across developed countries moved rapidly—and in a rather synchronized way—toward the so-called zero lower bound, while the interest rates in emerging countries were consistently far above the zero lower bound. Moreover, emerging countries did not engage in policies such as private asset and bond purchases that were aggressively pursued by central banks in Europe, Japan, and the United States. In a world with financial integration and capital mobility, how can such different policies coexist across the two groups of countries? How have emerging countries adapted to the global expansion of liquidity generated by developed countries? Furthermore, how will emerging countries be affected if and when the Federal Reserve and other major central banks "taper"—that is, stop and eventually overturn their current stances on monetary policy? In this essay, I examine the ex post time-series behavior of the U.S. returns of investments in different currencies to shed some light on answers to these questions, which are crucial for the world economy.

The volume and volatility of international capital flows have motivated recent interest in the optimal use of capital controls and the communication and coordination among central banks.

Before proceeding, a caveat is in order. It is well known that the so-called uncovered interest rate parity (UIP)—the simple one-to-one relationship between interest rate differences and currency depreciation rates—fails to hold, especially in the short term. The liquidity premia of different currencies and how investors seemingly discount the risks do not lead to a tight relationship between differences in nominal interest rates and the currencies' depreciation rates. However, as documented by Chinn and Meredith (2004) and others, UIP performs better for longer horizons. With this limitation in mind, I consider both developed and emerging countries and examine sustained patterns in the returns in U.S. dollars (USD) of the official policy interest rates for each country. The table lists the interest rates used for each country. For the exchange rates, I use the USD bid price of the different currencies from the International Monetary Fund (IMF).[2]

Official Policy Interest Rates by Country

Country/ economic union	Official policy interest rate
Brazil	SELIC target rate
Canada	Overnight money market rate
China	Prime lending rate
European Union	Main refinancing operations, minimum bid rate
India	Repo rate
Japan	Uncollateralized overnight call rate
South Korea	Bank of Korea base rate
Mexico	Target rate
Russia	Refinancing rate
United Kingdom	Bank rate
United States	Federal funds target rate

For the period between January 2008 and July 2012, I compare the U.S. federal funds annual rates with the ex post, 12-month-ahead USD returns of investments in the different currencies. Specifically, I compute the returns investors would accrue if they invested in the different currencies, computed as the interest rate of that currency plus the ex

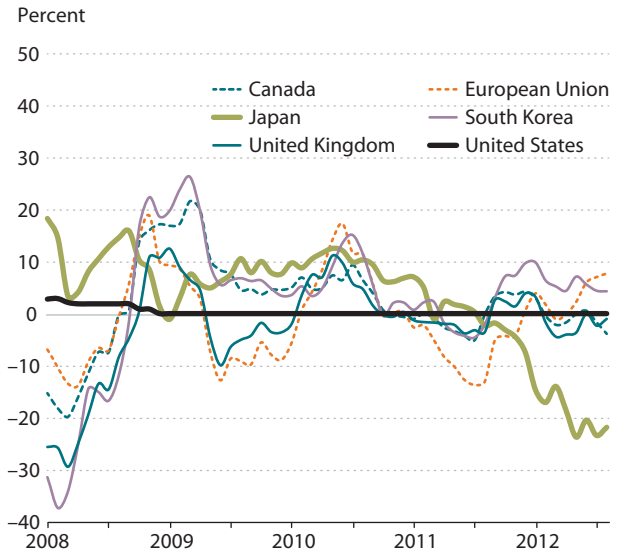
post change in the USD price of that currency during the 12 months following that date.[3] The first chart shows the implied returns for developed countries and the second chart shows the returns for the sample of emerging countries. In both charts, the thick black line represents the United States. As expected, there is a significant amount of high-frequency volatility in these monthly series of annual returns. However, some interesting patterns emerge that track important events and patterns in the world economy since the beginning of the financial crisis.

First, during 2008 and 2009, the USD nominal rate of return of many countries' currencies, developed and emerging alike, was negative. For most of 2008, only the USD, the Japanese yen, and the Chinese renminbi provided positive (albeit declining) returns, as those countries were probably perceived as the safer ones during the crisis. Second, in the last quarter of 2008 and first quarter of 2009, most currencies displayed positive and large returns. Such a global reaction was driven partly by the decline in the interest rates of developed countries. Third, the positive returns are even higher for emerging countries. Fourth, note that from the end of 2008 until the first months of 2011, the USD returns of liquid investments in developed countries such as Japan, Canada, Korea, and—more remarkably—emerging countries such as Brazil, China, and Russia are consistently higher, sometimes by large margins, than those in the United States, the European Union, and the United Kingdom. Fifth, by 2012 the country patterns started to change. With the exception of China, Mexico, and South Korea, the USD returns in emerging countries' currencies are not consistently above those in the United States. Finally, an interesting aspect is the diverging pattern between the euro and the yen investments. The former became positive as the crisis abated and the European Central Bank tapered its stimulus. The latter became strongly negative in mid-2012, capturing Japan's implementation of Abenomics in late 2012 into 2013, as indicated by the computed ex post returns since late 2012.

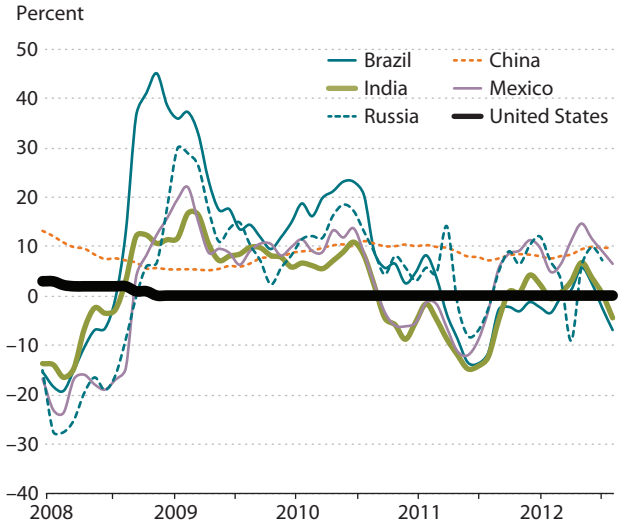
The large and sustained rate-of-return differences across currencies have been associated with the significant capital inflows during 2009-12.[4] Moreover, as indicated by the IMF (2013b), the recent reversals of capital flows in emerging countries during 2013—and those forthcoming—have also been attributed, at least partially, to expectations of tapering of quantitative easing policies in developed countries.

The volume and volatility of international capital flows in recent years have fueled the debate on (i) the coordination of monetary policies between developed countries and emerging markets and (ii) the importance of communication among their central bankers (e.g., see Carstens, 2013). Such volume and volatility have also motivated recent work on the optimal use of capital controls when flows are volatile (e.g., see Farhi and Werning, 2013, and Rey, 2013). ■

Ex Post Annual Returns of Domestic Liquid Assets (USD): Developed Countries



Ex Post Annual Returns of Domestic Liquid Assets (USD): Emerging Markets



NOTES

[1] See Fawley and Neely (2013) and IMF (2013a).

[2] Data from IMF International Financial Statistics (http://elibrary-data.imf.org/finddatareports.aspx?d=33061&e=169393).

[3] The nominal returns (in USD) for each month are computed as follows. For the United States, the returns are simply the nominal federal funds rates. For any other country $j = 1,2,3\ldots$, the returns are computed using the nominal interest rate plus the log difference between the USD price of the currency j in times $t + 12$ and t.

[4] For instance, according to the IMF (2013b), by the end of 2007, China, Korea, and Brazil held international reserves of 1,530,282 million USD, 262,224 million USD, and 180,334 million USD, respectively. By the end of 2012, these reserves were 3,331,120 million USD, 326,968 million USD, and 373,147 million USD. That is, these countries grew their reserves by 117.7 percent, 24.7 percent, and 106 percent, respectively, during this period, perhaps in an effort to sterilize the impact of capital inflows on their domestic interest rates and the value of their currencies.

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Views expressed do not necessarily reflect official positions of the Federal Reserve System.