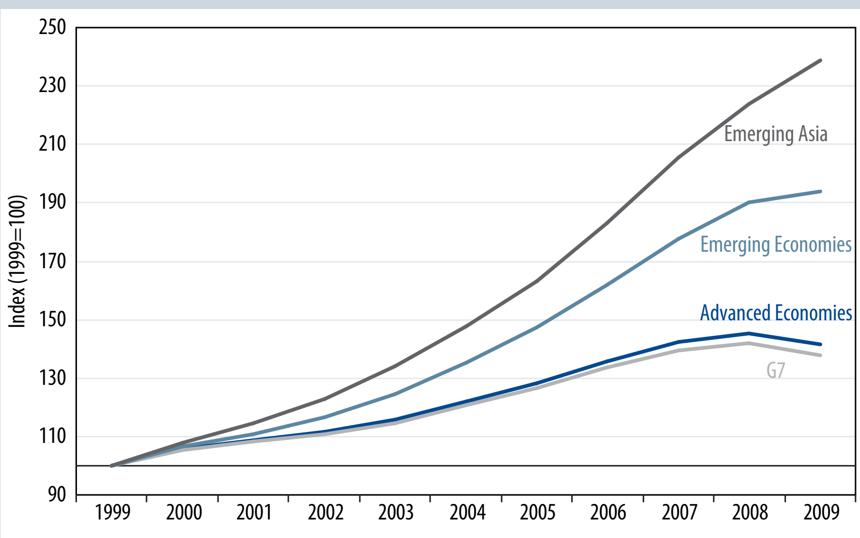
A Global Safe Asset Shortage

The location of the 2007-2009 financial crisis is more remarkable than its magnitude. Financial crises of similar magnitude are inherent to the development process "as countries struggle to transform themselves from emerging markets to advanced economies."[1] However, the current crisis erupted in advanced economies, not emerging markets, and had nothing to do with a struggle along the development spectrum. Domestic failings were undeniably involved in the run-up to the worst crisis to afflict advanced economies in 75 years. The list of shortcomings is long and includes poor lending decisions, excessive leverage, lax risk management, misaligned incentives, an antiquated regulatory framework, and in many cases, overpaid and predatory rather than productive bankers. All of these factors will need to be addressed if another crisis is to be prevented. Despite these likely causes of the recent crisis, we believe it useful to also view events through the lens of emerging markets' experience to identify more fundamental factors that could continue to influence valuations.

Ricardo Caballero of MIT offers just such a theory worth consideration.[2] Simply stated, Caballero purports that *the global economy suffers from a critical shortage of safe assets,* where "safe" refers to low risk and high liquidity. This was obvious during the depths of the crisis as investors scrambled to find safety and liquidity. According to Caballero, however, the crisis was an acute example of a longer standing imbalance between the supply and demand for safe assets. The implications for advanced economies is a "bubbly equilibrium" driven by excess demand, resulting in low government yields, tight spreads on lower risk corporate bonds, and greater business cycle and asset price volatility within and across advanced economies. If true, this presents opportunities and challenges for investors with a concentrated portfolio in G7 investment-grade assets, and warrants a significant reallocation toward emerging market assets. This theory contrasts with more orthodox assumptions that government yields must rise in advanced economies as a result of soaring debt-to-GDP ratios.

Exhibit 1
Per Capita GDP Growth



Source: International Monetary Fund, World Economic Outlook Database, April 2010

The Asset-Shortage Framework

The Bubbly Equilibrium of Emerging Markets

Emerging market GDP growth has averaged more than twice that of advanced economies for the past decade, helping to narrow the difference in per capita GDP to 15% from 11% of advanced economy levels (Exhibit 1). Considering that 85% of the world's population lives in emerging markets, it is no wonder this convergence is making waves. Emerging markets now generate $33 trillion in purchasing power annually, 230% more than they did 10 years ago. Importantly, they choose to save a large portion of income for future generations, resulting in a savings flow of about $10 trillion annually. In contrast, most emerging markets remain unable to generate enough

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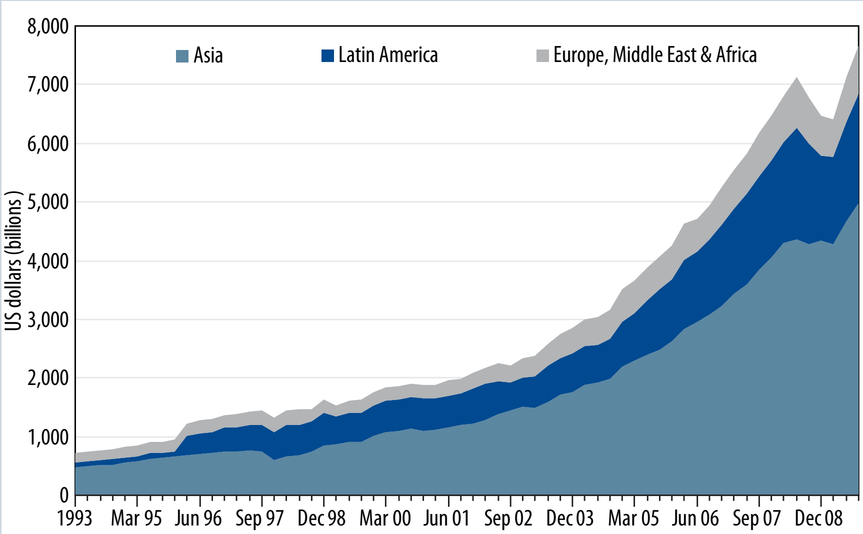
Exhibit 2
Domestic Bond Markets: Rapid Deepening in Emerging Markets



Source: BIS Quarterly Review, September 2009

stores of value (in the form of financial assets with low default risk and ample liquidity) for that newfound purchasing power.

The size of the local bond market increased by $600 billion per year on average over the past 10 years in emerging markets (Exhibit 2). While this is impressive, it is insufficient to keep pace with the staggering expansion of wealth. Institutional limitations and microeconomic frictions have restrained capital markets from deepening at the same pace as economic expansion. These frictions are being addressed and local capital markets should continue to deepen. Still, the safe asset shortage is unlikely to be resolved any time soon given ongoing rapid GDP growth and high savings rates. Simply put, *the ability to generate wealth has outpaced the ability to generate safe stores of value to house that wealth.* The resultant shortage of safe assets leads to what Caballero calls a bubbly equilibrium.

Such a situation is not new. Until a decade ago, asset bubbles had been an endemic feature of the boom-bust cycle in emerging markets. During phases of rapid economic growth, domestic asset shortages often led to bubbles—first in real estate since property rights are normally better defined for such tangible assets, then in government debt and, finally, in national champion corporate assets.[3] Emerging markets have repeatedly been plunged into recession when domestic asset bubbles popped, bringing the banking system down with them.[4] Samuelson (1958) and Tirole (1985) considered these asset bubbles a necessary evil given the lack of other investment vehicles, and labeled them "rational bubbles," as they were a second-best solution for storing newfound wealth in the absence of sound financial assets.

Globalization and the Export of Rational Bubbles

While institutional limitations in emerging markets prevent them from generating a sufficient volume of safe assets, advanced economies have no such limitations. As Caballero wrote, "Anglo-Saxon economies, and the US in particular, have managed to combine good growth conditions with an unmatched ability to generate sound and liquid financial assets appealing to global investors and savers." In today's world of free-flowing capital, rational bubbles will tend to develop in economies with deep financial markets, i.e., advanced economies that have strong property rights, efficient bankruptcy procedures, flexible financial systems and low risk of political expropriation.

Caballero's "missing markets" view explains a major paradox of the recent globalization: capital is flowing uphill from poor to wealthy economies. During the last globalization (1870–1914) and consistent with classical theory, capital flowed from the wealthy world, where capital was abundant but investment projects scarce, to the poor world, where investment projects were abundant but capital scarce. The opposite has been true during the recent globalization. Wealthy economies have received massive capital inflows from poor economies.

Caballero suggests that after numerous boom-bust cycles driven by domestic safe-asset shortages, emerging markets learned to export their rational bubbles to economies with a comparative advantage in generating safe assets. Global imbalances (the large current account deficits of the US and UK, among others, that are financed by emerging markets) therefore reflect a much deeper imbalance: that between the supply and demand for safe assets, with supply lagging dangerously behind.

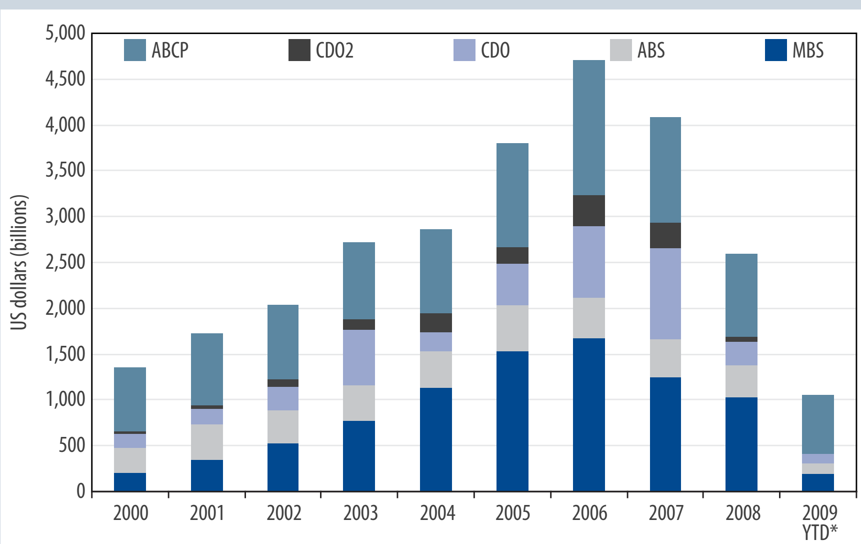
Caballero's theory is distinct from the more orthodox "mercantilist theory," which blames emerging markets' aggressive export-led growth strategy to explain the uphill flow of capital, globalization's current paradox. However, the two theories partner well together: the export of newfound wealth to safe-asset producing economies results in fewer asset bubbles and greater stability for emerging markets, but it also results in weaker exchange rates which in turn facilitate export-led growth. Economic growth is improved while volatility is dampened, a win-win situation for emerging markets. In contrast, Caballero's theory competes directly with the "profligate consumer" theory, which lays blame on the Federal Reserve (or Bank of England in the case of the UK) for holding policy rates too low for too long, fueling a consumption binge and a housing bubble, and supporting the low-savings society that took hold in the mid 2000s.[5] In fact, Caballero's theory is a wholly non-monetary explanation—rational bubbles can develop even if interest rates are set appropriately. This suggests a far more challenging operating environment for advanced economy policy-makers, less control over the business cycle and greater asset price volatility.

Housing Bubbles and Financial Crises: Symptoms, not the Disease

If Caballero is correct and rational bubbles have gone global, then the boom-bust dynamic that has traditionally amplified emerging market business cycles and asset prices may now be an advanced economy reality. It follows that housing bubbles in the US and UK, among other advanced economies, were inflated by capital inflows from emerging markets and could be considered rational bubbles themselves. Liabson and Mollerstrom (2010) found that house prices alone could explain more than half the variation of trade deficits across the OECD.[6] In fact, every advanced economy running significant current account deficits also had housing bubbles. By contrast, current account surplus countries (emerging markets) experienced no such bubbles.[7]

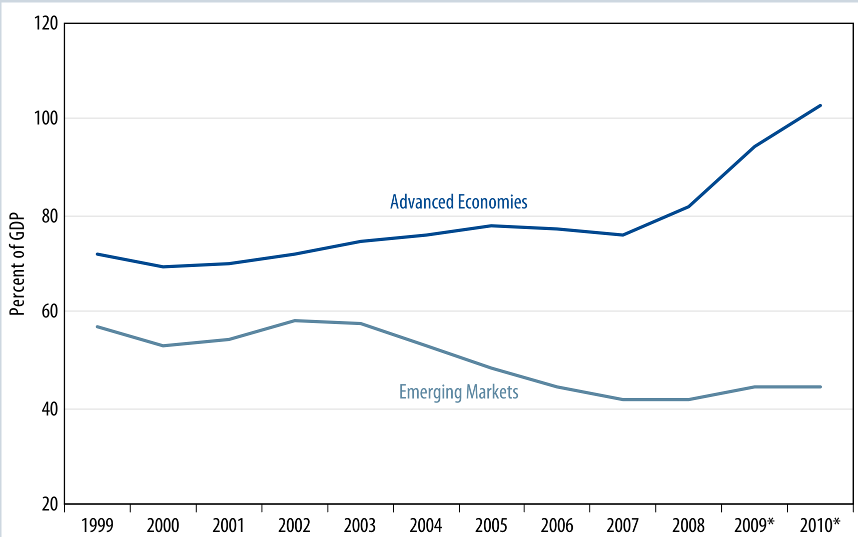
Caballero's theory even explains the financial system's greater use of securitization and other complex, off-balance sheet instruments. The US government ran a budget surplus from 1998 through 2000. Germany and the UK ran surpluses in 2000. The supply of traditional AAA rated assets declined just as the demand for safe assets began surging.[8] Not surprisingly, advanced economy government yields fell to unusually low levels that central bankers struggled to raise (recall Alan Greenspan's "conundrum" where the US 10-year yield declined 70 basis points (bps) despite the Fed raising its funds rate by 200 bps[9]). In response to this shortage, the

Exhibit 3
Global Private-Label Securitization



** Through 2Q09*
Source: International Monetary Fund GFSR, October 2009

Exhibit 4
Government Debt



Source: Credit Suisse First Boston, International Monetary Fund, Moodys

banking system began exploiting its ability to engineer risk-free assets from risky assets in an effort to keep pace with the widening safe-asset shortage. By pooling thousands of risky loans and tranching their cashflows, AAA rated assets could be synthetically generated to make up for the shortfall in AAA rated government bonds (Exhibit 3). Any kind of asset with scheduled cashflows, regardless of risk—including credit card receivables, auto and student loans and, of course, subprime loans—could be pooled and tranched to create the "risk-free" assets that were in such high demand globally. This kind of financial engineering enabled the absorption of the massive inflows from emerging markets in search of a safe and liquid store of value.

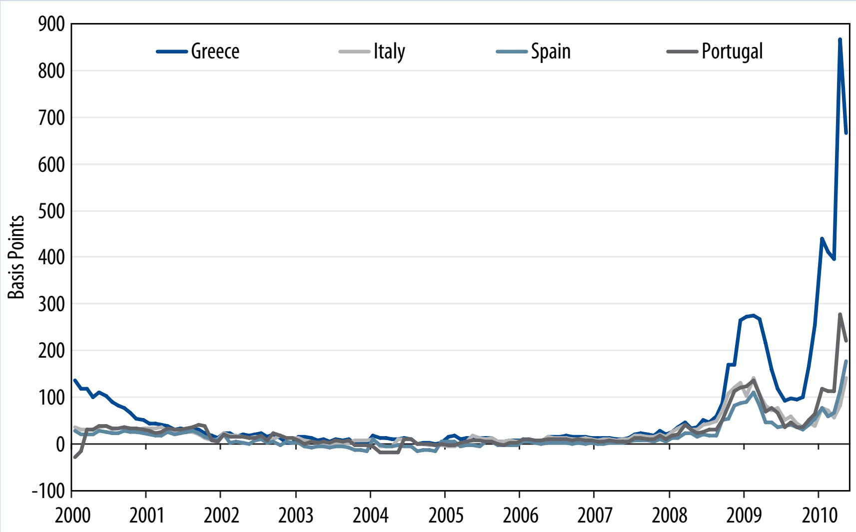
Of course, in the end it all came crashing down. Ken Rogoff summarizes the experience well, stating that emerging markets "tested the financial systems of the US, UK and other advanced economies that ran deficits. It's a test that they failed." Once investors realized that many of these synthetic AAA rated assets were in fact not risk-free, the safe-asset shortage intensified in the form of a financial crisis. Ironically, the recessionary aftermath of the crisis forced the issuance of an unprecedented supply of AAA rated assets by advanced economy governments via aggressive countercyclical fiscal policy (Exhibit 4). The market got what it demanded in the end. Aggressive Treasury, bund and gilt issuance helped close the safe-asset shortage. But this is a stopgap solution that is temporary and could backfire. Should markets lose confidence in the AAA rated status of Treasuries, bunds or gilts as government debt burdens soar, the global economy would be left with an even more severe safe-asset shortage.

In conclusion, according to Caballero *the safe-asset shortage was the ultimate cause that triggered a host of more proximate causes.* Global trade imbalances, housing bubbles and the deterioration of bank lending standards were symptomatic of a much deeper problem that developed over a decade ago when wealth creation began to outpace the ability to generate safe stores of value in the emerging world. If Caballero's theory is true, advanced economy investors must appreciate the degree to which emerging markets are influencing the dynamic of the global business cycle.

Investment Implications

Professor Caballero's theory suggests that yields on Treasuries, bunds and gilts can remain lower for longer than many in the market expect, not too dissimilar from Japan where yields remain low despite a debt-to-GDP ratio approaching 250%. Excess demand (supply shortage) would ensure buoyant prices and low yields. Next to benefit would be higher rated, national champion corporations with strong balance sheets and low historic default rates. The longer risk-free government yields remain at current levels the more likely spreads will compress on investment-grade corporate debt.

Exhibit 5
Peripheral European Spreads over Germany



Source: Bloomberg. As of 31 May 2010

On the other hand, the bubbly equilibrium that Caballero describes suggests heightened volatility, both within and across countries. Yields would trade at low levels but in a wide range. Ken Rogoff and Carmen Reinhart have written extensively of the potential damage that large debt burdens exact on economic growth.[10] If a government loses its status as a producer of safe stores of value, yields could become highly unstable. The recent experience of peripheral Europe comes to mind. Spanish government bonds were once considered as safe as German bunds. As these economies lost their status as producers of safe stores of value, the safe-asset shortage was aggravated. Peripheral European yields spiked, but US Treasury and German bund yields declined further (Exhibit 5).

Finally, a major reallocation toward emerging market assets is warranted. During the run-up to the recent crisis, US and UK households reacted by happily swapping their safe assets for manufactured goods. This kind of swap cannot continue. Instead, advanced economy households should begin demanding high return assets instead. After all, if advanced economies have a comparative advantage in producing safe assets, then emerging markets have a comparative advantage in producing high return assets. GDP growth is two to three times faster than in advanced economies. Yields are comparatively higher and should continue to decline given convergence in per capita GDP levels, fiscal responsibility and financial market deepening. For the same reasons, the potential for currency appreciation against the US dollar, euro and sterling is high. A diversification into local emerging markets should be viewed as the counterbalance to the flow of capital into advanced economies and the export of rational bubbles.

Footnotes

1 Rogoff, Kenneth and Reinhart, Carmen. "This Time is Different: A Panoramic View of Eight Centuries of Financial Crises." *http://www.nber.org/papers/w13882* (accessed June 29, 2010).

2 Professor Caballero has published numerous articles on this topic including the following:
Caballero, RJ. "On the Macroeconomics of Asset Shortages." *http://www.nber.org/papers/w12753* (accessed June 29, 2010).
Caballero, RJ. "The 'Other' Imbalance and the Financial Crisis." *http://www.nber.org/papers/w15636* (accessed June 29, 2010).
Caballero, RJ, Fahri, Emmanuel and Gourinchas, Pierre-Oliver. "Financial Crash, Commodity Prices, and Global Imbalances," *http://econ-www.mit.edu/files/3635* (accessed June 29, 2010).

3 International investors typically join the party at the middle stages, magnifying the bubble (along with the damage caused during its aftermath) as capital floods into the domestic economy. This has been a repeated challenge for emerging market policymakers.

4 A vicious cycle is at play: the asset shortage, or financial market underdevelopment, exacerbates the bubble by incentivizing those with newfound wealth to increase precautionary savings. This increases the shortage of safe assets and inflates the bubble further, leading to ever more precautionary savings.

[5] John Taylor, of Taylor Rule fame, is probably the highest profile of these critics who blame Fed policy in 2004-2006 for being too loose and inflating the housing bubble in the US.

[6] Laibson, David & Mollerstrom, Johanna. "Capital Flows, Consumption Booms and Asset Bubbles: A Behavioural Alternative to the Savings Glut Hypothesis." *http://www.nber.org/papers/w15759* (accessed June 29, 2010).

[7] Asset bubbles in emerging markets are consistent with the asset shortage theory since authorities were certainly not perfect in offsetting their domestic rationale bubbles.

[8] Gary Gorton of Yale also highlights the rising demand for AAA rated assets for use as collateral to back derivative positions which have increased more than 8-fold in the past decade, in "Slapped in the Face by the Invisible Hand: Banking and the Panic of 2007."

[9] Testimony of Chairman Alan Greenspan, "Federal Reserve Board's semiannual Monetary Policy Report to the Congress Before the Committee on Banking, Housing, and Urban Affairs, U.S. Senate." Feb. 16 2005, *http://www.federalreserve.gov/boarddocs/hh/2005/february/testimony.htm* (accessed June 29, 2010).

[10] Rogoff, Kenneth S. and Reinhart, Carmen M. "Growth in a Time of Debt." *http://www.nber.org/papers/w15639* (accessed June 29, 2010).

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