# Chimerica and global asset markets<sup>\*</sup>

By Niall Ferguson\*\* and Moritz Schularick\*\*\*

#### Abstract

In this essay we present a potential explanation for the persistent and, to some eyes, puzzling buoyancy of global asset markets in recent years. We argue that the current world economic conjuncture is the product of a large and unusual divergence or "wedge" between the returns on capital and the cost of capital. Globalization – in particular the integration of the massive Asian labor force into the world economy – has significantly increased the returns on capital. However, contrary to what economic theory might lead us to expect, the cost of capital as measured by long-term real interest rates has not increased, but actually fallen. We call this phenomenon "Chimerica" because it is a consequence of the symbiotic economic relationship that has developed between the People's Republic of China and the United States of America. The entry of Chinese labor into the world economy has significantly boosted the returns on capital relative to the returns on labor. At the same time, by accumulating large currency reserves and channeling them (until very recently) almost exclusively into U.S. government securities, China has kept nominal and real long-term interest rates artificially low. In our view, it is this wedge between returns on capital and the cost of capital, rather than excess liquidity or a shortage of financial assets, that explains the boom in global asset markets as well as the recent upsurge of leveraged buy-out activity.

<sup>&</sup>lt;sup>\*</sup> We gratefully acknowledge the support we received from Helen Qiao, Jan Hatzius, Ed McKelvey and Dominic Wilson at Goldman Sachs; Stephen Jen, Charles St-Arnaud, and Manoj Pradhan at Morgan Stanley; Jonathan Anderson, Will Darwin, George Magnus, Terence Keeley, and Sheryl Shah at UBS as well as Thomas Steger (ETH Zurich), Roland Beck (European Central Bank), and Ian Mukherjee (Amiya Capital, London). Many thanks to Anna Heinrich for excellent research assistance. All remaining mistakes are our own.

<sup>\*\*</sup> William Ziegler Professor of Business Administration, Harvard Business School: nferguson@hbs.edu

<sup>\*\*\*\*</sup> Corresponding author: Professor of Economics, Free University of Berlin: schulamo@zedat.fu-berlin.de

#### Introduction

What is going on in global financial markets? In recent years, stock markets, credit markets, and emerging markets have all witnessed a synchronized surge. Less liquid markets like art, real estate and precious, industrial and agricultural commodities have seen even more pronounced appreciation. The S&P 500 has risen by more than 20 per cent since May 2006, regaining the dizzy heights of the dot.com bubble in spring 2007. The rest of the world did even better. In 2006, at least fourteen different markets registered gains of 40 per cent of more, with China in the lead on almost a 100 per cent. Emerging market bonds also continued their four-year rally, driving down the spread of the J. P. Morgan Emerging Bond Index over U.S. Treasuries to just 150 basis points. Real estate markets boomed almost everywhere. As we write, leveraged buy-outs are scaling new heights almost every week. Moreover, many of the traditional correlations between asset classes have weakened. Finance undergraduates around the world are taught that diversifying a portfolio by adding assets with different characteristics is a good way of reducing market risk. This rule is beginning to look old-fashioned. Most asset classes moved hand in hand in 2006: bonds, stocks, gold, emerging markets, corporate debt, private equity, modern art and zinc – they all went up.

This new phenomenon of synchronously booming asset markets has incited considerable interest from policy-makers, financial market participants and researchers (Rajan, 2006a; Rosenberg, 2006; Jen, 2007). Among others, the former chief economist of the IMF asked recently whether the world was witnessing a global shortage of assets and an associated financing glut in debt markets that has spilled over into other asset markets (Rajan, 2006a).

There are a number of good reasons to be puzzled by the recent behavior of global financial markets. First, in 2006 short-term interest rates in the U.S. went up to 5.25 per cent while growth fell markedly below potential. The U.S. yield curve became stubbornly inverted – once deemed the best indicator for an impeding recession. Not so long ago, that would have been enough to take the punch-bowl away from the party, in the famous phrase of William McChesney Martin, Federal Reserve Chairman in the 1950s and 1960s. Second, despite the slowdown of the U.S. economy and wide-spread fears of an impeding recession (Roubini, 2006), corporate credit-spreads continue to be priced near or at all-time lows. Moreover, despite apparently

buoyant prices for both bonds and equities, the earnings yield on the S&P 500 remained above the yield on 10 year bonds suggesting an under-pricing of equities. Third, global imbalances remained huge. By the end of 2006, the value of American goods imports was running at a record 14 per cent of real GDP, roughly twice the value of exports. American consumers further decreased their savings or increased debt levels to finance their expensive habit of "über-consumption". Finally, the level of political risks also seemed to go up last year. It suddenly became clear that the United States had failed to establish stable democracies in Afghanistan and Iraq, which descended into civil war. Iran continued brazenly to enrich uranium, while North Korea defiantly tested a small nuclear bomb. Meanwhile, high energy prices transferred global purchasing power not only to Iran but also to Russia and Venezuela, countries increasingly hostile not only to the United States but also to multinational corporations.

How can we account for the exuberant mood of financial markets in such an apparently unpropitious environment? Has another bubble taken over world financial markets, driven by myopic or amnesiac investors and youthful business school graduates on proprietary trading desks? We do not think so. In our view the asset boom has been a rational response by market actors to a fundamental macroeconomic phenomenon, namely the wedge between the returns on capital in a globalized world economy and the abnormally low cost of capital.

#### I.

#### Excess liquidity or a shortage of assets?

One popular explanation is that "excess liquidity" is to blame for booming asset markets. According to this now widespread view, steep interest rate cuts in the wake of the dot.com bust and the 9/11 attacks have drowned the world in a flood of cheap money. This story sounds superficially plausible. The problem is that there is scant evidence to back it up. Probably the best measure of excess liquidity would be a rapid increase of the so-called "Marshallian k", i.e. the ratio of a narrow or broad monetary aggregate to nominal GDP. By relating the growth rate of money to the growth rate of the economy, it tracks potential discrepancies between money supply and money demand (Rueffer and Stracca, 2006). We can rightly speak of a "liquidity bubble"

when supply of money (such as M3 growth) outstrips demand for money (nominal GDP growth) by a significant amount.

Figure 1 tracks the "Marshallian k" for the U.S. and the Eurozone. It clearly shows that the Fed cannot be accused of generating a massive surge in the quantity of money. The M3-Marshallian k for the U.S. has remained relatively stable at around 0.8 over the past five years. If anything, the bigger offender seems to be the professedly monetarist European Central Bank. A very similar picture emerges when welook at a narrower money aggregate.

#### (Figure 1 about here)

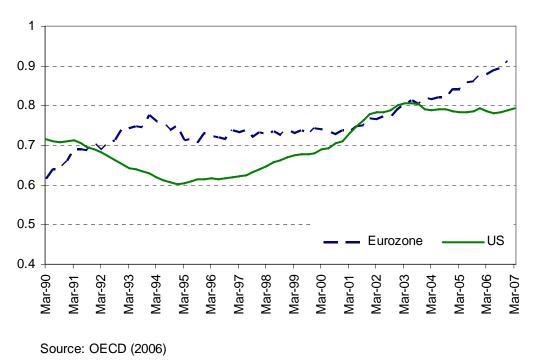
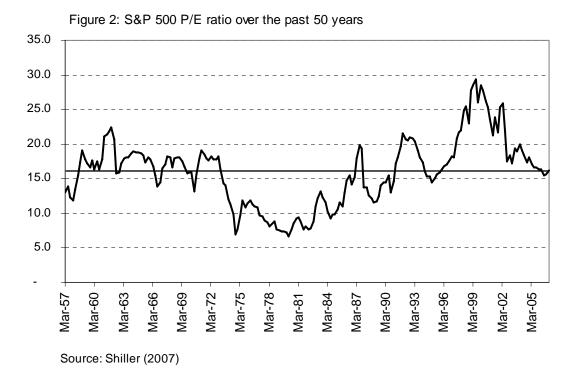


Figure 1: Marshallian "k": money supply M3 to nominal GDP

Another theory is that there is not an oversupply of liquidity but a shortage of financial assets to invest in (Rosenberg, 2006; Jen, 2007). After all, many corporations have been buying back their own stock and private equity partnerships have been taking companies out of the stock market. Sovereigns have been issuing less debt. We are not entirely convinced by this theory either.

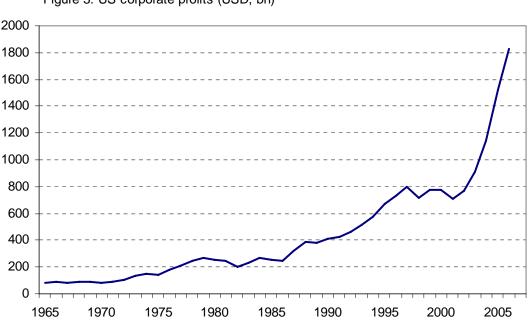
First, thanks to financial innovation, new financial instruments have seen rapid growth. Looking at traditional asset classes only may therefore be misleading. According to the Bank for International Settlements, gross credit exposure arising from over the counter derivatives contracts – i.e., gross market values after taking into account legally enforceable bilateral netting agreements – has grown to around \$2 trillion. (BIS, 2006) The market for collateralized loan obligations is worth another \$350 billion (Comptroller of the Currency, 2006).

Second, the theory of a global shortage of financial assets would imply a distorted pricing of financial assets relative to fundamentals such as earnings growth or creditworthiness. Yet this is not the story equity valuations tell us. By conventional measures, equity valuations remain reasonable not only relative to bond yields, but also in absolute terms. The price-earnings ratio of the S&P 500 is still at or below its 50-year average of around 16 (see figure 2). In other asset classes, such as emerging market debt, spreads are undoubtedly tight, but this reflects at least partly major improvements in creditworthiness.



(figure 2 about here)

Both the liquidity glut and asset shortage hypotheses overlook an important point. Booming asset prices have gone hand in hand with fundamental improvements. The most obvious example is the staggering increase in company profits around the globe which are record highs in almost all markets (Darwin, 2007). Company profits in the U.S., Euroland, Japan, and China are all simultaneously on their highest level on record, both in absolute terms and relative to GDP. Figure 3 shows the level of U.S. corporate profits since 1965 using data from the Federal Reserve. As can be seen, profits rose continuously over time, started to accelerate in the 1990s with the advent of globalization, and then skyrocketed over the past five years, with profits more than doubling from \$760 billion in 2002 to \$1.8 trillion in 2006. At the current pace of earnings progression, 2007 is likely to see a figure in excess of \$2 trillion. Nor is this a purely American phenomenon. According to figures from the investment bank UBS, which tracks the annual financials of 1,147 global companies monitored by its equity research team, the aggregate annual profit before tax of "World Inc." has roughly tripled between 2001 and 2006, rising from \$680 billion to \$1.9 trillion (see figure 4). UBS estimate that profits of "World Inc." will increase by another 12 percent in 2007.



### (figures 3 and 4 about here)

Figure 3: US corporate profits (USD, bn)

Source: Federal Reserve

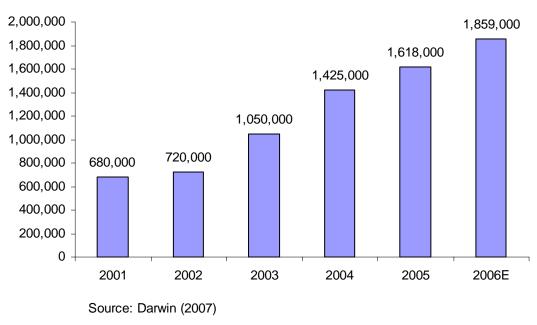
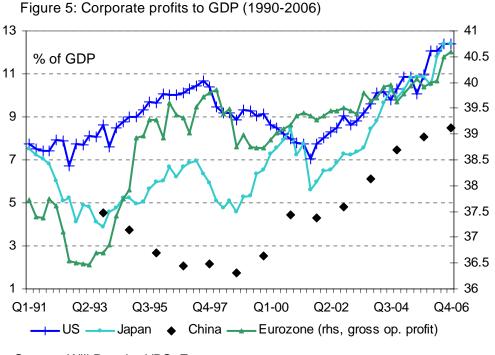


Figure 4: World Inc. - profits before tax (USD, m)

Profits have risen relatively as well as absolutely. Figure 5 tracks the development of corporate profits to GDP over the past 15 years. In the U.S., profits to GDP increased by a remarkable five percentage points since 2000. Very much the same trend can be observed in Europe, Japan and China. We therefore view the rapid increase of leveraged buy-outs and of stock buy-backs rather as a symptom, not as a cause of buoyant asset markets – a reflection not of a growing scarcity of assets (Rosenberg, 2006) but of an unprecedented profit boom around the world. We think this synchronous profit boom is a consequence of the rapid progress of globalization and its positive effects on the global returns on capital.

(figure 5 about here)



Source: Will Darwin, UBS; Eurostat

## II. Globalization and returns on capital

By far the most obvious trend of the past decade has been the rapid opening and the integration of the biggest economies of East and South Asia into the global economy. It has had profound implications for the relative returns on the two main inputs of global production – capital and labor. According to World Bank data, the aggregate labor force of China, India, other Asian nations such as Vietnam, Indonesia and Pakistan – to name but the most populous ones – and the formerly socialist economies of Eastern Europe is well in excess of 1.5 billion people (World Bank, 2006). If one compares that to the aggregate labor force of the OECD countries – 500 million –the magnitude of this development becomes clear, even under the assumption that only a small part of the Asian labor has indeed been integrated into the global economy.

With around half a billion to a billion people effectively entering the global workforce, the pool of available labor has roughly doubled. Yet by comparison, the global capital stock has remained virtually unchanged, since the capital stock in the relatively poor economies of China and India is low. According to World Bank data, the average GDP per capita of China and India is less than 20 per cent of the OECD countries. The key point here is that such a structural shift should result in a massive shift in the returns to labor and capital. Simply speaking, the returns to capital should increase as capital becomes scarcer and the capital intensity of global production falls.

For illustration purposes consider the following neoclassical textbook model. We assume an economy in which markets are complete, there a no externalities and competition is perfect. The typical producer manufactures a homogeneous final output good employing the following constant returns to scale technology:

$$Y_1 = K_1^{\alpha} L_1^{1-\alpha} \tag{1}$$

where  $0 < \alpha < 1$ , with K and L being the inputs of capital and labor. The competitive rate of return on capital (r) equals the marginal product of capital (in the absence of depreciation):

$$r_1 = \frac{\partial Y_1}{\partial K_1} = \alpha K_1^{\alpha - 1} L_1^{1 - \alpha}$$
(2)

In view of constant returns to scale, we can also write:

$$r_1 = \alpha \left(\frac{K_1}{L_1}\right)^{\alpha - 1} = \alpha k_1^{\alpha - 1} \tag{3}$$

Hence, the return on capital is exclusively determined, given  $\alpha$ , by the capital intensity  $k_1$ . Think of this state of affairs as the "old" world economy before the integration of Asia and Eastern Europe. If Asia and Eastern Europe join the world economy, the rate of return on capital in the "new" integrated world economy can be calculated as:

$$r = \alpha \left(\frac{K_1 + K_2}{L_1 + L_2}\right)^{\alpha - 1} = \alpha k^{\alpha - 1}$$
(4)

In other words, what matters for the returns on capital in the newly integrated world economy is the extent to which the capital intensity k has fallen compared with the period before the integration of East Asia. The proportional rate of change is given by:

$$\hat{r} = (\alpha - 1)\hat{k} \tag{5}$$

As we noted before, with the opening-up of Asia the global workforce has roughly doubled, but the global capital stock has increased by only around 20 per cent. In this back-of-the-envelope calculation, the capital intensity of production has hence fallen by 40 per cent. If we assume that  $\hat{k} = -0.4$  and set  $\alpha$  at a standard 0.35, then  $\hat{r} = (0.35 - 1) \times -0.4 = 0.26$ . In other words, the returns on capital have increased by 26 percent compared to the "old" Asia-less world economy. More generally, the returns on capital should increase by 6.5 per cent for each 10 per cent reduction in the capital intensity of global production,. We should not therefore be surprised by the surge in corporate profitability detailed in the previous section. It is precisely what a simple neoclassical model of an enlarged global economy predicts.

#### III.

The depressed cost of capital

The great puzzle of our times is that higher returns on capital have not gone hand in hand with a higher cost of capital. On the contrary, the cost of capital – as measured by global real interest rates – has hardly gone up at all. Indeed, real rates have actually fallen compared with earlier periods. Figure 6, based on calculations by Stephen Jen at Morgan Stanley (2006a), demonstrates that real interest rates (weighted by market capitalization) are exceptionally low by historical standards. Global long-term real interest rate are about 100 basis points below their long-run average – at the same

time that basic economic models and data from the corporate world tell us that the returns on capital have markedly increased.

Put differently, for some reason global real interest rates – the cost of capital – do not reflect the increase in the return on capital that has taken place as a result of globalization. We can even put a tentative number on this. Our calculations above yielded the (illustrative) result that due to the integration of Asia into the world economy, returns on capital are today roughly 25 percent higher than in the past. The global real interest rate should hence be 25 percent above its long-term average of 3.20 percent, namely at around 4 percent. The actual global cost of capital currently stands at a low of 2.25 percent, a little more than half what it should be given the structural changes in the world economy.<sup>1</sup> This is the big anomaly of the world economy that believers in excess liquidity or asset shortage are groping to explain.

(figure 6 about here)

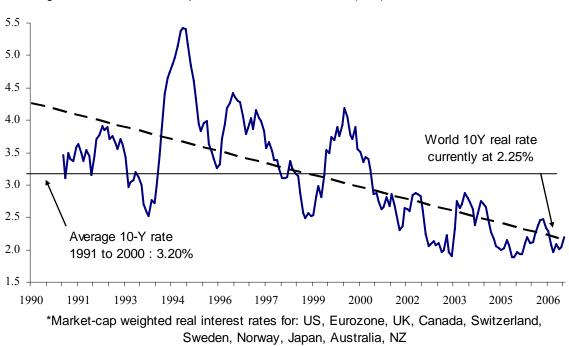


Figure 6: Global cost of capital: world real interest rate (10Y)\*

Source: Stephen Jen and Charles St-Arnaud, Morgan Stanley

<sup>&</sup>lt;sup>1</sup> The parallel increase in the returns on capital is one of the points overlooked by studies that argue that global interest rates are not exceptionally low in historical context (Catao and Mackenzie, 2006). Another point is the financial repression in the pre-1970 area.

That the price (not the supply) of money is the real conundrum of our times is also illustrated by the relationship between nominal U.S. GDP growth and the yield of ten-year U.S. bonds (figure 7). This is one of the most surprising yet least discussed developments in international finance over the past decade. For an extended period now, long-term nominal interest rates in the U.S. have been considerably below nominal GDP growth. While economic growth has proceeded at a clip of roughly 6 per cent over the past three years, the risk free long-term interest rate averaged a little above 4 per cent. A similar picture could again be drawn for the Eurozone.

(figure 7 about here)

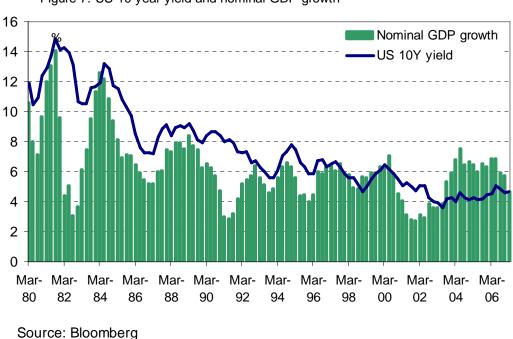


Figure 7: US 10 year yield and nominal GDP growth

In such an environment, it comes as no surprise that growth and/or risk sensitive assets should become extremely attractive. For instance, record low spreads in the corporate bond market can be explained by the fact that company earnings grew by the rate of nominal GDP – which has been 50 per cent higher than the cost of debt. Moreover, the combination of a depressed cost of capital and buoyant corporate profitability makes it smart to borrow money and buy earnings streams. It is small wonder, then, that we lived in boom times for private equity investment and leveraged buy-out activities. The investors concerned are simply exploiting the wedge between returns on capital and the cost of capital. And, as figure 8 shows, they are doing it on an unprecedented scale.

#### (figure 8 about here)

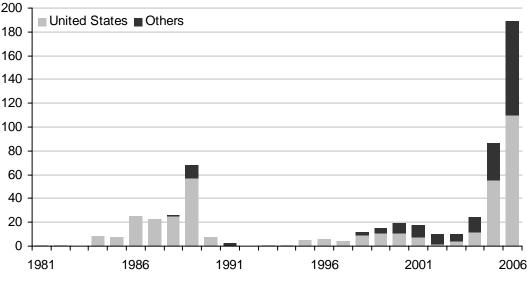


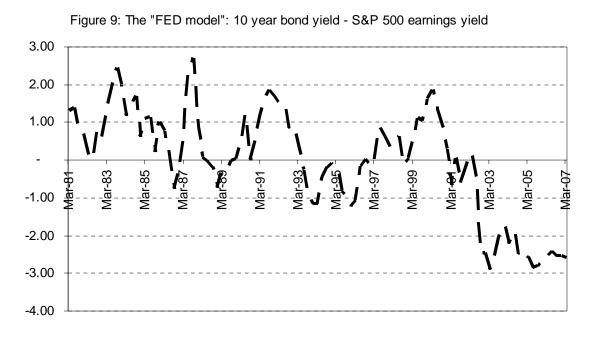
Figure 8: Total value of global LBO deals 1981-2006 (USD, bn)

Of course, low real interest rates and sky-high company profits are difficult to reconcile over the long-term. Returns on capital and the cost of capital should over time return to equilibrium. This is, in short, the idea behind the famous "Fed model" – the basic macroeconomic model the Fed is said to use in order to judge the information conveyed by stock market valuations. The model compares the earnings yield of the S&P 500 (the inverse of the P/E ratio) with the nominal 10 year bond yield, comparing the returns on a dollar invested in corporate earnings streams with those on a dollar invested in fixed income. Over longer time horizons, the model implies, extreme divergences should be corrected.

The Fed model correctly indicated stock market overvaluation ahead of the crashes of 1987 and 2001. By contrast, what the Fed model tells investors at the time of writing is clear: buy stocks – they are too cheap compared to bonds (figure 9). And sell bonds – they are too expensive compared to equities. In other words, given the robustness of companies' earnings, the equity risk premium looks too high. In our

Source: Will Darwin, UBS

eyes, what has been preventing real rates and corporate profitability from reverting to their traditionally relationship, has been Chimerica.



(figure 9 about here)

Source: Bloomberg, Darwin (2007), and Shiller (2007)

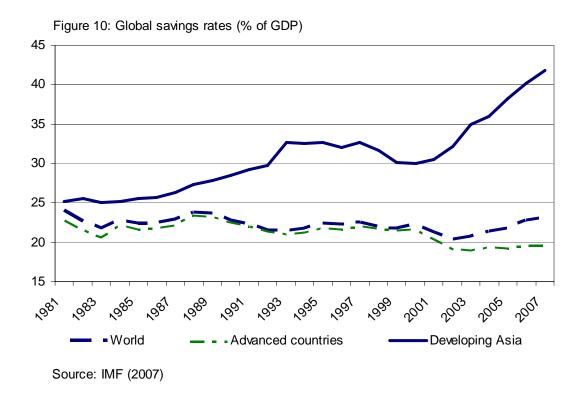
#### IV.

#### Chimerica

To understand the persistent disconnect between returns on capital and the cost of capital, think of one economy called Chimerica: the sum of China, the world's most rapidly growing emerging market, and America, the world's most financially advanced developed economy. Chimerica accounts for only 13 per cent of the world's land surface, but a quarter of its population and fully a third its GDP. What's more, it's accounted for over 60 per cent of the cumulative growth in world GDP over the past five years.

West Chimericans are wealthy and hedonistic; East Chimericans are much poorer (even adjusting on the basis of purchasing power parity, their per capita income is around 16 per cent of West Chimericans'). But the two halves of the country are complementary. West Chimericans are experts in business administration, marketing and finance. East Chimericans specialize in engineering and manufacturing. Profligate West Chimericans have an insatiable appetite for the gadgets mass-produced in the East; they save not a penny of their income. Parsimonious East Chimericans live more cautiously (see figure 10). They would rather save a third of their own income and lend it to the West Chimericans to fund their gadget habit – and keep East Chimericans in jobs. Under this arrangement, East Chimericans generate massive trade surpluses which they immediately lend back to West Chimerica. By channeling all these surplus savings through government hands into government paper, East Chimerica depresses the key long-term interest rate in West Chimerica and hence, the benchmark rate for the world's financial markets.

(figure 10 about here)



We are not the first people to notice this Sino-American symbiosis. Other commentators have previously remarked on the benign impact on the U.S. economy "savings glut" emanating from East Asia (Bernanke, 2005). Alternatively, the relationship between the United States and China has been compared with the Bretton

Woods system after World War II, when it was Germany that played the role of China (Dooley et al., 2003, Dooley et al., 2005). In the days of Bretton Woods, however, cross-border capital flows were subject to all kinds of controls. In our time, by contrast, there has been a huge increase in internationally mobile savings. A significant proportion of these become concentrated in the hands of governments and central banks through the accumulation of reserves of certain currencies (Magnus, 2006).

Over the past years, China's currency reserves increased by an annual rate of almost \$200 billion and now equal more than 40 per cent of its GDP. The figure of \$200 billion also comes close to the amount of net new issuance of U.S. treasury securities and agency debt: \$220 billion in 2005 and \$195 billion in 2006. Given that total outstanding U.S. Treasury and agency debt at the end of 2006 was about \$6 trillion, and assuming that Beijing has been holding about 80 per cent of its currency reserve in dollar-denominated government and agency debt (European Central Bank, 2006, Setser, 2007), China may already own more than 10 percent of the total stock of U.S. official paper. Bretton Woods I was nothing like this. Seldom in history has one great power been so invested in the bonds of another – not since the days when Parisian rentiers accumulated boxes full of Tsarist Russian bonds. Figure 11 illustrates the recent dynamics of Chinese reserve additions and the net issuance of U.S. government and agency debt.

This reminds us that Chimerica is an economic but not a monetary (much less political or cultural) unit: East Chimericans have the renminbi, West Chimericans the dollar. Nevertheless, the scale of the financial transactions between the two halves are comparable with the flows that traditionally have occurred within nation states rather than between them.

(figure 11 about here)

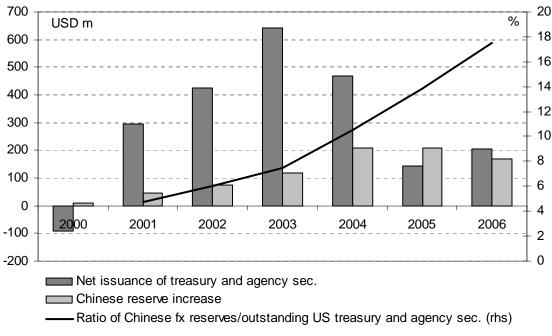


Figure 11: Chinese reserve increase and issuance of US treasury and agency debt

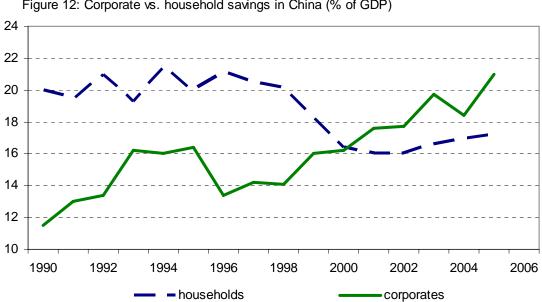
Sources: Morgan Stanley (2007), PBoC (2007)

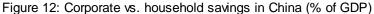
What exactly is the effect of central bank reserve accumulation on global longterm interest rates? According to the most recent studies, the effect is anywhere between 50 and 200 basis points, with the most widely cited study estimating 80 basis points (Warnock and Warnock, 2005). True, these studies were done before the explosion of the Chinese trade surplus in 2006 and before the advent of the long term interest rate "conundrum" (Greenspan, 2005) -- the non-responsiveness of the long end of the yield curve to the Fed's rate hikes. But a reduction of 80-100 basis points is also suggested by a simple calculation. According to the Michigan survey, 10-year inflation expectations in the United States stand at roughly 3 per cent. The standard market measure for inflation expectations, the spread between 10-year TIPS and the nominal 10-year yield, is closer to 2.5 per cent. Long-run inflation expectations are hence anywhere between 2.5 and 3 per cent. Most estimates, including those of the Fed, put the U.S. trend growth rate at or slightly below 3 per cent. A cautious Fisherrule exercise would therefore result in a "natural" nominal rate of around 6 per cent, even without any globalization-induced increases in the return on capital. This needs to be compared with the current [early June 2007] 10-year yield of around 5 per cent.

#### V.

#### The exchange rate issue

Chimerica is not just a land of Eastern savers and Western spenders, however. Conventional wisdom holds that Chinese households are the leading savers of Asia. Indeed, measures to increase their consumption have become a widely prescribed remedy for global imbalances. However, the Chinese household savings rate has already fallen quite significantly over the past decade. In fact, most of the rapid increase in surplus savings has come from the Chinese corporate sector in the form of undistributed profits. Between 2000 and 2005 these have increased from 16 to 21 per cent of Chinese GDP - and are now much higher than household savings, which remained roughly constant at 16 per cent (Kuijs, 2005; Barnett and Brooks, 2006). In 2006, given the surge of earnings reported by Chinese companies, corporate savings may have come close to 25 per cent of GDP (figure 12).





Sources: Kuijs (2005); Barnett/Brooks (2006).

(figure 12 about here)

Why have Chinese corporate savings to GDP increased so much? A closer look at the statistics reveals that the savings are very high as a result of enormous gains in market share both at home (as a consequence of import substitution) and abroad (increasing exports). This can also be seen in a dramatic rise in industrial sales volumes. The latter jumped from 90 per cent of GDP to 140 per cent of GDP within a few years (Anderson, 2006; Ma, 2007).

This brings us to the vexed question of the ballooning Chinese trade surplus and its alleged cause – political resistance to letting the renminbi strengthen in line with the development of the Chinese economy. After all, rapid gains in market share, abroad and at home, and a rapid pace of import substitution are usually the consequence of massive gains in price competitiveness. While it is well known that wages in China have grown solidly at a 10 per cent pace, output per worker has increased even more rapidly, indicating substantial gains in productivity and an improving international competitive position. Although it is inherently difficult to construct, a productivity-adjusted measure of the real exchange rate between the dollar and the renminbi confirms this analysis.<sup>2</sup> Using data for wages, employment and output in the manufacturing sector, the astonishing result is that despite the incremental currency appreciation, the renminbi today is cheaper than ever before on a unit labor cost basis (figure 13). Chinese company profits simply reflect this competitive advantage. The Asian "savings glut", in turn, is a function of these high profits. This is the key to understanding Chimerica. East Chimerica is providing West Chimerica with lower real interest rates than returns on capital would lead us to expect. But the other side of the deal is that East Chimerican manufacturers are enjoying an unbeatable competitive advantage on world markets.

(figure 13 about here)

 $<sup>^2</sup>$  Valuable help from Goldman Sachs in Hong Kong, especially from Helen Qiao is gratefully acknowledged. There are a number of technical issues involved in estimating Chinese unit labour costs given the poor quality of some of the inputs. However, we have a good degree of certainty that the general trend is correctly reflected.

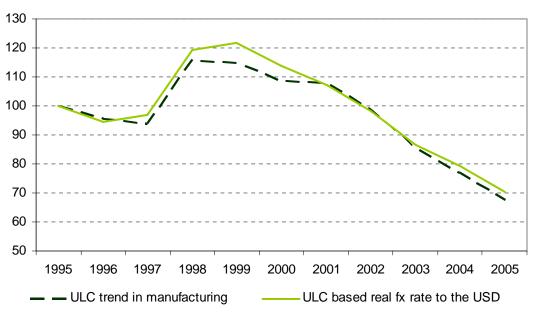


Figure 13: Unit labor cost based real exchange rate - China and the US (1995=100)

Source: Bureau of Labor Statistics (2007); Chinese Statistical Office (2006)

#### VI.

#### Conclusion

In our analysis, the wedge between high returns on capital in globalized world economy and the low cost of capital as measured by global real interest rates has been the driving force behind booming global asset market in recent times. Will this constellation last? Over time, we believe, the current "sweet spot" for capital is likely to disappear. Labor will stake a claim to a bigger share of national income. More importantly, companies and governments will again start to take greater advantage of the low cost of capital and start to invest, raising interest rates. As a matter of fact, despite the dual productivity shock of globalization and technology, the global investment rate has yet to reach the levels of the mid-1990s (Rajan, 2006b). Across Asia, nominal investment in relation to GDP is still almost 10 percentage points lower than in the mid-1990s. As savings and investment eventually rebalance, long-term interest rates will move up again and exchange rates, too, will adjust. But this process could well be slow, smooth and gradual. If so, equities will continue to look cheap compared to bonds and private equity will remain a highly profitable business.

Moreover, if nominal rates in the United States stay low, interest rates in many emerging markets will stay low, too. Booming real estate and consumer finance markets in the periphery could therefore be with us for some time to come.

As for the Eastern part of Chimerica, our analysis has shown that the real undervaluation of the Chinese currency has become worse in recent years, not better. Given the impressive trend of productivity growth, even a five percent revaluation would not make much difference. It therefore seems reasonable to expect a continuation of large trade surpluses, rapid reserve accumulation and ample liquidity. Nor should we forget the enormous amount of corporate savings that is just waiting to be paid out to its owners. And, as if that were not enough, there are almost four trillion dollars worth of renminbi deposits in low-yielding bank deposits sitting poised to enter the stock market.

If our analysis is correct, the key to understanding the buoyancy of global asset markets lies to a large degree in the dual country we have called Chimerica. The key question to ask is therefore: What are the risks to the stability of Chimerica? First, for the sake of short-term political advantage, American legislators may transform rhetoric about protectionist measures against Chinese exports into reality (see Roach, 2007). Paradoxical as it may seem, our argument is that global financial stability has come to depend on China's huge trade surplus with the United States and the accompanying accumulation of dollar-denominated fixed income reserve assets. It may be a disequilibrium, but it is a benign one. There are risks on the other side of Chimerica, too, as China progressively liberalizes its financial system. So far, the People's Bank of China has been highly successful in controlling the domestic money supply and inflation through a mix of administrative and market-based measures in a tightly regulated banking system. If the PBOC loosens its grip on the system, however, massive external surpluses might finally spill over into higher inflation rates. Indeed, we can already see the inflationary pressures in the system – though so far they are largely confined to asset prices. If they spread to consumer prices, the global repercussions would be serious. Finally, although China will continue to amass external surpluses, reserve diversification and allocation to other asset classes could lead to less demand for U.S. fixed income assets, hence leading to higher nominal yields. The Chinese purchase of a minority stake in the private equity firm Blackstone is a case in point.

Nevertheless, so long as both sides discern the benefits of their remarkable economic marriage of convenience, Chimerica – and the global asset boom it has created – will remain a reality and no mere chimera.

© Niall Ferguson and Moritz Schularick, 2007

#### References

Anderson, Jonathan (2006), "Rebalance This", Asian Economic Perspectives, UBS Investment Research, December 12, 2006.

Barnett, Steven and Ray Brooks (2006), "What's Driving Investment in China?", IMF Working Paper No. 265, November 2006.

Bernanke, Ben (2005), "The Global Saving Glut and the U.S. Current Account Deficit", Homer Jones Lecture, St. Louis, Missouri, April 15, 2005.

Bank for International Settlements (2006), Monetary and Economic Department, "OTC Derivatives Market Activity in the First Half of 2006", November 2006.

Catao, Luis and George A. Mackenzie (2006), "Perspectives on Low Global Interest Rates", IMF Working Paper 06/76, March 2006.

Darwin, William (2007), "World Inc.", 1 May 2007, UBS Investment Research.

Desroches, Brigitte and Michael Francis (2006), "Global Savings, Investment, and World Real Interest Rates", Bank of Canada Review, Winter 2006–2007, 3-17.

Dooley, Michael and David Folkerts-Landau and Peter Garber (2005), "Savings Gluts, Deficits and Interest Rates: The Missing Link to Europe", Deutsche Bank, Global Markets Research, July 5, 2005.

Dooley Michael and David Folkerts-Landau/Peter Garber (2003), "An Essay on the Revived Bretton-Woods System", NBER Working Paper No. 9971, September 2003.

International Monetary Fund (2007), World Economic Outlook Database, Washington D.C.: 2007.

European Central Bank (2006), International Relations Task Force, "The Accumulation of Foreign Reserves", ECB Occasional Paper No. 43, February 2006.

Greenspan, Alan (2005), 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, 16 February 2005

Jen, Stephen (2007), "Proposing an 'Asset Shortage Hypothesis' ", Morgan Stanley Research, 22 March 2007.

Jen, Stephen (2006a), "World Interest Rates", Morgan Stanley Research, June 8, 2006.

Jen, Stephen (2006b), "Some Thoughts on the Global Liquidity Cycle", March 2006.

Kuijs, Louis (2005), "Investment and Saving in China", World Bank Policy Research Working Paper No. 3633, June 2005.

Ma, Jun (2007), "China's Import Substitution", Deutsche Bank Global Markets Research, June 7, 2007.

Magnus, George (2006), "Capital Flows and the World Economy", UBS Economic Insights, November 20, 2006.

Magnus, George (2006), "The New Silk Road", UBS Investment Research, February 2006.

Office of the Comptroller of the Currency (2006), "OCC's Report on Bank's Derivative Activities, 2<sup>nd</sup> Quarter, 2006, Washington D.C.

Organisation for Economic Co-Operation and Development (2006), "Quarterly National Accounts", Paris.

Rajan, Raghuram G. (2006a), "Is There a Global Shortage of Fixed Assets?", Remarks at the G-30 meetings in New York City, 1 December, 2006.

Rajan, Raghuram G. (2006b), "Investment Restraint, the Liquidity Glut, and Global Imbalances", Remarks at the Conference on Global Imbalances, Bali, 16 November 16, 2006b.

Roach, Stephen (2007), "Past the Point of no Return", Morgan Stanley Research Global Economic Comment, 11 May 2007.

Rosenberg, David (2006), "Is a Shortage of Financial Assets Driving up Prices?", Economic Commentary, Merrill Lynch, 22 November 2006.

Roubini, Nouriel (2006), "A Coming Recession in the U.S. Economy?", RGE Monitor, 17 July 2006.

Rueffer, Rasmus and Livio Stracca (2006), "What Is Global Excess Liquidity, and Does It Matter?", ECB Working Paper No. 696, November 2006.

Sack, B. (2004), "Regression Evidence on the Effects of Foreign Official Purchases of U.S. Treasury Securities", mimeo, Board of Governors of the Federal Reserve System.

Shiller, Robert (2007), "Online data", http://www.econ.yale.edu/~shiller/data.htm

Setser, Brad (2007), "Estimating the Currency Composition of China's Reserves", RGE Monitor, May 2007.

Warnock, Francis E. and Veronica Warnock (2005), "International Capital Flows and U.S. Interest Rates", Board of Governors of the Federal Reserve System, International Finance Discussion Papers No. 840, September 2005.

World Bank (2006), World Development Indicators 2006, Washington D.C.: 2006.