

The World Credit Crisis: Understanding It, and What to Do

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1. WHAT CAUSED THE CRISIS?

WHAT caused the crisis? It is a story in four stages, summarised as follows:

1. Too much credit? An international perspective.
2. Too much risk – reaction to low real interest rates.
3. The fatal flaw – the new complex financial instruments.
4. The panic – bank lending dries up.

a. Too Much Credit? The International Savings Glut

The story begins with the ‘international savings glut’.

Various countries at various times have run high current account surpluses, reflecting an excess of savings over domestic investment. For many years, up to 2003, Japan has had the biggest surplus (in US dollar terms). Then from 2004 the oil exporters’ combined surplus became large, so too that of Germany. But there have been many other surplus countries. Above all, in 2005 the Chinese surplus increased, and by 2007 it was the biggest surplus of all. In 2007, combining all the surplus countries, 21.4 per cent of the total world surplus was accounted for by China, 19.7 per cent by the major oil exporters, 12.6 per cent by Japan and 11 per cent by Germany (IMF, 2008a, p. 131).

Naturally this ‘savings glut’, as it has been called, would reduce world real interest rates. World exports of capital must be equal to total world imports of

This paper was completed in November 2008, and the only additions since then have been a few words in Section 3(a). Thus it has been written in the midst of an ongoing crisis when governments and central banks in many countries, above all the United States and the United Kingdom, have been very active. The paper was originally circulated as a Working Paper of the Melbourne Institute of Applied Economic and Social Research, December 2008.

capital, so that current account surpluses in total will be matched by current account deficits. The decline in world real interest rates will bring this about. The US fiscal deficit became high from 2002 (3.8 per cent of GDP) and in 2003 was about equal to the US current account deficit. It had the opposite effect on world real interest rates, tending to raise them. But on balance, real interest rates fell. The effect of the savings glut coming from Japan, China, Germany, the oil exporters, and some other countries outweighed the effect of the Bush deficit policy.

As borrowing became cheaper and more readily available, spending both for consumption and for investment increased in some countries, especially the United States, and, indeed, that was the process by which the world total of current account deficits became equal to total surpluses. In 2007 nearly half of the total world deficits belonged to the United States. Other significant deficit countries were Spain, the UK and Australia (but there were also many others).

The story of these 'global imbalances' has been told in many places (see, for example, Corden, 2007). The essential point is that, for various reasons, net savings outside the United States increased from about 1999, and this reduced world real interest rates. This, in turn, induced higher private sector spending in the United States and some other countries, notably Spain, the UK and Australia.

One might distinguish those changes that were exogenous and those that were endogenous, the latter brought about by the decline in real interest rates, and hence equilibrating the world system (Corden, 2007). The most important endogenous effect was to stimulate housing booms in the United States and some other countries, notably the three just listed.

The US fiscal deficit was exogenous. It accounted for approximately the whole of the US current account deficit in 2003 (4.8 per cent of GDP), but after that it declined relative to GDP, and hence relative to the private sector deficit. By 2007 the US current account deficit was 5.7 per cent of GDP while the fiscal deficit was only 2.6 per cent. (This refers to the 'general government fiscal deficit'.)

b. Why a US Housing Boom?

The question arises why so much of the world savings glut was absorbed, at least since 2005, by the US private sector and, indeed by the household rather than the corporate sector. Overwhelmingly it was absorbed by consumption and by housing construction, all resulting from a housing boom. There seem to be three reasons why the world savings glut ended up specifically in a US housing boom, which resulted then in the various well-known consequences discussed in this paper.

First, the US economy is about 30 per cent of the world economy; that is sufficient to explain why any effect in the US is likely to be relatively large in the world. Even the big housing boom in Spain (higher relative to GDP than the

US boom) could not have such a marked worldwide effect even if all the details had been the same as in the US. Second, private non-financial corporations in the US and some other countries did not expand and hence borrow very much during the relevant period because of their caution resulting from the earlier bursting of the 'dotcom' bubble. Third, many developing countries, especially in Latin America, were reluctant to borrow and thus generate current account deficits, because of the traumatic effects of their earlier debt crises. Similarly, some Asian countries – notably Korea and China – ran surpluses partly for that reason: to build up foreign exchange reserves, and thus make them independent of the IMF in case of a crisis.

c. The Monetary Policy Reaction

The main conclusion at this point is that the world savings glut lowered world real interest rates and made credit more readily available, and thus underlies the further effects to be discussed here. But there is something I have left implicit. Where do the monetary policy reactions of central banks, especially the US 'Fed', fit in? During the period under discussion inflation has been low and employment high. It has been a wonderful period – the 'Great Moderation'. Thus, I have assumed so far that central banks in general, especially the Fed, successfully pursued policies of 'internal balance'. This raises a question: can the ready availability of credit in the United States – which underlies our story here, and which allowed a housing bubble to develop – be attributed to the international savings glut or to the policy of the Fed? I shall come back to this interesting issue in Section 2.

d. Too Much Risk? The Search for Yield

Low real interest rates led to the 'search for yield'. In general, only investments believed to be risky are likely to offer substantially higher returns. This meant that the various financial intermediaries, notably the commercial and the investment banks, were willing to run more risk for the sake of getting higher returns. One could argue that this was a rational response. After all, capitalism is all about risk taking. 'Nothing ventured, nothing gained'. The lower the return from safe investments the more rational it is to go for risky, higher return investments. At the time when the investment decision is made, the probability of the bad event happening may be very low. Why not gamble for the sake of the immediate high return and hope for the best?

Only with hindsight does it look like a mistake, or even just bad luck. And so banks and other institutions borrowed short term at low interest rates and made splendid profits by lending at higher rates. There were wonderful private equity deals, and much else. Huge salaries and bonuses were extracted. Leverage went

up, and liquidity went down. There is much evidence that many banks became increasingly dependent on short-term borrowing from the wholesale market relative both to their retail deposit base and, above all, their own capital. And this was risky.

But was it rational, or just bad management or judgement? As has happened before, the possibility of crises, and that high returns usually involved serious risk, was forgotten because there had been a long period of high growth and macroeconomic stability. This was particularly true because so many of the potential risk-takers were young and had never experienced a crisis.

e. The Principal–Agent Problem

There was another factor, much talked about recently. This was the principal–agent problem applied to banks. The people that took the risks – and so got the business for the firm – received short-term rewards in the form of high salaries and, above all, bonuses, and suffered no losses – indeed may have left the firm – when the crisis came. They had no interest in the long-term success or even survival of the firm. This was not always so; for example, the employees of Lehman Brothers had much (or a substantial part) of their wealth invested in the firm. There was also sometimes a failure of corporate governance, when management failed to supervise and reign in the risk-takers within the firm. In any case there was a divergence of interest between the personal interests of the risk-takers who were rewarded for short-term results and the long-term interests of the firm, its shareholders and its long-term employees.

f. The Fatal Flaw: The New Financial Instruments

The new financial instruments, or ‘structured finance’, were the reason that a crisis which might have been confined to a few US States actually spread all over the USA and indeed the world.

As is well known, it began with the application in the US housing finance sector of the ‘originate-to-distribute’ model. The aim was to spread the risks of mortgage loans, and this was indeed done. Let me quote from IMF (2008a), which is the best exposition. ‘Structured finance normally entails aggregating multiple underlying risks (such as market and credit risks) by pooling instruments subject to those risks (e.g. bonds, loans or mortgage-backed securities) and then dividing resulting cash flows into “tranches” or slices, paid to different holders’.

The US originators, in effect, sold their risks into a market where the buyers were literally everywhere, in the USA and abroad. The principal instruments were MBSs (mortgage-backed securities) and CDOs (collateralised debt obligations). Also important were CDSs (credit default swaps), which were a form of insurance against default. These depended on the liquidity and solvency

of the insurer, for example the huge insurance company AIG which the government had to take over.¹

One might note here that, while the originators of the loans were local US banks and mortgage companies of various kinds, the actual construction of the new instruments was done primarily by investment banks (such as Lehman Brothers) for whom this was a very profitable activity, at least unless they retained a significant quantity for themselves to hold.

g. Three Problems of the New Model

Focusing on US housing loans, where the whole disaster began, there were three problems.

First, the originators of the mortgages had little or no incentive to ensure that the mortgagees could afford to take out the mortgages without default. Only if they retained some of the loans or instruments would they have an incentive. This is very different from the old-fashioned way when local banks retained the risks and therefore made themselves adequately familiar with the mortgagees. It is not surprising that the new procedure is called the 'originate-to-distribute' model.

Second, it became impossible for mortgagees to renegotiate the loans with the ultimate lenders, since the latter were effectively dispersed. One might contrast this with the negotiations that took place in the 1980s between the governments of developing countries and the international banks in resolving the LDC debt crisis.

Third, there was an effect that was fatal, and indeed set off the world credit crisis. Once the US housing market went into decline and a proportion of 'sub-prime' mortgagees defaulted, there was a critical information problem. Holders of these instruments, which were composites of many different mortgages, did not know – and could not know – what risks they were running. All they knew was that they could make big losses – or they might not. As a result they wanted to get rid of them, and the market value of the instruments fell dramatically. A device which was meant to off-load and spread risk – which indeed it did – spread fear. And this led to the next step: panic.

h. Why Buy 'Toxic' Securities?

Before going on, one might ask a simple question: why did banks, and other financial entities, such as insurance companies, mutual funds and investors of various kinds, buy these 'toxic' securities and put them in their portfolios? The answer was that, in the absence of any default, the returns were expected to be

¹ For details of various instruments, see IMF (2008a).

high. The decline of the US housing market was not anticipated. It was another case of ‘the search for yield’ which in old-fashioned language some might describe as ‘greed’. In effect buyers of these products of structured finance were sold poison – ‘toxic’ was a later description – even though the sellers might not have realised they were selling poison. Assuming that the sellers were not consciously fraudulent, one must assume instead that both sellers and buyers were misled by the extraordinary complexity of these structured instruments. As is well known by now, they were also misled by the credit rating agencies. One should not buy or sell what one cannot understand!

i. The Panic

The final stage has been a panic, which has converted a US housing market crisis into a worldwide banking crisis. And, in turn, a banking crisis is likely to create a serious recession, and – in the absence of adequate policy reaction – would create a depression.

The process is fairly simple. Banks become unsure about their own balance sheets and, in addition, the balance sheets of other banks – the counterparties – with which they deal regularly through the interbank market. Even if retail deposits are guaranteed by the government, so that a classic run on deposits is avoided, any bank or other financial institution that depends on the interbank market or the wholesale funds market is in trouble. Illiquidity is severely punished.

It all began with the information problem caused by the combination of a downturn in the US housing market and the complexity of structured finance. Banks stop lending, so that ordinary non-financial corporations, small businesses and large, are drained of life-blood. A crisis in Wall Street creates a crisis in ‘Main Street’. It is for that reason, and not for the sake of rescuing Wall Street, that the US government has needed to intervene.

This is where we now are.

2. SOME ISSUES AND COMPLICATIONS

a. How the Crisis Spread around the World

It is amazing that a crisis that began in the US housing market, and apparently resulted from the making of unwise ‘sub-prime’ loans to US mortgagees, spread like wildfire around the world. There have actually been three channels through which this has happened.

First, the mortgage-backed securities (MBS) and other ‘toxic bonds’ were bought by banks and investors all around the world. Everywhere they lost value.

This was particularly important in Europe. Everywhere owners of such bonds felt unsure about their true value.

Second, there is the drying up of the wholesale market. The uncertainty about the value of these ‘toxic’ bonds, and hence uncertainty not just what a bank’s own position was but also about the financial situation of ‘counterparties’ – other banks and institutions – led to the credit crisis; I have already discussed this. Any institution that had been depending on borrowing short term in the wholesale market was affected. This effect was very widespread and was felt even when an institution did not own any of the ‘toxic bonds’. Two examples are the British mortgage bank Northern Rock, which depended heavily on borrowing short term in the wholesale market, and had very little capital of its own, and also a surprisingly low base of retail deposits. Other examples are the three Icelandic banks that had greatly expanded internationally, financing themselves also by borrowing short term on the international wholesale market.

Third, many countries were affected by the expectation of a severe US recession (and perhaps a European recession) and no doubt will be affected by the actual recession that, at the time of writing, seemed to be on the way. This effect goes mainly through trade, especially the fall in world commodity prices. This expectation no doubt explains both the sharp decline in the value of the Australian dollar and in the Australian stock market. This transmission process can be important, as in the Australian case, even when the other two transmissions, just discussed, are not.

b. Too Much Monetary Expansion? Was Greenspan at Fault?

It is common in the US to blame the Fed – and specifically its former chairman, Alan Greenspan – for excessive credit expansion, which then gave rise to the speculative housing boom, leading eventually to a bubble, which ended with disastrous effects. In other words, the argument is that it was excessive US monetary expansion rather than the international savings glut that caused the US housing boom and thus the troubles that followed. This raises a question: what is the relationship between US monetary policy and the international savings glut which I have regarded above as the first step in the process that led to the crisis?

The answer can be put very simply in words, but can also be expounded clearly with the help of a familiar diagram. While one could interpret my analysis as referring purely to the United States, I have in mind here a One World story, in effect treating the whole world – tied together by the international capital market – as one country.

An increase in savings would be deflationary if the real interest rate did not change, or did not fall sufficiently. A fall in the real rate of interest is then required to stimulate both investment and dissaving, and in this way employment

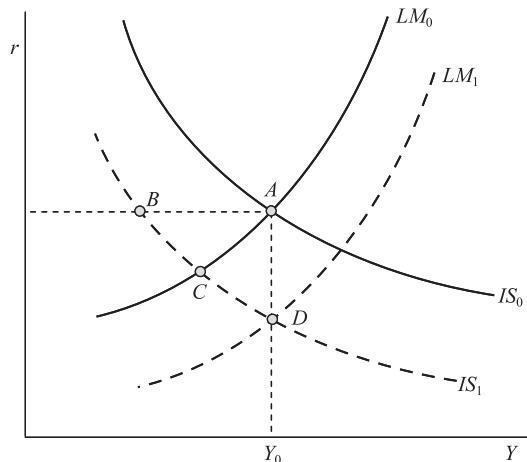
could be maintained. I shall call the maintenance of the initial employment and inflation rate – assumed to be a desirable combination – ‘internal balance’. Appropriate monetary expansion can bring this about. In practice, the Fed was very successful in maintaining ‘internal balance’ in the United States once the economy had recovered from the ‘dotcom’ boom and slump. Hence credit expansion fostered or permitted by the Fed’s monetary policy was required if internal balance was to be maintained while the economy was hit by the deflationary impulse of the savings glut.

c. The IS–LM Diagram

Figure 1 is the Hicksian *IS–LM* diagram. The vertical axis shows the real rate of interest (r) and the horizontal axis shows real income and output (Y). The *LM* curve is drawn for a given real money supply (defined broadly), and the *IS* curve shows the level of income for any given interest rate.²

We start with LM_0 and IS_0 , and equilibrium at point A . Increased net savings shift the *IS* curve to IS_1 . If the interest rate remained constant, equilibrium would be at the deflationary equilibrium at B . But, suppose the interest rate is flexible, being determined by monetary (credit) policy. If the money supply stayed constant (Mr Greenspan did nothing) equilibrium would be at C . But if he followed an ‘internal balance’ policy designed to restore income (and output, as well as

FIGURE 1
The Hicksian *IS–LM* Diagram



² An exposition of the *IS–LM* diagram can be found in any macroeconomics textbook. See, for example, Mankiw (1994, Ch. 9).

the inflation rate) at its original level Y_0 , he would have to increase the money supply, shifting the LM curve to LM_1 .³

The new equilibrium will then be at D . The interest rate will have fallen, and it would appear that this was brought about by central bank monetary policy that had shifted the LM curve to LM_1 . But it was actually the inevitable by-product of the increase in saving, given the commitment to an 'internal balance' policy. It follows that critics of the Greenspan policy are really criticising his 'internal balance' policy. Given the international savings glut, this policy made monetary expansion, and hence a decline in the real interest rate, inevitable.

d. Should Monetary Policy have Pierced the Bubble?

There is a related criticism, which is actually more serious and raises a question about the pursuit of an 'internal balance' policy. Such a policy ignores asset bubbles provided the bubbles do not affect real income and the inflation rate. Asset prices affect this policy only insofar as they affect the cost-of-living index and thus the rate of inflation as this term is generally understood.

It is possible to have an asset bubble, such as a housing boom, while the inflation rate is unaffected, or perhaps is kept down by some offsetting factor. Indeed, this is what happened initially in the United States. But once the bubble ends – often with a crisis – aggregate demand is likely to be reduced, as indeed has happened recently when the housing market crashed. Thus the Greenspan policy seems to involve no monetary policy concern with the bubble when an asset market bubble starts, or no intervention to prevent the start of such a bubble, but it does call for intervention when the bubble ends if this ending reduces spending and thus aggregate demand.

The problem is that there are potentially two objectives of monetary policy, namely the preservation of 'internal balance' as defined here, and the prevention or moderation of asset bubbles. The main examples of such bubbles are in housing and in the stock market. But if there is only one instrument of policy – namely monetary policy – some sacrifice of 'internal balance' would be required if there is to be a significant impact on asset prices. This is a genuine dilemma. Increasing the interest rate in order to kill a nascent housing bubble may involve serious effects on output and employment.

One should then consider whether a second policy instrument (or set of instruments) could be found to influence housing and stock market bubbles. I cannot pursue this here, though I suspect the answer involves special taxes or controls. This needs to be explored further.

³ The distinction needs to be made between the nominal and the real money supply. The LM curve represents the real money supply, while monetary policy acts on the nominal money supply. But the general argument I wish to make here is not affected by this distinction.

e. Is China to Blame?

In the developing country debt crisis of the 1980s the blame was put on the borrowers, who had apparently borrowed unwisely and had used their borrowed funds inefficiently. But now, when the principal borrowers are in the United States, the blame is often put not on the borrowers but on the countries that generated the high savings, and especially China. It is argued that China ought not to have run such high current account surpluses, reaching 11 per cent of GDP in 2007. Here it must be remembered (as I have noted earlier) that China, while the largest exporter of capital in 2007, only accounted for 21.4 per cent of total capital exports in 2007, and indeed its surplus was only significant from 2005. There were many other capital exporters, notably Japan over a long period, Germany, and since 2003 the oil exporters.

Whether it is in the interest of the various savings-glut countries to run high current account surpluses is a matter for them, for their governments and their various corporations and individuals. A careful study might suggest that China would have been wise to increase its domestic consumption. On the other hand, it may be sensible for a fast growing high-investment country like China to temporarily park some of its savings abroad. (I have called this the 'parking theory' in Corden, 2007). Each country has its own story. Surely one does not have to agree with Polonius (in Hamlet) 'Neither a borrower nor a lender be', especially internationally. It is the job of the various firms in the international capital market, notably banks, to intermediate capital flows from lenders to borrowers as efficiently as possible.

There will always be savers who want to lend and others who want to borrow, whether within a country or across borders. This is a form of intertemporal trade, and there are potentially gains from such trade, as from ordinary trade in goods and services. It should also be remembered that in countries with rapidly ageing populations (notably Japan and Germany), it is likely to be thoroughly rational to have a high level of savings relative to income for certain periods, while fruitful investment opportunities may be limited. They are thus likely to have current account surpluses (see Cooper, 2007). We can always expect periods when some countries have high savings levels, perhaps temporary, while others have investment booms leading to current account deficits.

One should plan to achieve an international economic system where there can be global imbalances, usually temporary, but without crises. One can think of important examples in the nineteenth and early twentieth centuries when there were significant imbalances. But it is certainly desirable that current account deficit countries use their funds for investment rather than consumption, other than during wars and environmental disasters. The fault and the failures in this recent crisis have been not with ultimate lenders or borrowers – other than US sub-prime mortgagees – but with the financial intermediaries, often highly paid.

f. How Can Worldwide High Savings be Accommodated? The Need for Negative Real Interest Rates

An issue does remain. What should happen when world savings are high while good, safe borrowing prospects are hard to find? Can a crisis then be avoided?

Let us suppose that there is an increase in world savings, coming from any or many countries, and the world real interest rate falls. Indeed it may approach zero. Further, borrowers with sound investment proposals and thus good, safe prospects are hard to find. Of course, one can see in many countries the need for new investment – for example, currently in infrastructure in developed, and especially in developing countries. But the question is whether the borrowers – governments, usually, in the latter case – will be willing and able to service the debts – pay interest and gradually repay the principal. Suppose it is difficult to find borrowers who appear to have the capacity or willingness to pay interest reliably and gradually to repay principal. Yet savings have to be invested somewhere. There are then three alternatives.

The first is the ‘search for yield’ which I have discussed and which clearly has played a major role in the recent crisis. A higher interest rate is obtained by making more risky loans. This is what has actually happened. Some of the savings have flown to marginal borrowers – as has happened in the US housing market with its sub-prime mortgages. But such risky lending requires a realistic understanding by the financial intermediaries of the degree of risk incurred. The higher interest income obtained from borrowers, and the ease of finding such borrowers, is not a free lunch. For employees in the financial sector it should not just be a way of extracting mighty bonuses. The banks or other intermediaries must use part of the net income to finance an increase in their capital, as an insurance against the risk of default.

This is an important lesson of the current crisis: one reason for current problems is that this has not happened. Alternatively some kind of explicit insurance must be taken out. In the latter case the insurer must have adequate reserves. Naturally one thinks here of the huge insurance company AIG which sold too many CDSs and which the US government has had to rescue.

The second possibility is one that has not been generally discussed. Hence I wish to underline it here. The financial intermediary must be prepared to lend at a negative real interest rate, and must thus charge some kind of fee to the savers for their deposits, rather than paying interest. Lending at negative real interest rates requires the development of new financial instruments. A loan with a zero nominal interest rate and a fixed nominal value in terms of a currency that is expected to lose value because of inflation, and perhaps with a clause that allows some part of the principal to be written down, would achieve this result.

There are many possibilities. In practice, a negative real interest rate has often been the unintended outcome of a loan, as in the developing country debt

crisis. But the aim should be to resolve this problem without depending on crises. Right from the beginning the financial intermediaries should, where appropriate, promise negative real interest rates, and savers should know that – because of a shortage of profitable investment opportunities – that is all they can expect to get.

Third, savers can invest more in equity rather than in making loans. Such investment in equity does not necessarily involve more control of companies by savers since it can be done primarily through diversified mutual and pension funds. This means that for the world as a whole leverage would be reduced: the ratio of capital to debt would be increased. More of the risk would be incurred by the savers. Possibly this tendency can now be observed as part of the process of reducing leverage.

To repeat, all the three possibilities I have discussed here are designed to ensure that when there is a savings glut, savings flow smoothly to borrowers, *but without crises*.

g. How is this Crisis Related to the Often Expected Crisis of Global Imbalances?

Until this latest crisis, the crisis that was widely expected was one resulting from the ‘global imbalances’, and specifically concerning the US dollar. The United States was running a large current account deficit, and from 2002 to 2005 a large fiscal deficit. It was argued that this was unsustainable and would end in a dollar crisis. Such a crisis would be set off by speculation against the dollar, and then a possibly dramatic drop in the dollar, presumably relative to many currencies, but especially the euro. It was widely argued that something should be done to reduce those imbalances before a crisis resulted.

I argued, by contrast, in Corden (2007) first, that such imbalances were not necessarily undesirable, since they represented intertemporal trade (and there is no reason to favour home bias in the international capital market), and second, even though they must inevitably end or decline, they need not end in crises. Nevertheless, there were various possibilities which I explored. One was a decline in the surpluses of the savings-glut countries – which would lead to a *rise* in the world interest rate – and another was a decline or end to the US fiscal deficit which would lead, in contrast, to a *fall* in the world real interest rate.

As I explained earlier, the crisis we have actually had began with a worldwide credit boom which is explained by the same savings glut – the various current account surpluses – which formed the centrepiece of the global imbalances discussion. But the current crisis was not caused by the imbalances. If the US fiscal deficit had been reduced more, or if private savings in the US had increased substantially, the imbalances might have declined, but the credit boom would have been even greater. If savings had increased in most or all countries that

initially had a current account deficit, the imbalances might conceivably have disappeared completely, but the worldwide credit boom would have been huge. Of course, I am assuming that the various countries' monetary policies would have been expansionary to maintain an internal balance in their countries.

It may seem surprising that the US dollar has actually gone up relative to most other currencies, especially the euro. The explanation is that the initial 'search for yield' has been converted by the panic to a 'flight to safety'. And US Treasury bills have been seen in the market as the safest asset to hold. Thus there has been a movement away from private sector investments of all kinds, reflected in worldwide declines in stock markets, and also away from government bonds of many countries. Only government dollar and yen bonds seem to have been attractive, so that yields (interest rates) on those two have declined, while required yields on many or almost all private bonds and equities worldwide have risen, in many cases very sharply.

The net result is that the value of the dollar in the foreign exchange market has actually gone up relative to almost all floating currencies other than the yen. This is very different from the horror stories of dollar crash envisaged earlier. Thus this crisis is very different from the one that was widely expected.

h. The Keynesian Situation

In my exploration of possible crises or problems that might arise as a result of the global imbalances (in Corden, 2007), one possibility I discussed was what I called the 'Keynesian situation'. If the US fiscal deficit were reduced or eliminated, while the savings glut in various surplus countries continued, the world real interest rate might fall to zero (assuming appropriate monetary expansion). But then monetary policy will have reached its limits, and Keynesian fiscal expansion, perhaps coordinated among major countries, would be needed. This is a situation very similar to the one we have currently, except that the reason for the worldwide decline in demand is not an elimination of the US fiscal deficit, but rather a breakdown in the world's financial sector, and the consequent panic reaction. But there is actually a desperate need now for a coordinated – or even uncoordinated – fiscal expansion.

3. WHAT IS TO BE DONE?

a. Do Immediately

Here I can be brief. The situation is changing day by day. Everything I might write on the immediate need is being said and written. Given the panic, for whatever reason, there is a high probability of a severe recession (if not a

depression) if nothing much is done. Efforts in the United States and the United Kingdom (and some other countries) to restore the flow of credit from banks have, so far (February 2009), not been successful. Therefore, in the United States, in Britain, and probably elsewhere, a 'massive fiscal boost' is needed. The argument is plain Keynesian. At the time of writing this paper (November 2008) it seemed that China's government had committed to such a boost, and the prospective Obama Administration had also. Since then the need for some fiscal boost seems to have become the international orthodoxy.⁴

If a temporary but substantial fiscal boost is supported by monetary expansion, the central bank can buy the government's bonds that finance the additional budget deficit. Since the government owns the central bank, this will then avoid any increase in the national debt. In any case, since the probable alternative is a massive and permanent loss of output, an increase in the national debt for this purpose would not be a disaster.

I would only add one point. It is desirable that extra government spending and tax reductions are brought about quickly. But this may not always be compatible with ensuring that new government spending is not wasteful. For example, additional public infrastructure spending may take some time to organise. But a credible announcement of a big fiscal boost will affect expectations, and might lead to an immediate boost in confidence, even though the actual increase in spending may take some time. The increase in confidence, in turn, may help in restoring the functioning of the credit system.⁵

b. Longer-term Lessons

No doubt there will be endless discussions, and numerous working groups and reports, reviewing the lessons of this unexpected crisis. Here I shall list a few provisional conclusions that I have drawn from my overview of the origins of the crisis. Most of what follows applies primarily to the United States.

Since financial institutions have been rescued in various ways, in future those that can expect some kind of guarantee or commitment to rescue will have to be regulated more, while others might be subject to very limited regulations, and with no assurance of rescue. Here I recommend consideration of a proposal made by James Tobin in 1987, entitled 'The Case for Preserving Regulatory Distinctions', reprinted in Tobin (1996). He recommended a clear distinction between a

⁴ The argument has been clearly put in some detail by Sam Brittan in the *Financial Times*, 7 November 2008, and was also supported by Martin Wolf in the *Financial Times*, 12 November 2008.

⁵ There is a much more comprehensive review of fiscal policy for the crisis in IMF (2008b). It also includes five case studies. Particularly interesting is the Korean case of 1997 when fiscal policy, mostly focused on the financial sector, was very successful.

‘deposited currency’ institution established by the Fed for the benefit of the public, and carefully defined ‘commercial banks’ eligible for deposit insurance. In Tobin’s view at the time, the third type of institution would be investment banks, uninsured, broadly unregulated, but subject to disclosure requirements. But here he would surely have revised his view were he alive now. If investment banks, as they have been constituted, are too big to fail, then they must be regulated. It is now widely agreed that Lehman should have been rescued. Perhaps various activities of investment banks can be separated, with some parts only regulated.

It is clear enough that ‘sub-prime’ lending in the US housing market was unwise. There had been many warnings about the danger of the US government guaranteeing but not adequately controlling Fannie Mae and Freddie Mac. Regulation here was inadequate, and politicians, who succumbed to heavy lobbying from these two organisations, bear some responsibility for the disaster. I leave this to more knowledgeable Americans to consider in detail.

In my judgement, as outlined above, the new financial instruments of ‘structured finance’ were the main reason why the combination of unwise lending in the US housing market and an inevitable downturn in that market led to a huge worldwide financial crisis.

These products of structured finance have been like dangerous or ‘toxic’ pharmaceutical products. Perhaps they should be prohibited, but they do have some potential benefits. At the minimum the products should be labelled properly, with warning signs. New regulations are inevitable here. This is the one topic where there will be universal agreement.

On the general problem of excessive risk-taking and the principal–agent problem, there may be some scope for new regulations of those financial firms, principally commercial banks, where some kind of guarantees will be provided by the government or the central bank. But the main lessons will probably have to be taken on board by the managements of the firms themselves, and by investors who provide them with funds. Possibly increased transparency can be brought about by regulations.

Coming to global imbalances and high savings countries, global imbalances are nothing new. Before the First World War there were substantial flows from France to Russia and from Britain to British Empire countries and to Argentina – and, indeed, the United States. In the 1920s there were flows from the United States to Germany, and after the Second World War, especially in the 1980s, from Japan mainly to the United States. There were the flows from oil exporting countries to certain developing (emerging market) countries after the first oil shock, and, more recently to the United States. The most recent flow is from China to the United States. These net flows between countries are one of the results of international capital mobility. It is not a matter of ending them, but of ensuring that they do not end in crises.

Of course, countries may be mistaken in their domestic policies from their own points of view. Thus China's government may be mistaken in letting China have such high savings, while the United States Administration may have been acting contrary to the national interest in running a large fiscal deficit to finance a war and also cut taxes. The flow of capital from China to the United States may thus be a by-product of two policies that have each been domestically unwise. On the other hand, it may sometimes be wise to borrow internationally if there are good investment opportunities.

Finally, I have referred to the problem of the firms in the capital market finding suitable, reasonably safe borrowers when world savings are very high, so that the real interest rate becomes very low or even zero. I have suggested that debt instruments that involve negative real interest rates should be considered. The aim would be to accommodate high levels of saving without leading to later crises. I can imagine governments in developing countries wishing to borrow for infrastructure development, selling such bonds.

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