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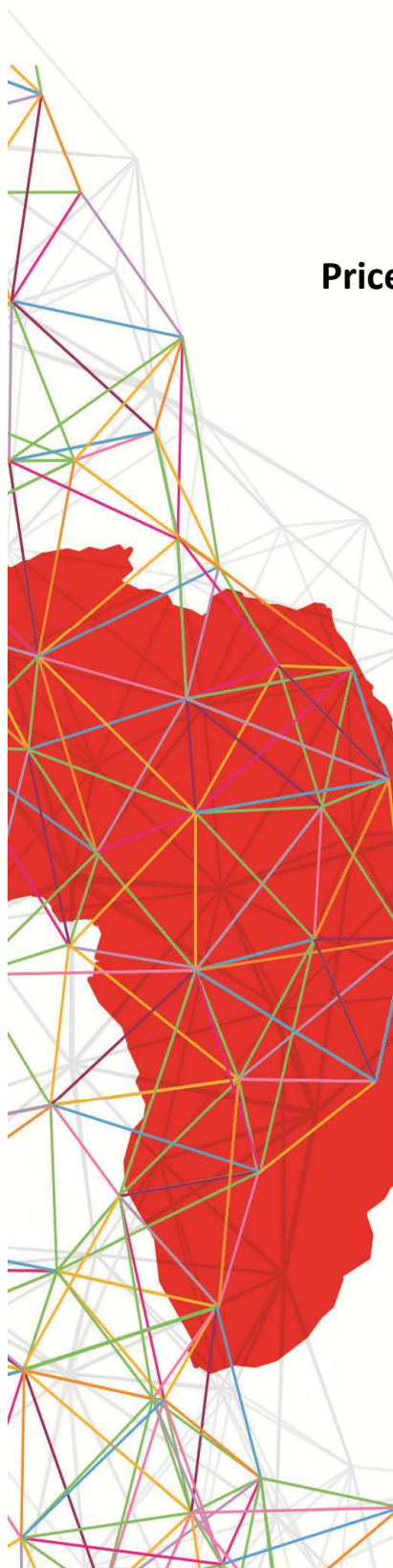
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**Hot Money Flows, Cycles in Primary Commodity  
Prices, and Financial Control in Developing Countries**

Ronald McKinnon

Professeur émérite, Université de Standford  
*Emeritus Professor, University of Stanford*



FONDATION POUR LES ÉTUDES ET RECHERCHES  
SUR LE DÉVELOPPEMENT INTERNATIONAL



# Hot Money Flows, Cycles in Primary Commodity Prices, and Financial Control in Developing Countries <sup>1</sup>

Ronald McKinnon

Stanford University,

May 17, 2014

## *Abstract*

Because the U.S. Federal Reserve's monetary policy is at the center of the world dollar standard, it has a first-order impact on global financial stability. However, except during international crises, the Fed focuses on domestic American economic indicators and generally ignores collateral damage from its monetary policies on the rest of the world.

Currently, ultra-low interest rates on short-term dollar assets ignite waves of hot money into Emerging Markets (EM) with convertible currencies. When each EM central bank intervenes to prevent its individual currency from appreciating, collectively they lose monetary control, inflate, and cause an upsurge in primary commodity prices internationally. These bubbles burst when some accident at the center, such as a banking crisis, causes a return of the hot money to the United States (and to other industrial countries) as commercial banks stop lending to foreign exchange speculators. World prices of primary products then collapse.

African countries with exchange controls and less convertible currencies are not so attractive to currency speculators. Thus, they are less vulnerable than EM to the ebb and flow of hot money.

However, African countries are more vulnerable to cycles in primary commodity prices because food is a greater proportion of their consumption, and—being less industrialized—they are more vulnerable to fluctuations in prices of their commodity exports. Supply-side shocks, such as a crop failure anywhere in the world, can affect the price of an individual commodity. But joint fluctuations in the prices of *all* primary products—minerals, energy, cereals, and so on—reflect monetary conditions in the world economy as determined by the ebb and flow of hot money from the United States, and increasingly from other industrial countries with near-zero interest rates.

**Key Words:** dollar standard, exchange rates, hot money flows, emerging markets, commodity price cycles

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<sup>1</sup> This paper is written in an informal style without all the usual detailed academic attributions. My excuse that it is really a synopsis of the main theme of my recent book, *The Unloved Dollar Standard: From Bretton Woods to the Rise of China* (Oxford University Press, 2013; Chinese translation, China Financial Publishing House, 2013). For a more extensive analysis with references, please consult the book itself.

## Introduction

For better or for worse, the world economy is on a dollar standard—and has been since the end of World War II [McKinnon 2013, chs. 1& 2]. From 1945 up to the late 1960s, this accident of history was for the better. Monetary policy of the United States remained stable, and its current account showed a moderate surplus— which was offset (financed) by outward private direct investment combined with official capital outflows. Most notable was the remarkably successful Marshall Plan, which, through stable dollar exchange rates within the European Payments Union of 1950, helped promote European economic integration and recovery from World War II. Less well recognized was the Dodge Line of dollar credit to Japan that, in 1949, anchored its war-torn financial system at 360 yen per dollar and undergirded extremely rapid noninflationary economic growth in the 1950s into the 1970s [McKinnon 2013, ch 3].

But beginning in August 1971 with the “Nixon Shock” of forced dollar devaluation, erratic U.S. monetary policies have caused major upheavals both in the center country itself and in its ever-changing periphery. Instead of behaving appropriately as the world’s de facto central bank, the U.S. Federal Reserve became a serial bubble blower by inducing flows of volatile “hot money” into economically important peripheral countries—mainly Western Europe and Japan in the 1970s and 1980s, but also in emerging markets (EM) in the new millennium. The resulting cyclical fluctuations in the prices of primary commodities then have a first-order impact on less developed countries in Africa and elsewhere.

When markets anticipate dollar devaluation, or when the Fed keeps its domestic interest rates too low relative to natural rates of interest prevailing elsewhere, hot money flows out of the United States. Then no matter what its exchange rate regime, a peripheral central bank faces a dilemma: either allow its exchange rate to appreciate against the dollar and thus lose export competitiveness against its neighbors, or intervene to buy dollars with domestic base money and lose monetary control. A collective loss of monetary control in peripheral countries has led to international price inflation, often first manifested in a bubble in the dollar prices of primary commodities, before being embedded more deeply in their industrial systems. The U.S. itself is last in line with longer lags to receive the inflationary impulse—if ever— before the bubbles burst.

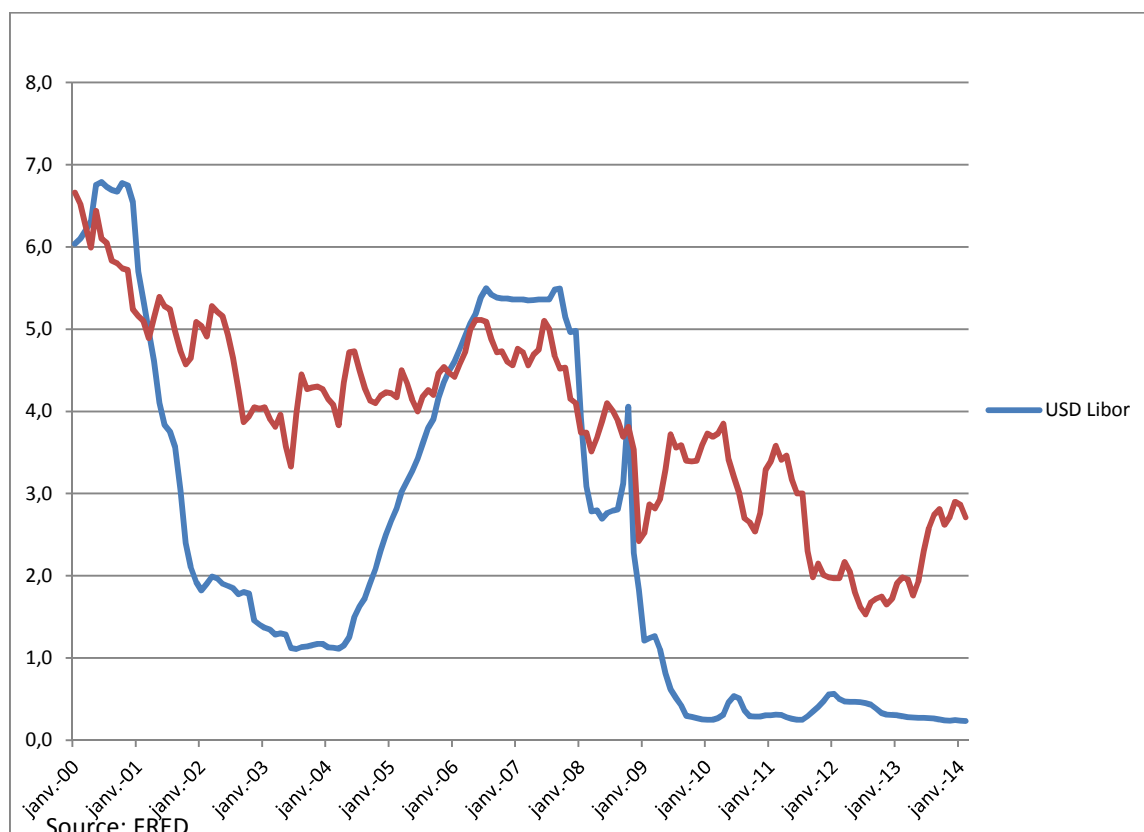
This dollar-led, hot-money syndrome explains much of the great world inflations of the 1970s [McKinnon 2013, ch 4]. As early as 1970, markets began to anticipate what on August 1971 became known as the Nixon Shock of forced dollar devaluation. In 1970–71, hot money flowed out of the U.S. into the other industrial countries with convertible currencies. This forced central banks in Western Europe, Canada, and Japan to intervene massively, and sharply increase their holdings of official dollar exchange reserves—with concomitant large increases in their domestic monetary bases. Mainly outside of the United States itself, the “world” money supply exploded with inflation in commodity prices—particularly oil—shooting up in 1973–74.

After a worldwide recession in 1975, inflation was somewhat tamed. But in 1976 a similar sequence of events was unleashed by the incoming Carter government trying to talk down the dollar—particularly against the yen—in the mistaken belief that this would reduce the U.S. trade deficit. Again in 1977 into 1978, hot money flowed out of the U.S. with a weakening (depreciating) dollar. In a crisis atmosphere, a consortium of foreign central banks and the Fed intervened in October 1978 to buy dollars and put a floor under its foreign exchange value; and the Fed was forced to raise interest rates. But the damage had been done. With the sharp buildup of dollar foreign exchange reserves, the world money supply outside the United States again ratcheted upward, leading to a surge in commodity prices and generally high inflation in the industrial world from 1979 into 1981.

## Greenspan-Bernanke Bubbles: 2002–2014

With this background in mind, let us fast forward to 2002 and the Greenspan-Bernanke era of U.S. hot money outflows generating “bubbles” in the world economy [McKinnon 2013, chs 4 and 5]. Over-reacting to the collapse of the dot-com bubble in the U.S. stock market in 2001, Fed Chairman Alan Greenspan cut the interbank overnight lending rate to just 1 percent in 2002 (followed by LIBOR, shown In figure 1) and kept it there into 2004. Again hot money flowed out of the United States, but this time the relevant periphery of the dollar standard was mainly emerging markets (EM) with convertible currencies but naturally higher interest rates reflecting their higher growth.

Figure 1: US Interest Rates



Each EM central bank was then faced with the now-familiar dilemma: either let its currency appreciate rapidly or intervene to buy dollars and lose monetary control. In practice, they did some of both. Figure 2 shows the remarkable buildup of foreign exchange reserves in EM of almost \$6 trillion after 2002, with China accounting for about half the total. Then, not including China, figure 2A shows the widespread geographical buildup of official reserves in EM throughout Latin America, Europe, the Middle East, and developing Asia. The lower panel of Figure 2A (right hand side) shows the rise in an index of EM exchange rates when hot money flows in (2002–07 and 2010) and then sharp fall when it flows out (2008, and 2012–13).

Figure 2. Emerging Markets and China, Foreign Exchange Reserves (Billion USD)

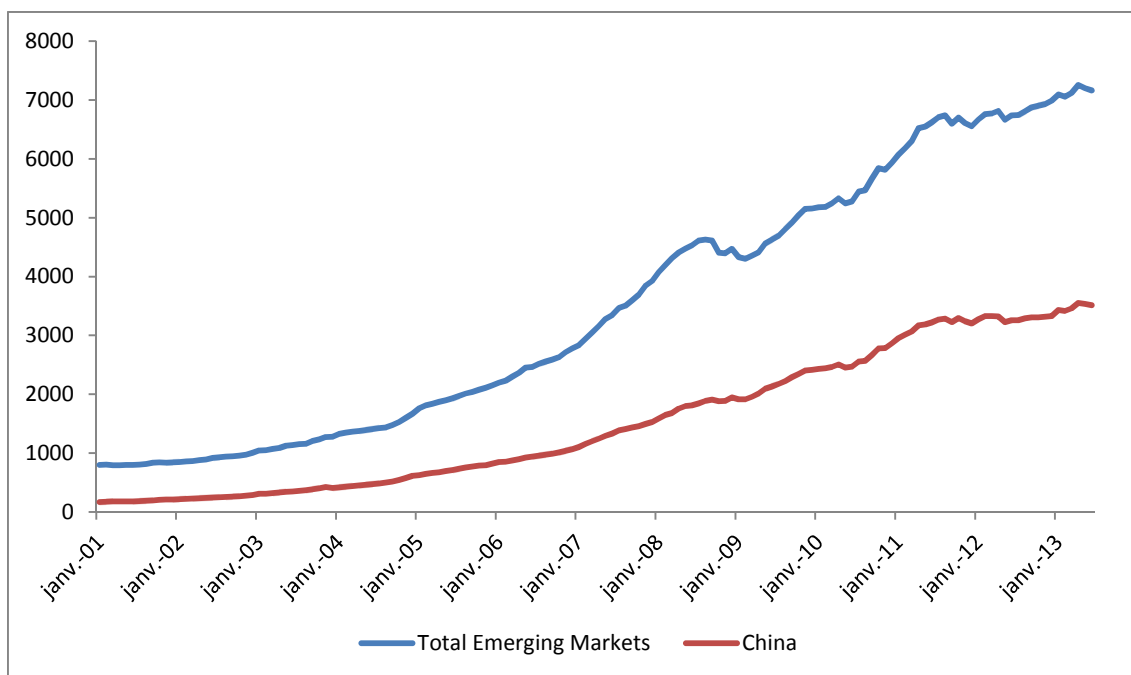
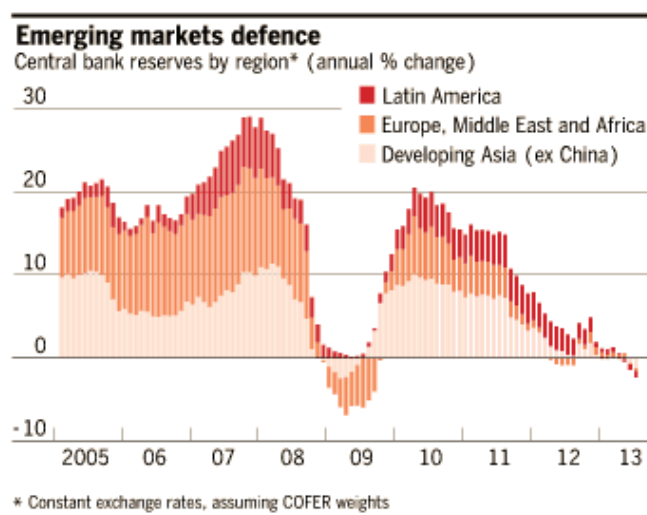
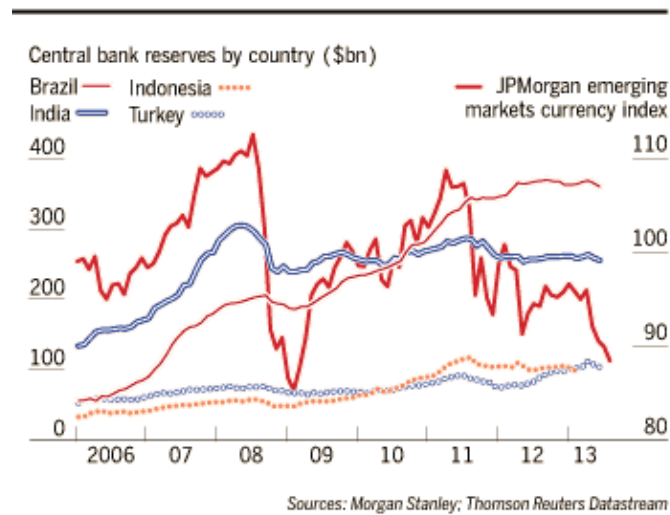


Figure 2A Change of Reserves in Selected Emerging Countries





**Source:** Financial Times

Figure 3 shows the relatively higher inflation in EM compared to the U.S. despite the net appreciation of EM exchange rates against the dollar from 2002 to 2007 (figure 4). The collective loss of monetary control in EM, and ultra-low U.S. interest rates, created bubbles in asset markets. The best known was the huge bubble in U.S. real estate prices—particularly home prices—that peaked in early 2007. But, as we shall see, concurrent bubbles in world commodity and stock prices lasted into 2008 before bursting.

Figure 3 Headline CPI: EM and US

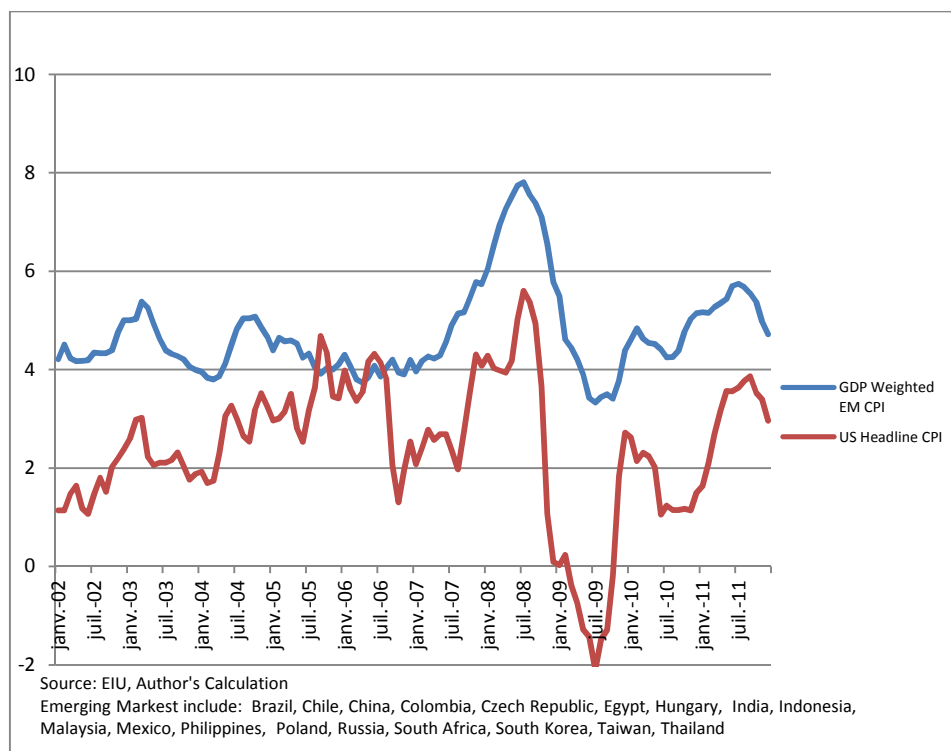
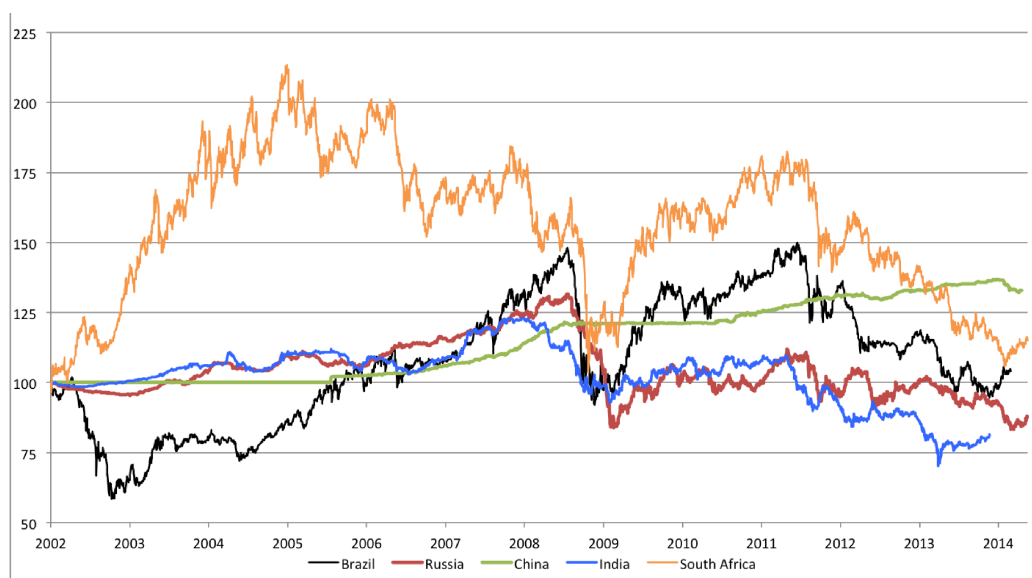


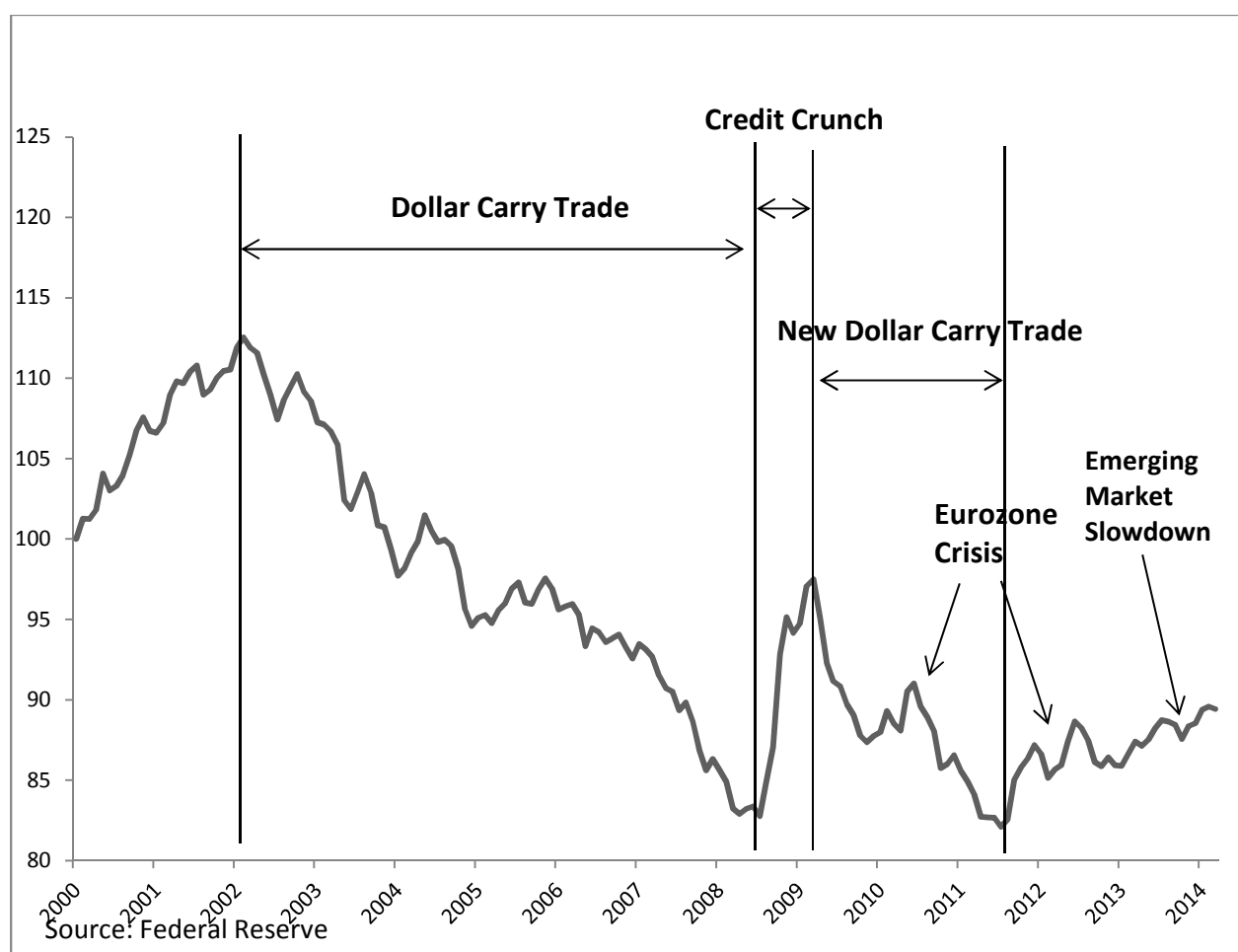
Figure 4 BRICS Currencies, USD/LCU (local currency unit), Jan-2002=100



Hot money outflows from the center are typically financed by banks that lend to “carry traders”, i.e., speculators who borrow in low-interest-rate currencies (or so-called *source currencies*) to invest in currencies with higher interest rates and/or in those expected to appreciate (so called *investment currencies*). The outflow of hot money from source currencies may well cause the source currency to depreciate for some time. Figure 5 shows the steady depreciation of the dollar’s effective exchange from 2002 until early 2008. Insofar as carry traders were chartists who simply extrapolated the dollar’s depreciation while ignoring the risks involved, they saw a double incentive to move hot money out of the U.S. into those EM with higher interest rates and appreciating currencies.



Figure 5. US Real Effective Exchange Rate, Jan-2000=100



However, these hot money outflows can be interrupted by banking crises. When (international) banks are suddenly impaired, they cease lending for speculative purposes and even demand repayment of previous short-term loans. These sudden withdrawals of *dollar* credits can be particularly sharp because the dollar is viewed as the safe haven currency in time of crisis—even when the banking crisis originated in the United States.

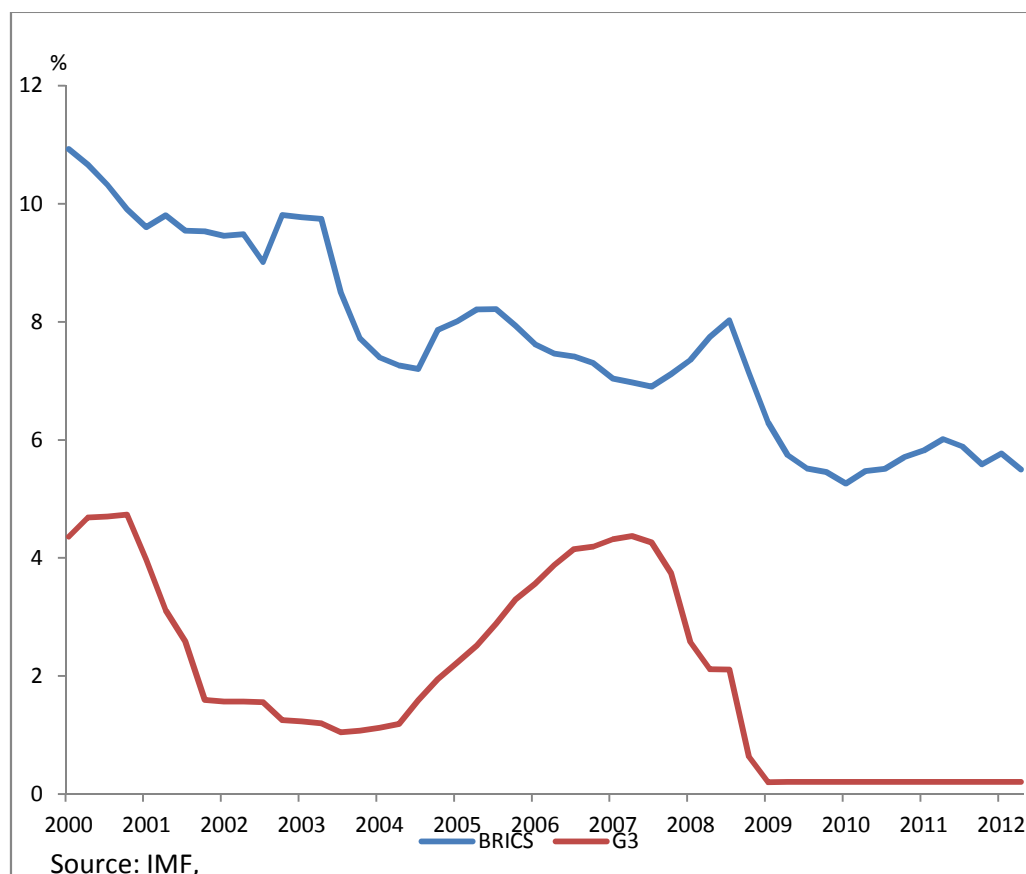
The banking crisis from defaulting subprime mortgages, mainly associated with the bursting of the U.S. real estate bubble in 2007–08, led to a sharp reflux of hot money to the United States. Figure 2A shows the drop in the rate of accumulation of EM central bank reserves in 2008, and figure 4 shows the depreciation of EM exchange rates against the dollar. Figure 5 shows the sharp appreciation of the dollar's effective exchange rate in 2008—very hard on carry traders who do not (cannot) hedge their foreign exchange risks.

But this is not the end of the Fed's bubble blowing. Under Chairman Ben Bernanke, the Fed over reacted again to the 2008 downturn by cutting the U.S. intra-bank overnight lending rate to virtually zero in December 2008—and then, as figure 1 shows, keeping it there so as to depress LIBOR close to zero to the present writing (May 2014). By mid-2009, however, the U.S. sub-prime mortgage crisis seemed to be contained. The U.S. Treasury's

Troubled Asset Relief Program (TARP) massively recapitalized banks and other important American financial institutions. So the dollar could again become a source currency for a renewal of the carry trade based on interest differentials.

The interest gap between the United States and EM remained huge. Figure 6 shows the average discount (bank lending) rates of the BRICS—an acronym for Brazil, Russia, India, China, and South Africa—about 6 percent compared to near zero in the United States and in the Euro Area and Japan (figure 6). Because the U.S. banking crisis had been ameliorated by mid-2009, bank lending to carry traders was no longer as constrained. No wonder the carry trade out of dollars and other source currencies into EM currencies started up again in 2009–11 with a depreciating effective exchange rate for the dollar (figure 5), and creating a new bubble in primary commodity prices.

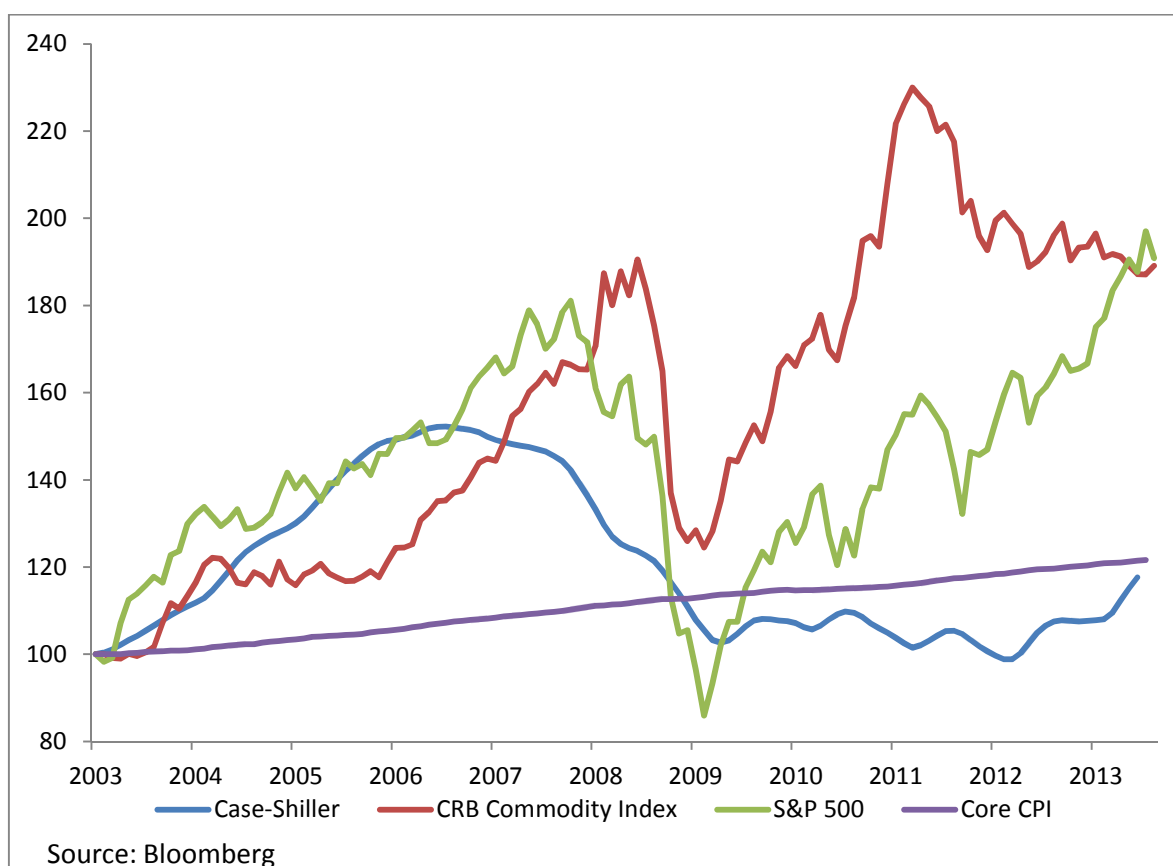
Figure 6. GDP Weighted Discount Rate of BRICS and G3



For the United States, the effects on asset prices from these two great bubbles and their eventual collapse is summarized in figure 7, “The Greenspan-Bernanke Bubble Economy”. It records America’s experience from 2002 to 2013 with bubbles in property values, stock prices, and the dollar prices of primary commodities. Although not investigated here, European property bubbles in Ireland, Spain, Portugal, and even the U.K. could be regarded as responses to unduly loose monetary conditions in the United States after 2001.

Real property, however is nontradable, and international cycles need not be synchronized. Germany did not have a property bubble when other European countries did.

Figure 7: The Greenspan-Bernanke Bubble Economy 2002 to 2013 (2005 =100)

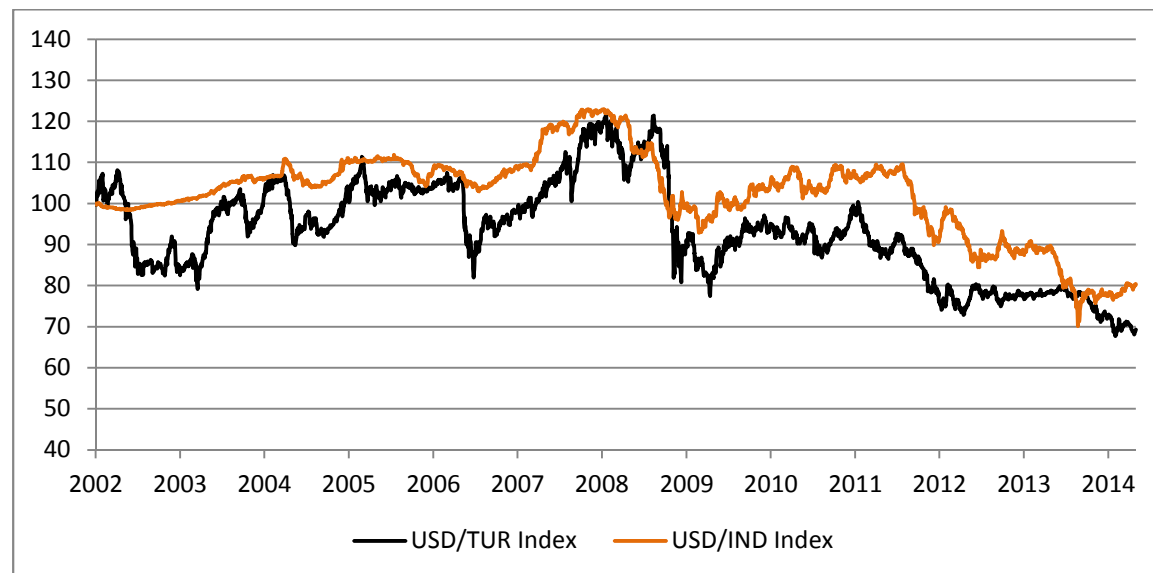


This second bubble in primary commodities began bursting in mid-2011, at the height of the international banking crisis associated with the travails of the euro. A net withdrawal of bank loans prevented carry traders from continuing to send hot money into EM. Figure 5 shows the second sharp appreciation of the dollar's effective exchange rate from 2012 into 2013 as hot money returned to the United States.

Throughout the turmoil associated with the two bubbles, China's yuan/dollar exchange rate remained remarkably stable (figure 4), as did its high rate of growth. In contrast, other emerging markets had massive appreciations followed by depreciations as the bubbles burst. In particular, the dollar price of Brazilian real more than doubled from 2003 to 2007 (figure 4) during the first bubble, and knocked the economy off its high growth trajectory. Then both India and Turkey suffered unwanted inflationary depreciations after 2008 (figure 8) as hot money returned to the United States.

Contrary to conventional economic theory—the famous international “trilemma”<sup>2</sup>—a floating exchange rate need not insulate any national economy from foreign monetary shocks in the form of wide interest differentials. An exchange rate that is allowed to float in response surges in hot money flows can be very destabilizing.

Figure 8, Daily Exchange Rate: USD/TUR (lira) & USD/IND (rupee) – 2002 to 2014



Source: Bloomberg, May 2014

Index Base Date: January 7<sup>th</sup>, 2002

## Collective Cycles in Primary Commodity Prices

In today’s world, waves of hot money flow through carry traders from the center of the world dollar standard mainly into a periphery of emerging markets—semi-industrialized industrial economies with at least semi-convertible currencies. As we have shown, these waves induce a collective monetary expansion of EM as a group that sets off an increased net demand for primary commodities as a whole. The resulting cyclical rise in primary commodity prices might then end quite suddenly if some financial crisis at the center so impairs (international) banks that they stop lending to carry traders. Hot money then returns to the center and primary product prices collapse *collectively*.

Fluctuations in primary commodity prices are common across all economies, and are of particular interest to developing countries who may not be direct recipients of the hot money flows. One can usefully identify two sources of price fluctuations: (1) idiosyncratic

<sup>2</sup> The trilemma is usually stated that an open economy cannot have (1) an independent monetary policy, (2) a fixed exchange rate, (3) no capital controls. The fixed exchange rate makes the money supply endogenous so that the central bank cannot control it. But it is usually claimed that the trilemma can be resolved by the country in question floating its exchange rate to regain control over its money supply. But with hot money flows, this would lead to unacceptable variance in exchange rates. So the trilemma collapses into the now familiar dilemma: a surge of hot money inflows forces the central bank into a difficult choice between letting its currency appreciate sharply or intervening to buy foreign exchange and losing control of its domestic money supply.

supply-side shocks—such as a crop failure, a mining strike, or a new major oil discovery, that can certainly move the international price of any individual commodity; or (2) a collective surge in the prices of all, or almost all, primary commodities followed by a collective bust.

The ebb and flow of hot money into EM collectively, many of which are important producers and consumers of primary commodities, provides the most likely monetary explanation of synchronized fluctuations in commodity prices under (2). And the price synchronization across very diverse primary “commodities” is quite remarkable. Since January 2007, figure 9 shows the strong correlation in the ups and downs of the three most aggregated primary commodity categories: agriculture, energy, and metals. Then figure 10 breaks down the agricultural category into its three principal components: food, (industrial) raw materials, and beverages. Again, the price variation is enormous, with strong positive correlations in the price movements of the diverse components within the agricultural category.

Figure 9. World Primary Commodity Prices Highly aggregated

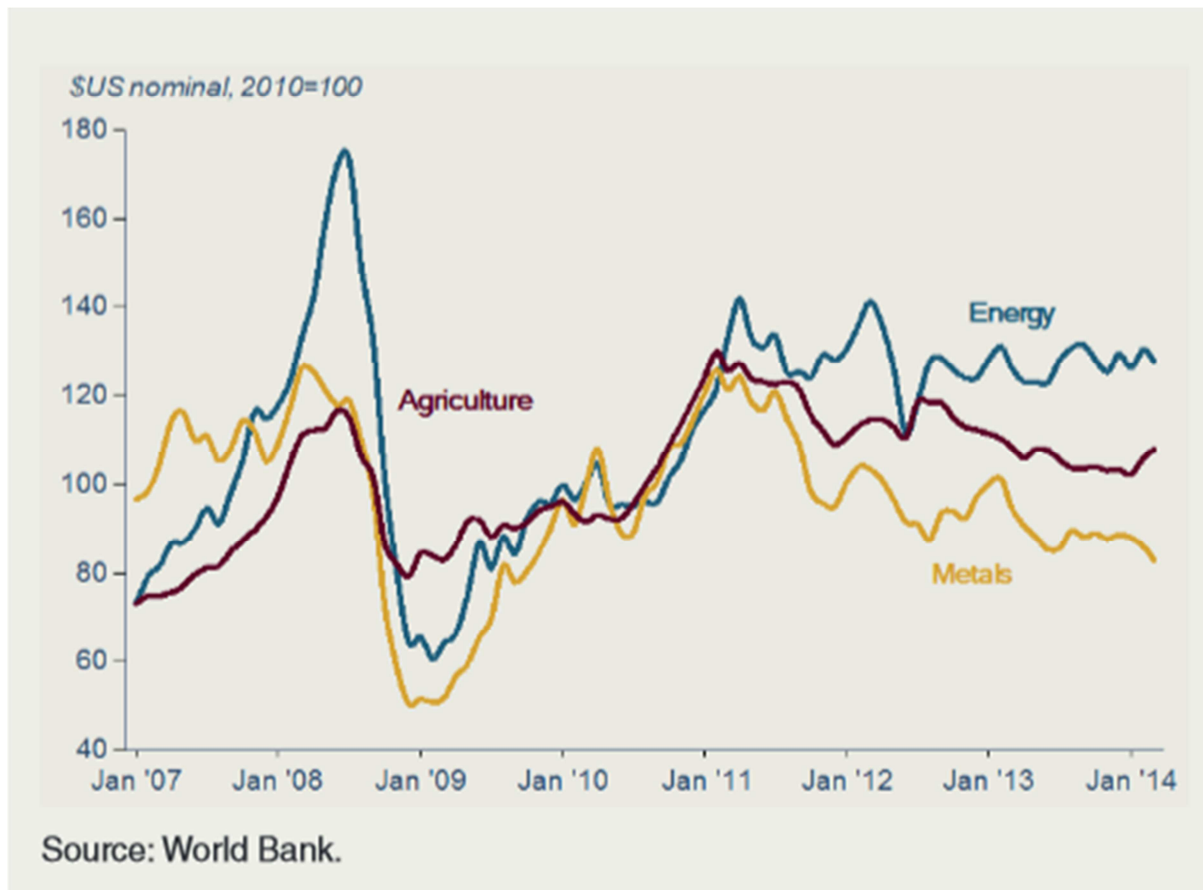
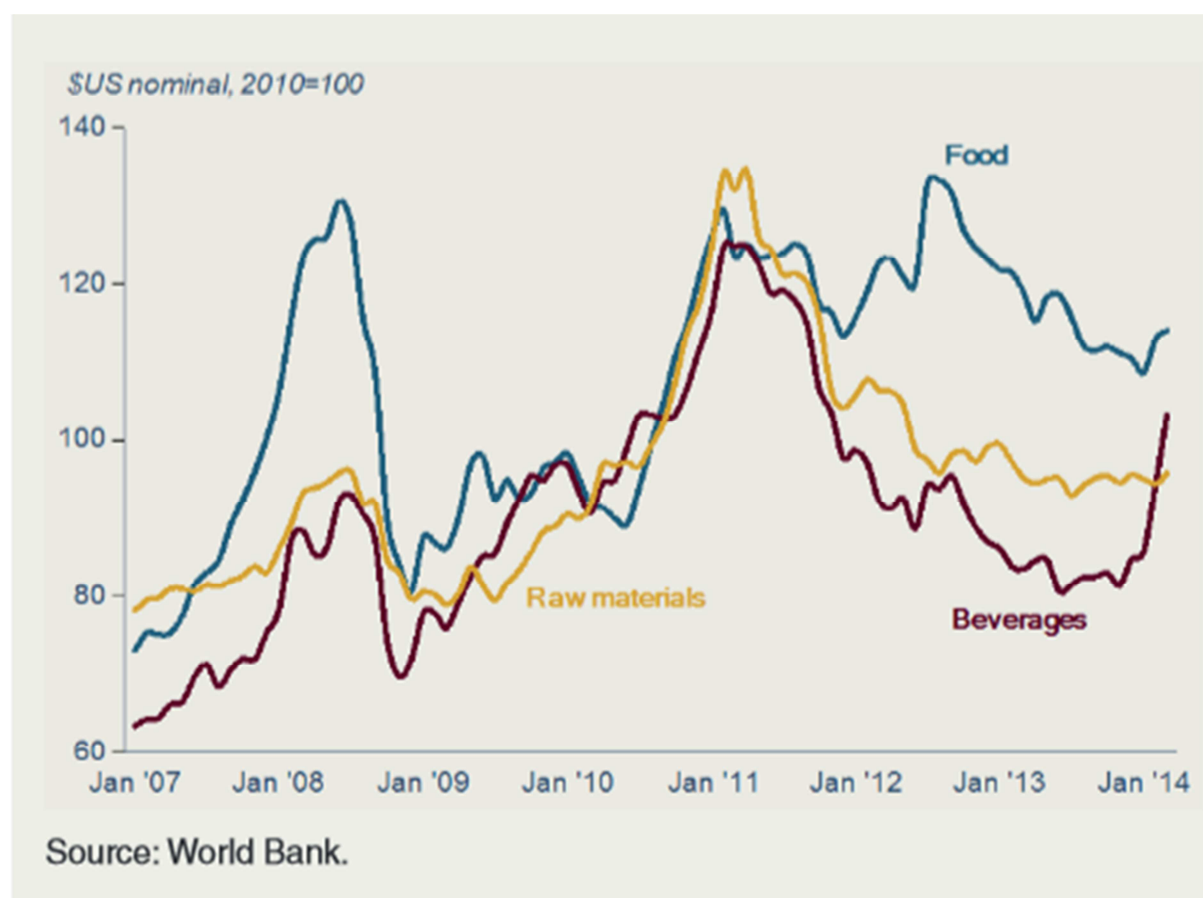


Figure 10. Food/Agriculture Product Price Indexes (2010=100)



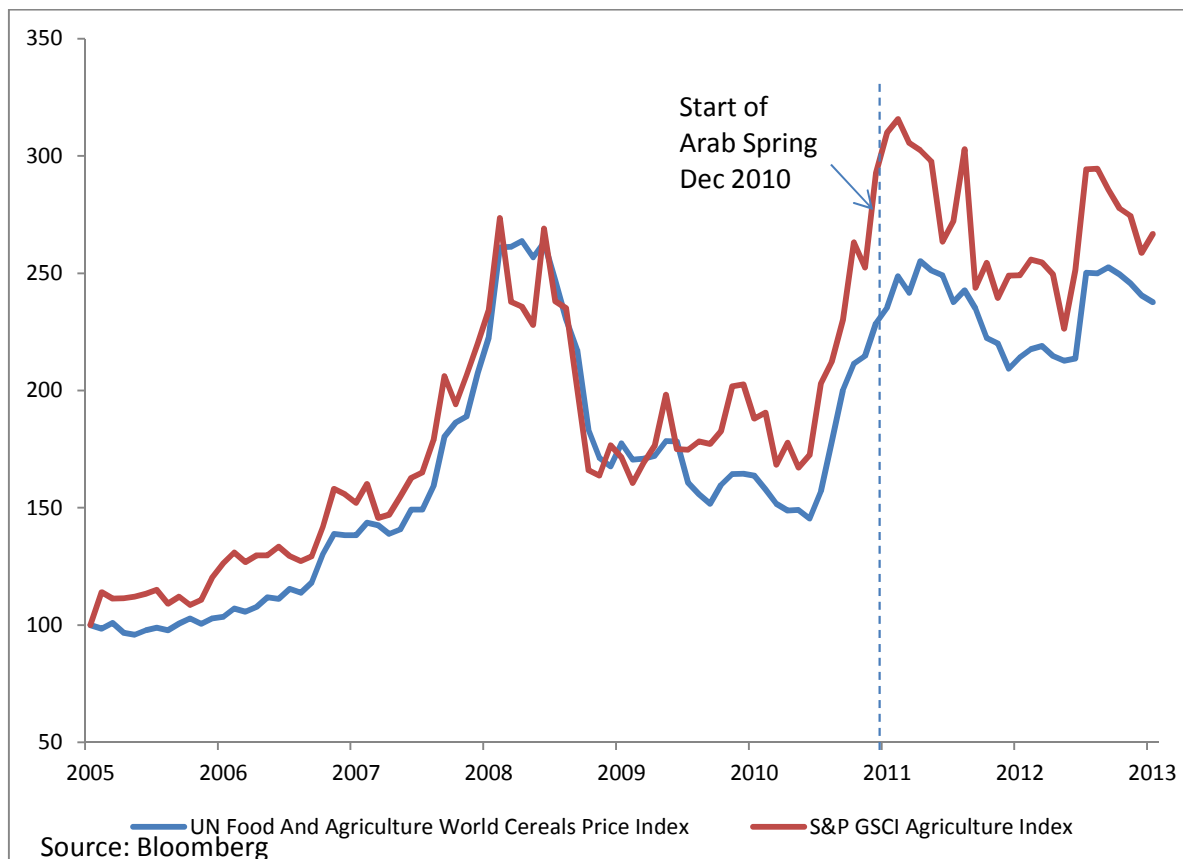
The effect of cyclical commodity price fluctuations on EM—along with high exchange rate variance (figure 4)—is certainly disconcerting for them. But primary products—particularly food grains and energy—are also key components in the consumption baskets of less developed countries in Africa and elsewhere. Indeed, the political survival of governments in many poorer countries often depends on keeping domestic food and energy prices down.

So our monetary shock model of collective fluctuations in primary commodity prices can be conceived as having two stages. First, hot money flows from the United States at the center of the world dollar standard to its most relevant currency periphery: countries with both convertible currencies and naturally higher interest rates—what we now call “emerging markets”. EM then lose monetary control and collectively increase their demand for primary commodities. Second, there is a knock-on destabilizing effect on poorer countries in Africa and elsewhere from the rise in commodity prices even though they are not primary recipients of hot money from the center. There could be a third stage: with near zero interest rates at the center, *commodity* carry traders (as distinct from currency speculators) find it easier to bet on, and thereby, accentuate trends in commodity prices once they begin.

## The Arab Spring

Starting in mid-2009, the second great hot-money bubble caused international prices of food grains to virtually double in 2010 (figure 11). In December 2010, a poor Tunisian food vendor, not being able to get food at controlled prices to satisfy his customers, immolated himself. This spectacle set off a food riot in Tunisia which brought down its government in January 2011. Further in 2011, it set off contagious riots throughout North African and other poorer Arab countries that were not major oil producers but for whom food prices remained quite elevated (figures 10 and 11). Collectively, these riots to throw out incumbent governments (usually corrupt) became known as the “Arab Spring”.

Figure 11. The Arab Spring

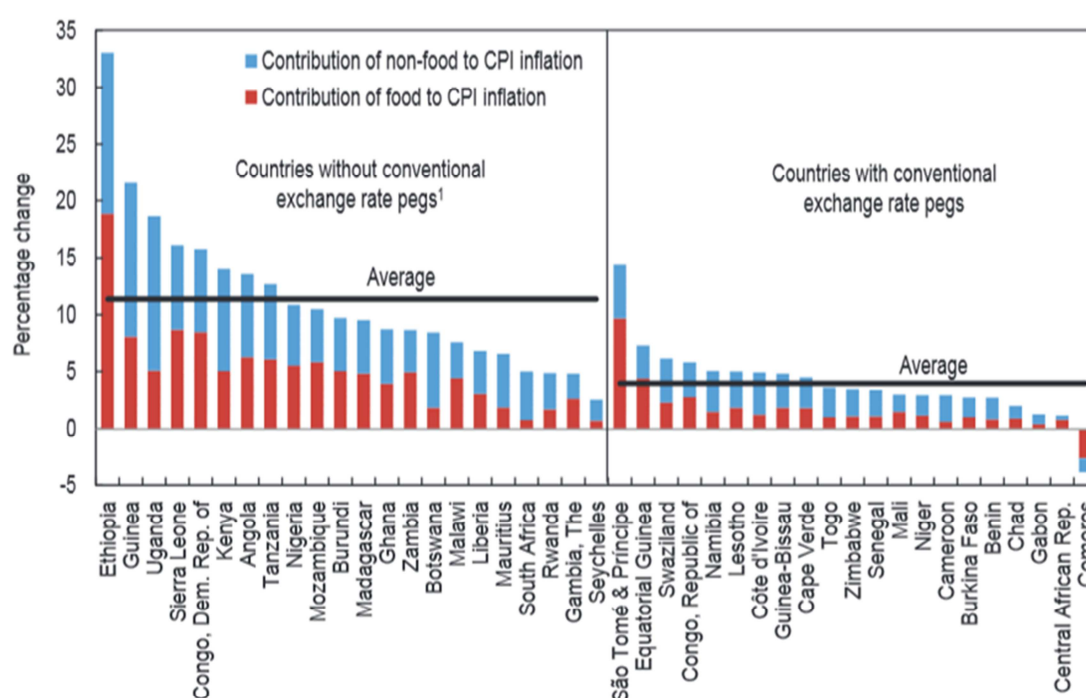


But the Arab Spring was misnamed. The semantics initially connoted a longing for democracy by long repressed populations to throw out corrupt, dictatorial governments and replace them with something better. What actually happened is better interpreted as a collective food riot—made all the more “contagious” by the countries involved all suffering sharp increases in food prices at the same time—2010–2011. If the Arab uprisings had been recognized as mainly food riots, the response of the industrial countries could have been different. Instead of supporting political revolutions to “throw the rascals out”, they should have focused more on international monetary measures to dampen international cycles in primary commodity prices.

How should poorer countries in Sub-Saharan Africa (SSA) best manage their financial affairs in the face of such volatility in the prices of primary commodities? Economists with the international trilemma in mind are prone to advise individual countries to float their exchange rates. But a devaluation could aggravate the inflationary effect of a sharp increase in the international prices of, say, food grains, that increases a country's trade deficit. True, the multitude of SSA countries face a variety of different circumstances. But a floating exchange rate need not buffer the country in question from a shock increase in the price of food on its CPI.

For 2011, a year of high food-price inflation, the new IMF *World Economic Outlook* (2014) provides an elaborate chart partitioning SSA countries into two groups: (1) those that maintained conventional exchange rate pegs, and (2) those that did not. For the year 2011 with high and rising world food prices, the IMF shows (figure 12) that the contribution of food price inflation to domestic CPI inflation was much greater in Group (2) than in Group (1). Other things being equal, it appears that maintaining exchange rate stability is better for limiting the effects of international fluctuations in the price of food on any developing country's internal CPI.

Figure 12 . Food Inflation Pass Through in Sub-Saharan Africa (2011)



Sources: IMF, Information Notice System; IMF International Financial Statistics; and IMF, African Department database.

<sup>1</sup> Includes all SSA countries whose exchange rate regime is not classified as either a conventional peg or a currency board, ranging from de facto crawling pegs to fully floating regimes, according to the IMF's 2011 *Annual Report on Exchange Arrangements and Exchange Restrictions* (AREAER).

For the dozens of SSA counties shown in figure 12, one can only guess at the mechanisms involved for the greater pass-through of the rise in world food prices in 2011 into domestic prices for those countries that did not peg their exchange rates. But for any one country, a rise in the price of food could be associated with trade deficit that induced a



depreciation of its currency. The depreciation then accentuated the effect of higher world prices of food on its domestic consumer price index.

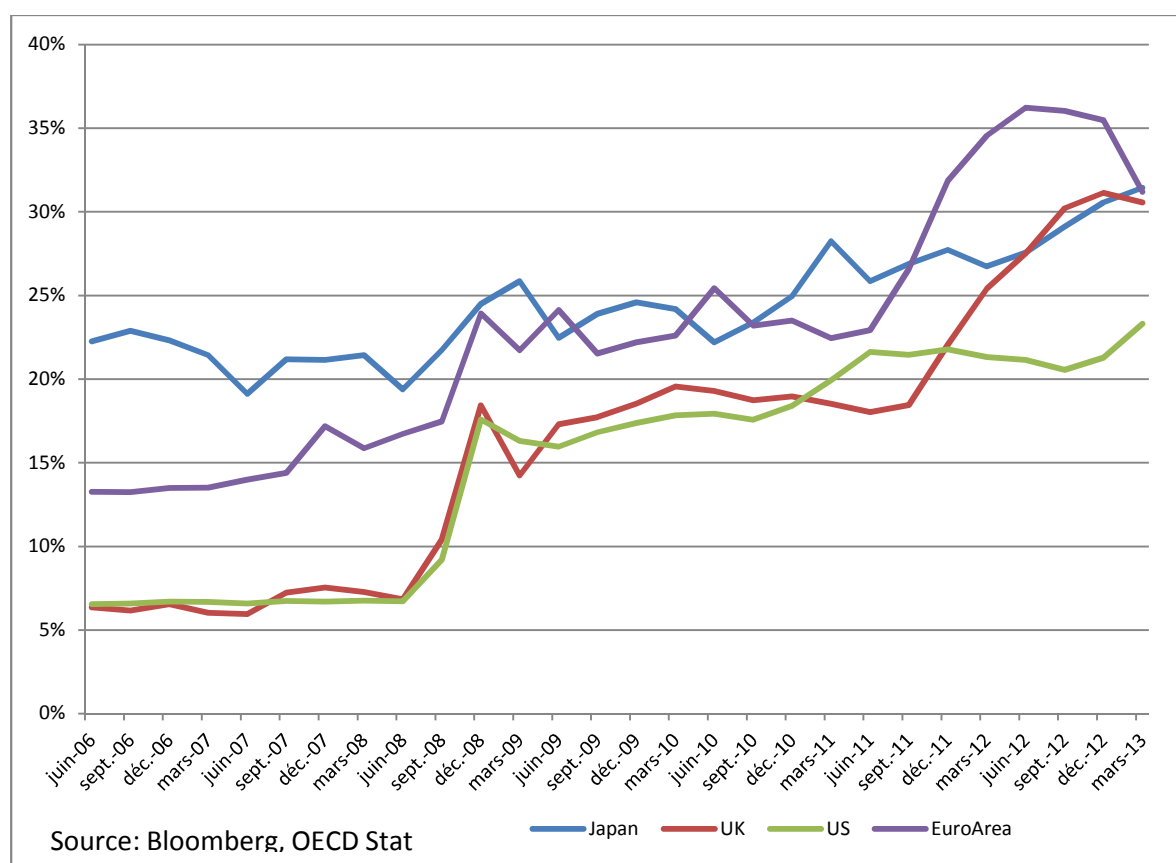
## **Quantitative Easing in Financially Mature Market Economies**

Much of this paper concerns volatile hot money flows into emerging markets that cause bubbles in international asset prices—particularly in primary commodities. The root cause of this financial volatility was the ultra-low interest rates in mature industrial countries at the center of the global financial system relative to the naturally higher interest rates in emerging markets on the periphery.

But all industrial countries are not financially equal. Most of the world remains on what I call *The Unloved Dollar Standard* (McKinnon 2013). Thus the U.S. Federal Reserve Bank took the lead in pushing interest rates toward zero both at short term and, more recently, at long term through what is now commonly called quantitative easing (QE). The Fed cut its overnight intrabank lending rate to just 1 percent in 2002, and then to virtually zero in December 2008 (figure 1). In implementing QE since 2008, the Fed has bought huge quantities long-term financial instruments—mainly U.S. Treasury bonds: in 2013, the Fed was buying about \$85 billion per month. From 2008 through 2012, the Fed had some apparent success with QE in driving long rates down—the 10-year Treasury bond reached 2 percent (figure 1), but not subsequently, as we shall see)

Remarkably, central banks in the other mature industrial countries— the Bank of England (BOE), the European Central Bank (ECB), and the Bank of Japan (BOJ) as well as the Fed— also kept their short-term interest rates near zero, and since 2008 drastically expanded their balance sheets through some form of QE. Figure 13 shows that the BOE, since 2007, actually purchased more assets—measured as proportion of British GDP—relative to the massive asset purchases of the other three central banks. But despite (or because of?) these massive asset purchases, all four central banks more or less failed to stimulate their economies’ very sluggish recovery from the 2008 downturn through to 2013.

Figure 13. Size of Central Bank Balance Sheet, % of GDP



In contrast, central banks in emerging markets on the “periphery” followed monetary policies more geared to stabilizing their *dollar* exchange rates when they were buffeted from the ebb and flow of hot money from the center—as we have seen. Because EM are less mature financially and fiscally than mature industrial economies, EM dare not risk major runs to develop for or against their domestic monies by, say, following a policy of keeping short-term interest rates near zero. Although pressed down by the weight of low interest rates in the center countries, they still have maintained substantially positive nominal interest rates and have eschewed massive monetary expansions in the form of quantitative easing.

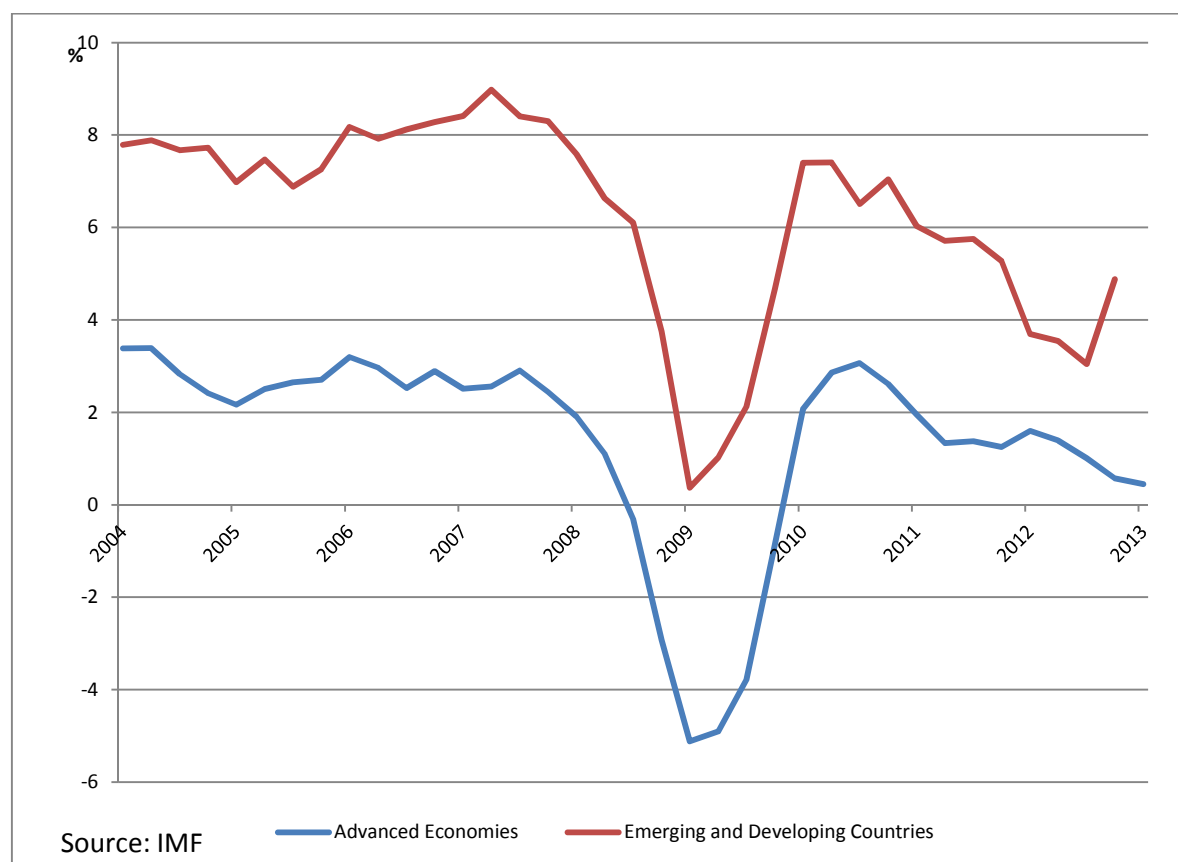
The mature industrial economies at the center can and do ignore the ebb and flow of hot money to the periphery. They are all following very similar monetary policies with similar short-term interest rates (near zero), and in further part because their greater financial maturity lets importers and exporters hedge their exchange risks more easily. In effect, they have more truly “floating” exchange rates than the EM. Nevertheless, notwithstanding their floating exchange rates, the industrial economies have created an interest-rate trap for themselves from which escape is difficult.

## The Near-Zero Interest Liquidity Rate Trap and Bank Disintermediation

The conventional critique of the Federal Reserve's policies of near-zero interest rates and massive monetary expansion is that they risk kindling excess aggregate demand and high inflation. Yet inflation worldwide remains low, and some major trading partners of the United States, such as Japan, China, and now Western Europe, are worried about deflation. China's producer price index has been falling 2 to 3 percent annually for almost two years.

Instead, I would argue that near-zero short-term *nominal* interest rates in the industrial countries distort their financial systems by causing disintermediation from money-market mutual funds and banks, which are the prime lenders to small- and medium-sized enterprises—the so-called SMEs. The disappointing “recovery” of the mature industrial countries from the steep downturn of 2008 (see figure 14) is associated with a lack of expansion in normal bank credit to SMEs. And growth in SMEs has been the prime absorber of labor in previous economic recoveries.

Figure 14. GDP growth: Developed vs. Developing World



In the United States, we have the paradox that *direct* finance for large corporate enterprises with formal credit ratings has completely recovered: markets for stocks and bonds, and commercial paper, are booming—resulting in a host of new IPOs as well as mergers and acquisitions. But bank credit for SMEs continues to languish. Could it be that indirect finance through banks is being undermined by the liquidity trap? At near zero nominal interest rates, a supply constraint on finance for SMEs seems to be holding the American economy back—apart from the damage done by hot money flows in international financial markets.

For an example of how near-zero short-term interest rates can inhibit private investment, consider a bank that accepts deposits and makes new loans of three-months' duration. The traditional spread between deposit and loan rates is about 3 to 3.5 percentage points. With this spread, banks can lend to small- and medium-size enterprises, the so-called SMEs—making loans that carry moderate risks and higher administrative costs per dollar lent. To increase the safety of its overall loan portfolio, the bank can also lend greater amounts to larger, more established corporate enterprises.

However, as short-term interest rates are compressed toward zero, larger corporate borrowers find it more advantageous to raise money by selling short-term commercial paper directly to other corporations, pension funds, and money-market mutual funds for less than the banks' prime loan rate. Direct finance in the open capital market replaces intermediation through banks. This leaves smaller banks in particular with a riskier portfolio of loans to SMEs, and the need to raise more bank capital to support riskier liabilities—so, they may instead shrink the size of their loan portfolios.

In the interbank market, smaller banks can't easily borrow funds from other banks to lend out to companies when interest rates are near zero. Despite having huge excess reserves, larger banks aren't inclined to lend their excess reserves for a tiny yield—especially in the presence of even moderate counterparty risk. They will instead just hold excess reserves—the more so if they earn interest on them.

As market interest rates fall from moderate levels, money-market mutual funds are the initial beneficiaries because they can buy highly-rated commercial paper and other short-dated financial instruments with lower interest rates than banks. However, if short-term interest rates approach zero, these money funds fear “breaking the buck.” Even a small negative random shock to the mutual fund's portfolio from a client failing to repay could jeopardize the fund's ability to cover interest payments to depositors. This means that depositors might only get 99 cents back on each dollar invested. Sponsors of these money-market mutual funds, often banks, are paranoid about the reputational costs of breaking the buck—so they may either close their money market mutual funds or limit new deposits.

With the decline in financial intermediaries like banks and money market mutual funds, direct finance has become more important in the United States. But the boom in bond finance need not continue. The problem here is that as banks and other financial institutions get used to near-zero interest rates and accumulate bonds with low coupon rates for some years, they end up in a trap from which escape is difficult. And this trap has negative implications even for corporations that seek direct long-term financing.

The trap was revealed for all to see after Fed Chairman Ben Bernanke suggested, in Congressional testimony on May 22, 2013, that the central bank might slow down, i.e., taper off,, its huge purchases of long-term Treasury bonds and other long-term securities—purchases designed to keep long-term interest rates low.

Chairman Bernanke carefully hedged his statement. He said that certain preconditions of the economic recovery, notably a sharp fall in the unemployment rate to 6.5 percent, had to be met before tapering could begin. But markets ignored these caveats. Long-term interest rates rose from 1.5 percent to 2.5 percent in the U.S., and stock markets crashed around the world in the four days that followed.

A chastened—and trapped—Mr. Bernanke backtracked in a June 19, 2013 press conference and said that money will remain easy for the foreseeable future. But the low-interest trap matters for the efficiency of the long-term bond market. In March 2014, Janet Yellen, the new chairman of the Federal Reserve Bank, began modest tapering by cutting back Fed purchases of long-term bonds by \$10 billion from \$85 billion. Again long-term interest rates and bond prices gyrated—with a further return of hot money from vulnerable emerging markets, such as India and Turkey, putting downward pressure on their currencies in the foreign exchanges.

What have central banks wrought? As Andrew Haldane, a top official at the Bank of England, declared on June 12, 2013, of his own institution. “Let's be clear. We've intentionally blown the biggest government bond bubble in history. We need to be vigilant to the consequences of that bubble deflating more quickly than [we] might otherwise have wanted”.

By trying to stimulate aggregate demand and reduce unemployment, central banks have pushed interest rates down too much and inadvertently distorted the financial system in ways that constrain both short-term, and potentially long-term, business investment. The misnamed monetary stimuli are actually holding the economy back.

The Federal Reserve, the Bank of England, the Bank of Japan, and European Central Bank all have used quantitative easing to force down their long-term interest rates. The

result is that major industrial economies have all dramatically increased the market value of government and other long-term bonds held by their banks and other financial institutions. Now each central bank fears long-term rates rising to normal levels because their nation's commercial banks would suffer big capital losses—in short, they would “de-capitalize.”

But the potential turmoil in bond values also makes it more difficult for corporations seeking to raise long-term financing. In the face of greater interest rate volatility, bond-market dealers in the U.S. are currently paring their inventories because of the associated risks

In 2009, when the Federal Reserve initiated quantitative easing, the prices of bonds and equities rose as long-term interest rates fell so as to buoy the economy—a short-lived honeymoon. Now in 2014, because of depressed market rates for some years so that coupon rates on long-term bonds have become very low, any significant increase in market interest rates would cause a larger slump in the capital values of these bonds—which could de-capitalize the banks holding these bonds. Even discussing the potential for exiting from the Fed’s quantitative-easing program creates high volatility in bond markets from expectation effects—a volatility that inhibits new bond offerings for domestic investment. Mr. Bernanke’s tapering speech illustrates how that can happen: new bond and equity issues are put on hold.

## **The Way Out**

What is the way out of this liquidity trap for short-term interest rates, and the bond-bubble trap for long rates, that central banks from the industrial countries have set for themselves? It is best to start with overnight policy rates in the interbank market over which each central bank has tight control—rather than tapering at the long end with uncertain effects on long-term interest rates. Also, the leading central banks from the industrial countries should act in concert so as to prevent untoward fluctuations in exchange rates.

The most straightforward approach is for the leading central banks—the Federal Reserve, the Bank of England, the Bank of Japan and the European Central Bank—to admit they were wrong in driving interest rates too low in the pursuit of a nonmonetary objective such as the level of unemployment. After all what Milton Friedman taught us in his famous 1967 AEA presidential address, “The Role of Monetary Policy”, the central bank cannot (should not) persistently target a nonmonetary objective—such as the rate of unemployment, which is determined by too many other factors.

The four central banks could begin slowly increasing short-term interest rates in a coordinated way to some common modest target level, such as 2 percent—which historically

has been associated with CPI inflation of about that level. Coordination is crucial to minimize disruptions in exchange rates. Then our gang of four they should phase out quantitative easing in a year or two so that long-term interest rates once again become determined by markets. The whole process should be transparent so that “markets” know the endpoints of this new policy.

If markets come to believe the governments in the industrial countries will keep short rates close to a low “norm” of 2 percent rate into the indefinite future, this then will cap long rates as quantitative easing ends. Remember that market-determined long rates are just the mean of expected short rates plus a liquidity premium. Of course, each central bank will have to carefully monitor the course of its own GDP as the supply constraint on short-term bank finance is gradually relaxed—and remain vigilant to ward off sudden inflation.

If the industrial counties succeed in springing their liquidity traps and stabilizing their interest rates comfortably above zero, volatile hot money flows into the “periphery” of emerging markets would diminish—and thus lessen the volatility and synchronization of world prices of primary commodities. Less developed countries in Sub-Saharan Africa and elsewhere would be prime beneficiaries. But in a still financially volatile world, SSA countries are well advised to keep their exchange rates stable—if necessary by retaining the exchange controls on flows of financial capital. However, under the world dollar standard, the United States government itself cannot impose capital controls without causing the whole mechanism of international payments to collapse!