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ABSTRACT

In this paper we argue that net capital inflows to the United States did not cause the financial crisis that now engulfs the world economy. A crisis caused by such flows has been widely predicted but that crisis has not occurred. Indeed, the international monetary system still operates in the way described by the Bretton Woods II framework and is likely to continue to do so. Failure to properly identify the causes of the current crisis risks a rise in protectionism that could intensify and prolong the decline in economic activity around the world.

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All of us from Lawrence Summers to John Taylor were expecting a very different financial crisis. We were expecting the 'Balance of Financial Terror' between Asia and America to collapse and produce chaos. We are not having that financial crisis. Instead we are having a very different financial crisis. Catastrophic failures of risk management throughout the entire banking sector caused a relatively minor collapse in housing prices to freeze up global finance to a degree that has not been seen since the Great Depression.

Brad DeLong (2009)

The roots of the current global financial crisis began in the late 1990s. A rapid increase in saving by developing countries (sometimes called the "global saving glut") resulted in a large influx of capital to the United States and other industrialized countries, driving down the return on safe assets. The relatively low yield on safe assets likely encouraged investors to look for higher yields from riskier assets, whose yields also went down. What turned out to be an underpricing of risk across a number of markets (housing, commercial real estate, and leveraged buyouts, among others) in the United States and abroad, and an uncertainty about how this risk was distributed throughout the global financial system, set the stage for subsequent financial distress.

Economic Report of the President 2008

The prediction was that the earth would be destroyed because the sun would explode, with numerous well-constructed reasons why it would explode. But the planet was destroyed by an asteroid hit while the sun shone steadily. So now the asteroid hit is being explained by the sun's gravitational forces—but this is a different thing from the exploding sun. Should we pretend the sun exploded or prepare for the next asteroid?

Critics of the Bretton Woods II system turned out to be right in predicting a financial crisis for the United States. But the crisis that its critics expected to end the Bretton Woods II system was a sudden stop of capital flows from emerging markets to the United States. That crisis has not occurred. On the contrary, the current crisis has generated a sudden stop of lending to almost everyone except major governments, especially the US Treasury and the US financial institutions it now supports. In this paper we argue that the crisis that we have was unexpected and not directly or indirectly caused by international imbalances that preceded it. Moreover, the incentives that drive the Bretton Woods II system will be reinforced by the crisis and, looking forward, participation in the system will expand and the life of the system will be extended.

We were wrong about how long low real interest rates generated by Bretton Woods II would be associated with low credit spreads not just in the US and Europe but throughout the world. Our mistake, and it was a serious one, was in not recognizing the absolute necessity for large swaths of the financial system to continue earning higher yields and the speed with which these institutions would find imprudent and dishonest ways to get those yields. We also failed to foresee failures in prudential supervision and regulation

that encouraged increased leverage outside the traditional banking system and made the system vulnerable to a general run with a fall in asset values via fire sales. Specifically, we did not expect a global panic to strike so completely, destroying *all* asset pricing models by blocking the flow of credit.

During the crisis, which will unfortunately be with us for a while, the pattern of net international capital flows (current account imbalances) has been and will be unrelated to that predicted by all of us for the end of Bretton Woods II. The data available to date strongly support this conclusion. The volume of trade is falling everywhere, but current account imbalances and accumulations of dollar reserves persist.[1]

Looking forward, none of the proximate determinants of current account imbalances are behaving as Bretton Woods II critics predicted. For example, in the Bretton Woods II crisis logic, as foreign savings were directed away from the US to other markets, real interest rates outside the US should have fallen while all US real interest rates spiked up. Reacting to changes in long term real interest rates, housing and other asset prices outside the US should have risen while all US asset prices fell. The different relative price and wealth effects generated by these changes in interest rates and asset prices were supposed to generate a rise in US national savings rates *relative to* national savings rates in other countries. These changes in national savings rates would "correct" the US current account deficit. Finally to accommodate the new pattern of demand a 40% or more decline in the real value of the dollar would have to occur to shift resources in the US toward the increased production and reduced consumption of traded goods.

These were well-reasoned forecasts based on consistent models, but none has occurred. The predicted changes in the pattern of net capital flows are associated with *differential* shocks to national markets. The shocks we have experienced are remarkably similar across national markets. Credit spreads have increased dramatically in all markets, but risk free interest rates in the US have fallen relative to those of the rest of the world. US wealth has suffered a severe shock as housing and equity prices have collapsed, but there has been a similar or larger wealth shock elsewhere. Government savings in the US are likely to fall by more than elsewhere because of the relatively much larger stimulus package. Efforts by the private sector in the US to save *have* increased, but so have those in most other countries. Except against the yen, the dollar has not depreciated—quite the contrary—and foreign private and official investors now pay a very large premium as they continue to acquire US financial assets.

One would hope that a crisis generated by a catastrophic failure of risk management would direct attention primarily to reforming risk management. But a popular view today is that even if the crisis is not of the previously predicted variety, the failure of risk management (the asteroid) was simply a clever way for the sun to get us before it had a chance to explode. Indeed, based on emerging market history, the dominant view seems to be that large and persistent inflows of foreign savings always produce some kind of

[1] See IMF (2008) for a forecast for current account deficits for 2009 and 2010, Table A10.

crisis; and it is really not important to look into the details.[2] It follows from this view that it is high time we do something about the system.

The idea that fraud and reckless lending flourished because US financial markets were unable to honestly and efficiently intermediate a net flow of foreign savings equal to about 5 % of GDP, while having no problem with intermediating much larger flows of domestic savings, is astonishing to us. If so, would not the much larger gross capital flows into and out of the United States also cause an outbreak of bad behavior even without a net imbalance? If this were true, we would have to stop all capital flows, not just net imbalances. In the US context, we are unable to think of any plausible model for such behavior. In contrast it is quite obvious how lax regulation and perverse policy leads to financial crises and there are numerous historical episodes in US experience. It would seem prudent to set out and test a model that links net capital inflows to failures of financial markets before casual empirics become the basis for public policy. This is especially important today because the likely policy response is fraught with protectionist implications.

The current crisis is likely to be one of the most costly in our history and the desire to reform the system so that it will not happen again is and will remain overwhelming. Our fear is that almost all this effort will be misdirected. As we argue below, the crisis was caused by ineffective supervision and regulation of financial markets in the US and other industrial countries. For the next few years at least the misbehavior that flourished in this environment will not be a problem. If anything, excessive risk aversion and deleveraging will limit effective private financial intermediation. Even worse, the other lesson that seems to be emerging is that international capital flows associated with current account imbalances were a cause of the crisis and therefore must be eliminated or at least greatly reduced.

The opening rounds have already been fired in this second and potentially disastrous reform agenda. The 2008 *Economic Report of the President* asserts that capital flows to the US were a prime cause of the financial crisis.[3] In his valedictory interview with the Financial Times, the outgoing Treasury Secretary repeats this opinion.[4] The clear implication is that the US should strongly object to policies in other countries that are thought to generate imbalances. The usual target is the exchange rate regime in China. The incoming Treasury Secretary has stated that China manipulates its currency and the implication may be that the associated current account imbalance and net capital inflows should be resisted through protectionist policies.[5] This would indeed be the end of the

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[2] According to the *Economist* "underlying the whole mess was the deeper problem of imbalances. A growing number of policymakers and academics believe that these lay at the root of the financial crisis."

[3] See *Economic Report of the President* (2008), Chapter 2.

[4] See Financial Times (2009)

[5] The term "currency manipulation" is not a meaningful concept in economics, which is why it has hardly ever been invoked by the IMF. It is well understood by economists to be a political term of art whose frequency of use simply measures the balance of

Bretton Woods II system, with its attendant additional shocks to asset prices and the dollar, but it will not fix the credit markets and will tend to generate retaliation and a sequence of trade restrictions that will prolong the recession.

We split our thoughts on these topics into several sections. First, we consider the question of whether the system itself caused this crisis. Next, we consider how the system will adjust to the common demand shock and whether it will have differential effects across countries strong enough to shake the system apart. We then examine forces that will shape the system after the recovery.

International Capital Flows and the Crisis

The international monetary and financial systems are clearly in trouble, and reforms are called for. But in weighing potential dimensions of reform, there remains considerable uncertainty and debate about the relative importance of factors that have driven and continue to drive the current crisis. The most important and controversial issue is the role of international capital flows associated with current account imbalances and in the failure of regulatory policies in the United States and elsewhere to maintain stable domestic financial systems.

Failure of risk management, incentive structures, and control of fraud in the financial system are evident, and efforts to control this proximate source of the crisis are well placed. Similarly, conflicting financial regulations across borders and dangerous government financial sector policies were strongly causal. These reforms necessarily are aimed at preventing a repeat once the system recovers.

But the role, if any, of international capital flows in the financial crisis is much less clear. If a belief takes hold that this is the ultimate source, then a devastating protectionism may not be far behind. This idea will implant policies that exacerbate the crisis and bring home the crisis that we have *not* had, but which has been long and fruitlessly predicted—the collapse of the Bretton Woods II monetary system.

Certainly, these dramatically different diagnoses have their own influential supporters among national authorities and academics; and both are the subjects of the series of G-20 conferences on reforming the global monetary and financial system now underway. The stark difference in the diagnoses explains why the descriptions of these meeting have ranged from the grandiose “new Bretton Woods conference” to the downplayed “discussions on reforming the regulatory system.”

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protectionist forces in the US Congress. When an administration invokes it, that tells us that these forces are about to be unleashed in some sort of Smoot-Hawley death wish.

Low real interest rates.

If capital inflows did not directly cause the crisis it is possible that they did so indirectly by depressing real interest rates in the US and other industrial countries. We have emphasized that capital inflows to the United States from emerging markets associated with managed exchange rates caused persistently low long-term real interest rates in both the United States and generally throughout the industrial world.[6] Low real interest rates in turn drove asset prices up, particularly for long duration assets such as equity and real estate. At the same time, low real interest rates temporarily reduced credit risks and a stable economic environment generated a marked decline in volatility of asset prices.

We also emphasized that low, risk-free real interest rates *that were expected to persist for a long time*, in the absence of a downturn, generated equilibrium asset prices that appeared high by historical standards. These equilibrium prices looked like bubbles to those who expected real interest rates to return to an historical norm in the near future.

Along with our critics, we also emphasized that, if we were wrong about the durability of the Bretton Woods II system and the associated durability of low real interest rates, the decline in asset prices would be spectacular and very negative for financial stability and economic activity. The hard landing predicted for Bretton Woods II was not caused by low real interest rates per se but by the sudden end to low interest rates as unsustainable capital inflows to the US were reversed.

But the idea that an *excessive* compression of spreads and increased leverage were directly *caused* by low real interest rates seems to us entirely without foundation.[7] The alternative hypothesis is that an effective deregulation of US markets, especially in mortgage origination and packaging, allowed the ever present incentive to exploit moral hazard to flourish. This could just as well have happened with stable or rising real interest rates, as it did, for example, during the lead up to the US S&L crisis in the 1980s. Falling real interest rates should make a financial system more stable and an economy more productive.

Imagine a global system with permanent 4% equilibrium real interest rates. Now imagine a system with permanent 2% real interest rates. Why is one obviously more prone to fraud and speculation than the other? The vague assumption seems to be that capital inflows were large and interest rates were low, and this encouraged "bad" behavior.

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[6] We have not argued that a "savings glut" in emerging markets is the fundamental driving force behind these capital flows. We have argued that the decisions of governments of emerging markets to place an unusually large share of domestic savings in US assets depressed real interest rates in the US and in financial markets closely integrated with the US.

[7] This view has taken hold in central banks see Bernanke (2007), Hunt (2008), BIS (2008) and in the financial press, sees Sester (2008) and Economist (2009).

The current conventional interpretation is that low interest rates and rising asset prices generated an environment in which reckless and even dishonest financial transactions flourished. One version of this story is that rising real estate prices led investors to believe that prices would always rise so that households with little income or assets could always pay for a house with capital gains on that house. Moreover, households could borrow against these expected capital gains to maintain current consumption at artificially high levels. This pure bubble idea does not provide much guidance for reforming the international monetary system. Clearly we should enforce prudential regulations that discourage people from acting on such expectations. But do we really want to reform away anything that causes real interest rates to fall and asset prices to rise?

A shortage of safe assets?

Caballero and Krishnamurthy (2009) argue that because private residents of emerging markets demanded safe US assets, US residents were left with a higher risk assets and incentives to increase leverage. We have emphasized that foreign official demand for safe US assets has generated a shortage of safe US assets and in that sense has distorted relative returns on Treasuries and other assets.[8] In our view both private and official demands for safe assets had important implications for relative prices and the behavior of financial institutions. There are many ways this might make the system more or less vulnerable to a crisis. Caballero and Krishnamurthy focus on one such mechanism but even in their model the crisis is still caused by the discovery that the safe assets were not so safe.

New players?

Another argument is that international capital flows are often associated with new participants who do not understand what they are doing. In the current crisis the sale of US asset backed paper to banks in Europe and elsewhere may have led to trouble. This resulted from regulatory arbitrage: in the US there is a capital charge to banks both for risk-based and overall assets. In Europe, there is a charge for risky assets, but not for riskless assets, so the size of the balance sheet is not as much of a constraint. This created the basis for a trade: US financial institutions would create AAA assets via securitization technologies and sell them to vehicles created by European banks. It seems clear to us that the way to deal with regulatory arbitrage is to reform the regulatory structure not to stop the associated capital flows.

[8] See Dooley et al (2004).

Search for yield?

Still another story for which we have expressed some sympathy is that the flattening of the yield curve and its two-year inverted slope forced banks and other financial institutions to replace profits from maturity transformation with profits from risk transformation. Investment banks were more than willing to produce this paper and rating agencies were willing to bless it. But it is exactly at such times that financial supervision should be on the alert for such behavior.

Lessons from capital inflows to emerging markets?

For emerging markets there is considerable empirical and theoretical support for the idea that financial crises follow large capital inflows. The appealing idea is that the financial markets in emerging markets were already distorted and that capital inflows amplify these distortions. In particular, domestic financial intermediaries and regulators in emerging markets have been unable to efficiently invest the large initial inflow of capital that often followed integration and deregulation. This story is much more convincing for emerging markets than the United States.

The recent influential paper by Reinhardt and Rogoff (2009) has been interpreted as showing that the US experience is not that different from the familiar experience of a long line of emerging market countries where large and persistent capital inflows ended in crisis. But we see few similarities between these episodes and the current situation in the US. Most important, a sudden stop of capital inflows *defines* the crisis in their work and has not occurred in this current episode for the US—quite the contrary has happened.

Finally, there have been theoretical attempts to explain causation from distortions to capital flows. For example moral hazard might artificially inflate yields on domestic assets and *attract* the capital inflows that preceded crises.[9] But these ideas seem to us entirely inappropriate when thinking about the US where capital inflows generated falling yields.

Moral Hazard

A different view that we favor is that financial markets are inherently unstable because of the moral hazard associated with too big to fail. From its birth, the US has gone through cycles in which competition and innovation are stifled by financial regulation. This is followed by deregulation that does well for a while in terms of allocational efficiency and contributes to increases in asset values but eventually generates fraud and a financial panic. This process is possible in *any* international monetary system and is also real trouble for *any* international monetary system.

[9] See Dooley (2000).

A Nagging Contradiction in Reform Proposals

There is an underlying contradiction in this discussion. More supervision and regulation seems necessary to restrain private financial markets and requires more government involvement with financial systems. This type of reform reflects a lack of confidence and loss of faith in private financial markets. In contrast, if action is taken against the Bretton Woods II system, eliminating the management of exchange rates implies less government involvement in financial markets and a deep faith in the private financial markets.

Do we really believe that recent events suggest that China is ready to throw open its domestic financial markets and rely on market determined exchange rates? Or should we conclude that in a dangerous world accumulating $2 trillion in reserve assets and the only remaining acceptable collateral is not such a bad idea. This second "lesson" bodes well for a revival of the Bretton Woods II system as financial intermediation begins to recover from the extraordinary disaster we are living through. This lesson will be strongly reinforced if, as we expect, the Bretton Woods II system continues to drive global macroeconomic dynamics in 2009.

How Will the System Adjust to the Common Demand Shock?

A year ago in our (2008a) paper, we argued that recovery from the "sub-prime" recession would find the basic incentives that drove the Bretton Woods II system firmly in place. Emerging market countries would remain willing, able, and anxious to manage their currencies to continue growing through exports. US households would still be willing to borrow on favorable terms and absorb net imports. This proved correct for the rest of 2008, with ongoing interventions and accumulation of foreign exchange reserves of about $400 billion by China. [10] Reserve accumulation even in China seems to have stopped in Q4, 2008, as private holders of renmimbi, recognizing an end to the appreciation, have moved into the dollar. This has obviated for now the need to intervene to support the export driven development policy, although it disperses the holders of accumulating claims against US entities. Nevertheless, the trade surplus expanded to above $110 billion in Q4, 2008.

Since the Lehman debacle in mid-September 2008, however, the extremely poor performance of credit markets everywhere has shaken confidence that the financial system can recover in time to support an early recovery in economic activity. The best hope now is that governments can and will do the intermediation necessary to restore credit flows and the borrowing and spending necessary to limit the decline in economic

[10] With the peaking of oil prices at $147 per barrel in July, foreign exchange reserves held by oil exporters also surged, but the collapse of oil prices since then has radically reversed this accumulation. Since there was hardly any shift in real volume of oil exports, these price shifts, although they weigh heavily in current account numbers, were just transfers from and back to consumers of petroleum.

activity. During this interim period, changes in imbalances among countries will be dominated by falling commodity prices, as oil producers give up their price-driven surpluses, and the relative strength of fiscal actions of individual governments. If, as we expect, the US dominates the fiscal stimulus, the US current account deficit will grow relative to other countries even if it shrinks relative to US GDP.

The immediate problem for the international monetary system is to absorb and distribute this very large negative shock to demand emanating from the global run on the financial system. The obvious short-run-response has been for governments to increase real demand for goods and services and to cut taxes to encourage consumption to mitigate the fall in output and employment. The drive for both unilateral and coordinated fiscal stimulus is now overwhelming.

Given generally similar disturbances to income and wealth, national policies that focus on distributing this global negative shock through changes in net exports would require relative price changes whose real effects enter with a considerable lag. This is the "beggar thy neighbor" incentive that Bretton Woods I was designed to mitigate. These will not likely take center stage unless stimulus efforts fail. Indeed, the November 2008 G-20 crisis summit concentrated its closing statement on fiscal stimulus, the avoidance of protectionism, and financial regulatory reform. It remains to be seen which part of this multilateral statement of principles will remain when national interest pushes it way into country-by-country crisis policy.

In the short run, the incentives for China and other emerging market countries to maintain the *existing* structure of net exports is even stronger now than before the crisis. The rates of decline in exports in many Asian countries in Q4, 2008 were enormous and this has always been the preferred channel for Asian recovery efforts.

The recent stability of the renmimbi clearly suggests that China will attempt to mitigate the decline in exports. Moreover, recently announced policies by China to underpin existing export levels via VAT rebates, slowdown of appreciation of the currency, and subsidies to small export industries are aimed at keeping the export-driven growth program on track. More generally emerging market countries' interventions into foreign exchange markets have been inadequate to prevent large real depreciations for their currencies, and most have chosen to use reserves to stand behind their domestic financial institutions.

The key to understanding the near term implications for the international monetary system is that we are not adjusting to a shock peculiar to US credit markets or to US wealth. The panic that hit in mid-September had its roots in US-originated securities (although in the UK, Spain, Iceland, Ireland, Russia, Hungary, and elsewhere the economic and financial problems have little to do with US-based assets). But it immediately affected credit markets in the rest of the world, perhaps due in some cases to a collapse of confidence in the dominant finance models, and in others to the knock-on effects in the real economy.

Moreover, the decline in wealth that will affect private savings decisions in the US is in proportion to the decline in wealth in the rest of the world. The very large decline in wealth for US households has no doubt reduced their willingness and ability to continue to accumulate external debt. This would seem to short circuit part of the Bretton Woods II bargain. But one of the most striking features of the current crisis is that wealth has declined outside the United States by about the same amount. US households have not suffered a disproportionate share of the loss associated with the crisis.

Therefore, the relative effect on net saving flows of a common shock to wealth across countries is not clear-cut. The rough equivalence of losses is easily observed in housing and equity markets. In equity markets, the declines in the EU, UK and Japan have been similar, but in emerging markets the declines have been even larger than in the US. In China, it has been 70 percent. While it is likely that desired ex-ante household savings will increase in the US, it is not at all obvious that US household savings behavior will change via a wealth effect relative to those of households in the rest of the world. Similarly, all countries are simultaneously experiencing a recession. It is not apparent that the US will have the worst of it, so income effects should leave imbalances relatively unchanged.

Price effects, e.g. in the case of oil and other commodities, are a different story. By category of surplus country, the oil exporters, generally almost completely dependent on revenues from this source, have suffered the largest decline in wealth, income, and exports. Many other countries—Brazil, Turkey, Korea, Taiwan, Canada, Australia, Russia, and the UK—have fostered large currency depreciations to produce another sort of price effect. The yen is the only major currency that has appreciated vs. the dollar in this crisis.

Asian exports are collapsing rapidly as are their imports, so Asian incomes may fall even more than in the US because of their heavier dependence on manufacturing and trade. Their desired savings will increase, and they will redouble their efforts at exporting their way out, as they always have done. China has stopped the appreciation of the renmimbi and effectively fixed its exchange rate since last summer. Many countries seem to have stopped accumulating reserves—and even sold them as their residents and other claimants in domestic currency have recognized either the weakness of the economies or the end of appreciations and pulled out their money. That some governments are selling reserves to resist depreciation reflects a temporary tug of war between the interests of exporters and domestic financial interests that are indebted in dollars, having played a carry game. Once these financial positions are straightened out, the interests of exporters will dominate. Intervention may then cease for a while, and there will be no further accumulation of reserves until the situation reverses again. This can occur because the private sector will be carrying the ball in the weakening of the currency, an outcome that the export driven policymakers can only favor.

The Future of Bretton Woods II

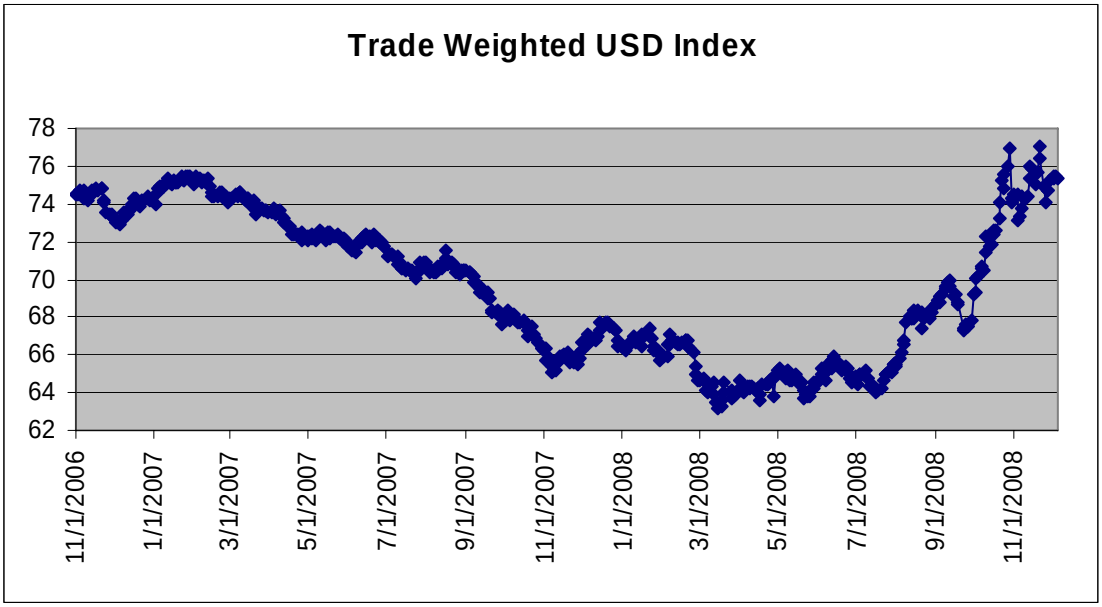
Our critics have long argued that the structure of capital flows, interest rates and asset prices generated by Bretton Woods II was a bubble because the system itself is at best a fragile equilibrium. In the face of the worst financial crisis since the early 1930s, the fact that risk free, long term real interest rates were—and still are—low by historical standards and that the basic patterns of current account imbalance continue suggests that the system is in fact extremely durable. Indeed, only three key structures of the global financial system have remained intact so far in the crisis: the Bretton Woods II system itself, the role of the dollar as the key reserve currency, and the structure of the euro zone single currency.

This was and is a crucial disagreement. The important prediction was that the system would end when private investors were unwilling to accumulate US assets or emerging market governments lost control of the pressures to appreciate their exchange rates or both. A sudden stop of capital inflows to the US and other industrial countries would cause real interest rates to spike up, including and especially government rates. Asset prices that had "baked in" a low risk-free long-term discount rate would decline and credit risk and volatility would spike up. The most obvious implication was that housing and equity prices were a bubble that would burst when risk free interest rates returned to "normal" levels. The crucial implication of this economic analysis was that the system would collapse via a collapse of the dollar and Treasury securities, with other assets crashing in tandem.

Because the first year and a half of the US subprime crisis fulfilled some of these predictions, there has been an alarming tendency to claim that the crisis was predicted. But the prediction was that this would be a dollar crisis, a cutoff of capital to the US and a jump in all interest rates in the US *especially* the risk free real rate on US Treasuries. Moreover the *opposite* effects were predicted elsewhere, with capital flows surging, for example, to the euro zone and real interest rates falling dramatically relative to those in the US. None of this has been observed.

Interest rate spreads for most private borrowers rose sharply as credit risk increased and the credit mechanism itself was destroyed in a general panic. Housing and other asset prices have certainly collapsed and volatility of asset prices has increased. But there has not been a sudden stop of capital inflows to the US. The Federal Reserve's broad measure of the real value of the dollar has appreciated by about 5 percent since the start of the crisis in August, 2007 (Figure 1). The renmimbi is about 10% higher via the appreciation program that ended in July 2008. Other EM currencies—e.g. the won, the real and the ruble—have fallen sharply. Foreign private and official investors have continued to finance the US current account deficit equal to about 4 ½ % of GDP in 2008 ($677 billion) and like other investors have accepted very low expected returns for safe US assets. The current account deficit is falling rapidly to about 3.5 % of GDP forecasted for 2009, but this results mainly from a collapse of the oil price with some contribution from a reduced merchandise trade deficit.

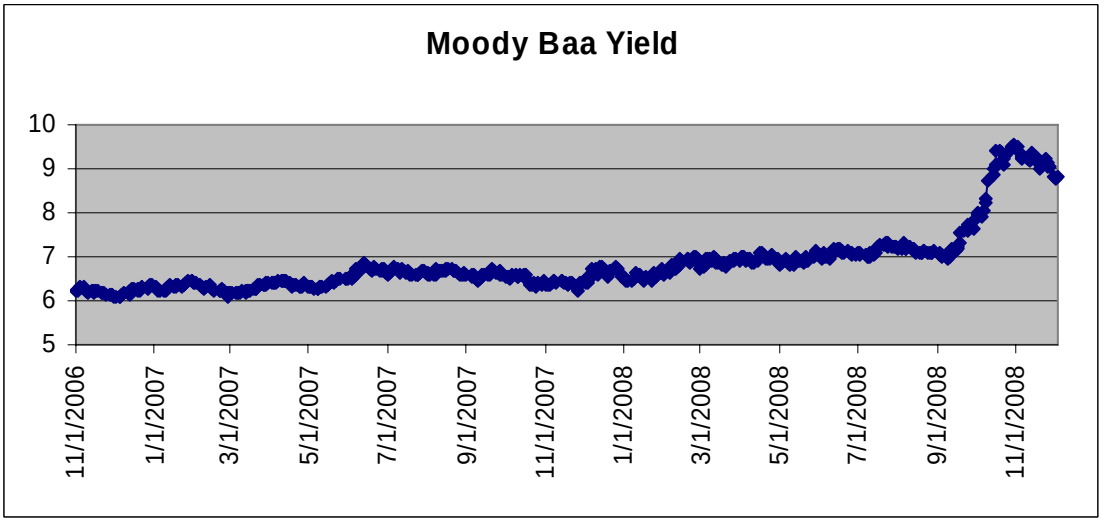
Figure 1



Source: Bloomberg

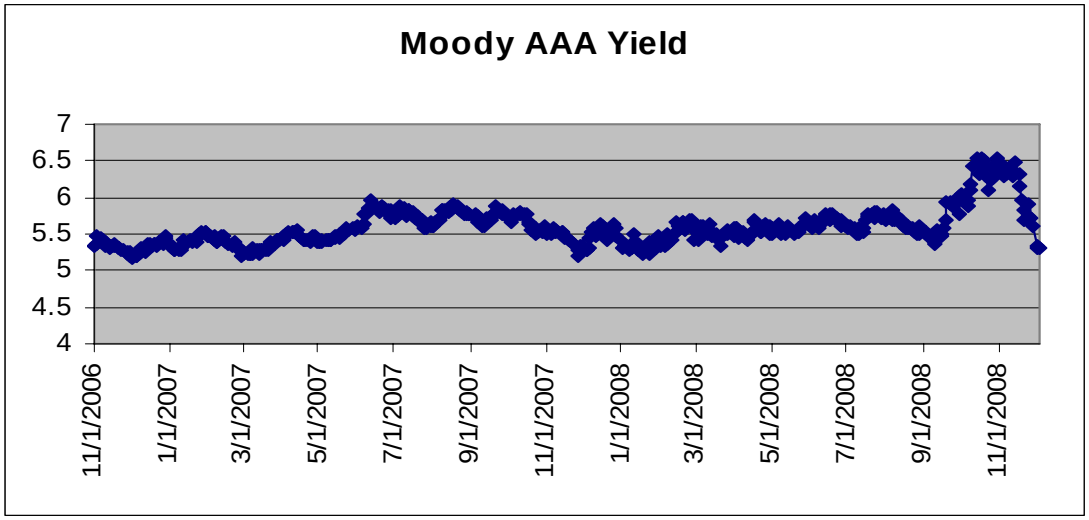
Moreover the timing of interest rate changes suggests that this financial market crisis was unrelated to capital flows to or from the United States. Figures 2 and 3 of the levels of Baa and AAA yields indicate that US corporate interest rates hardly budged until the general panic caused by the Lehman collapse in September 2008. In contrast Treasury rates fell sharply starting in August 2007 (Figure 4). Although uncreditworthy borrowers were finally cut off at the start of the crisis, there was no spike up in general interest rates until the general panic set in September 2008. At the same moment, there was a sharp *appreciation* of the dollar. None of this indicates a sudden unwillingness of foreigners to buy US securities.

Figure 2



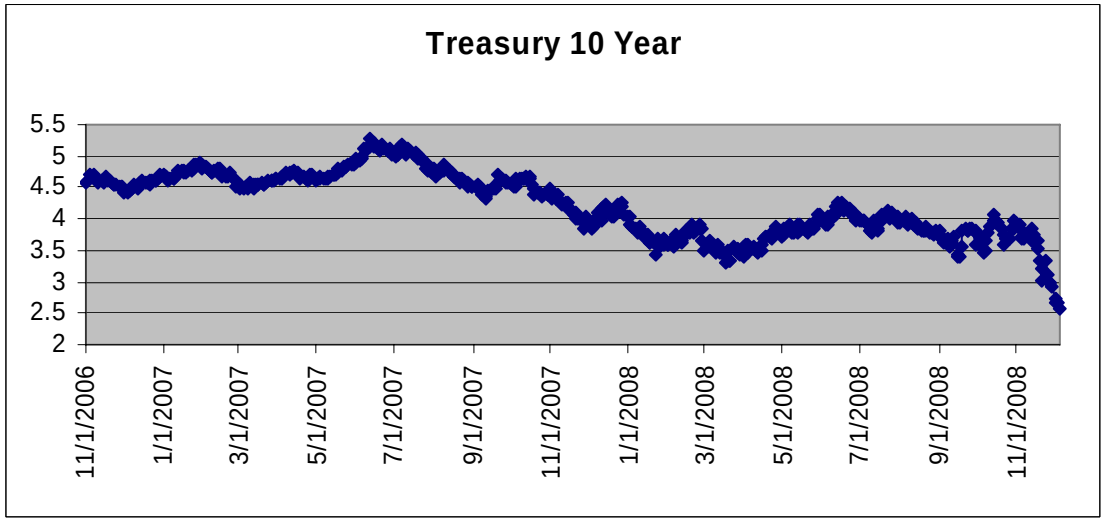
Source: Bloomberg

Figure 3



Source: Bloomberg

Figure 4



Source: Bloomberg

The incentive for emerging market governments to maintain competitive exchange rates and accumulate reserves should be reinforced by the current crisis. The world is obviously a more dangerous place than we previously realized; and if, as we expect, emerging markets with large stocks of reserves perform relatively well, it will be hard to convince future finance ministers that they have sufficient reserves to insulate their economies from follies from the North. This precautionary demand will for some time replace the need to acquire reserves for collateral. Less collateral will be needed as returns on existing investments fall, the scale of two-way capital flows is reduced, and the existing stock of cross-border claims falls in value. We would expect, however, that collateral demands pick up in a few years.

The most likely outcome of these developments is that the Bretton Woods II concept continues to define the global monetary system. That is, industrial and emerging market country fiscal stimulus and direct government intervention in and intermediation of credit markets will eventually provide a boost in growth. As asset values recover somewhat, US households will partly return to a relatively low savings, debt building, equilibrium. Nearer term and more certain, any slack from tired households will be picked up at least for a while by the large fiscal stimuli that are programmed for the next few years. Emerging markets will be even more convinced that reserve accumulation and export-led growth are the safest development strategy in an uncertain world. Even if recovery is low and growth is sluggish, the pattern of imbalances will be the same in the down-cycle as in the up-cycle. We will still have the same outcomes for current account relation between Asia and the US, the same low real risk free rates in the industrial countries, and eventually the same accumulation of foreign exchange reserves, just on a subdued scale.

How long this dynamic will take is a very uncertain thing. Recovery is delayed every day that the global run on the financial system continues and credit markets remain frozen. By providing the intermediation that the private financial system no longer can to its short term claimants, a continuing extraordinary expansion of the Fed's, the ECB's, and other central bank balance sheets offers the best hope for containing the damage currently being inflicted on the world economy. This means that the public's exploding run into cash will be stuffed by an expansion of monetary base and Treasury bills, with money markets and, indeed, all credit flows being intermediated by the central banks. The private financial institutions will then be reduced to near-bureaucratic gatherers of short term deposits.

Concluding Remarks

Over the years, there has been a lively debate about the durability of the incentives that drive the Bretton Woods II system. But, to our knowledge, there has not been much doubt until very recently about the ability of the basic plumbing of private financial markets to intermediate the capital flows associated with this implicit bargain. It is true by definition that a total breakdown of international capital flows would be the end of the Bretton Woods II system. However, in this paper, we have argued that a temporary breakdown in the plumbing will not alter the basic structure of the international monetary system. Following a painful period of adjustment the incentives that drive Bretton Woods II will be even more powerful than has been the case to date.

The severe common shock to global demand and expectations and uncertainty about its size and duration will for some time dominate the overall performance of both industrial and emerging market economies. There certainly will be important changes in the structure of financial intermediation within and between national markets. This certainty follows from the quasi-nationalization of key financial center banking systems. All intermediation, including that for the international capital flows that support the Bretton Woods II system, will be "taxed" by risk aversion and higher intermediation spreads as

financial institutions are forced by market and prudential regulation to increase capital relative to assets.

But there is no reason we can think of that suggests that this fact favors an alternative international monetary system over Bretton Woods II. Financial intermediation will eventually recover, and with it the incentives that made the US private sector willing and able to borrow from emerging markets will again shape the structure of current account imbalances. Meanwhile, government intermediation of the financial system and government absorption of savings will carry the water for the continuation of the system.

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