OIL&GAS FINANCIAL JOURNAL

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Financial crisis impacts energy industry

Shockwaves reach beyond Wall Street and are affecting oil and gas companies worldwide.

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The global economy has been slammed by a four-wave economic tsunami. The first shockwave concerned the US sub-prime mortgage market and the housing bubble, where accumulating bad debt undermined a number of key banks. In the second wave, the demise of Lehman Brothers and anxiety over the creditworthiness of banks and insurance companies led to a global bailout of the financial industry.

In the third wave, cash hoarding, frozen loans, and stock market panic led to a massive realignment of expectations that dooms the developed world to a serious recession. In the final wave, the contagion has spread to emerging markets, leading to a global slide reminiscent of the 1970s oil shocks.

The first wave – US sub-prime mortgages

In the first phase of the crisis, it was discovered that many mortgages written during the housing boom were headed for default and that the mortgages themselves had been repackaged and resold as if they were secure assets. Lacking transparency, the “toxic” assets could not be valued and resold at any price. Moreover, the weak US economy put commercial loans, credit cards, and other mortgages at risk. To offset the macroeconomic impact, Congress authorized a tax rebate for US consumers, and the resulting bump in cash propped up the “real” economy through the summer of 2008.

However, the illness was bound to spread. As housing prices declined, the toxicity of mortgages grew and the asset base of important international banks dwindled. Major financial institutions, such as Bear Sterns and IndyMac, were forced into unappetizing mergers or dissolution, with the government accepting responsibility for much of the bad debt. The broad scale of the problem became apparent on September 7, when the federal government was forced to seize control of federally-sponsored mortgage companies, Fannie Mae and Freddie Mac.

The second wave – the growing risk of systemic default

As the crisis wore on and mortgage defaults mounted, a more serious problem emerged. It turned out that insurance companies and investment banks had sold trillions of dollars of Credit Default Swaps (CDSs). These swaps were not limited to the housing market or to sub-prime mortgage loans, but covered a broad set of financial instruments and institutions.

Banks that had been weakened by sub-prime mortgage holdings were also involved in the CDS market and the Lehman Brothers bankruptcy on Sept. 15 tripped a variety of credit obligations. Within a few hours, the US Treasury was forced to bail out American International Group (AIG). Almost immediately other dominos began falling around the globe. The resulting chaos set off a global panic in stock markets, which further weakened the assets of many financial institutions.

The US was not the only country that enjoyed a significant increase in housing prices. In particular, the fastest growing European countries had experienced housing price surges even greater than those in the US. Moreover, most European banks and insurance companies had been involved in the CDS market.

Over the weekend of Sept. 27, the credit crunch hit Europe full force. Within a few days Belgium and the Netherlands were forced to bail out Fortis, the UK nationalized Bradford & Bingley, and Iceland took control of its third largest bank, Glitnir.

As the financial stress deepened, it became apparent that a piecemeal approach was unworkable. The problem crystallized on Sept. 30, when the Irish government announced that it would guarantee all deposits in its banks, amounting to €400 billion – twice its annual GDP. Although Ireland was a small country, it had adopted the euro as its currency and it did not take central bankers in neighboring countries long to realize they faced the threat of international bank runs if they did not follow the Irish example.

In the meantime, the US groped for a strategy to save its banks. US officials had focused on pulling out the banks' bad loans, rather than recapitalizing them by direct investment. The plan, however, looked too much like a bailout of Wall Street to Congress, and the House of Representatives squashed the idea on Sept. 28.

Finally, on Oct. 3, a revised plan passed both houses of Congress. Ironically, however, the Treasury shifted strategies and began investing directly in banks. Treasury officials had little choice: without a clear demonstration of government guarantees, the international market would quickly pull cash from any institution perceived to be under-capitalized.

The third wave – recession in developed countries

Despite the central bank infusion, it was obvious that developed nations' economies were in for a hard time. The IMF had pegged global economic growth at 3.8% for 2009, but a new forecast in early October dropped it to 3.0%. Within a few days, however, pessimism deepened, signaling the third wave of growing concern over the health of the real economy. In response to the new pessimism, global stock and commodity markets plunged, as traders folded in the lowered expectations.

The depth and length of the developed countries' recession is unclear, but early indicators are decidedly negative. There are also features of this recession that are significantly different from anything experienced since the Great Depression. Most importantly, there is an asset deflation, in real property, stocks, and commodities. This is in contrast to the oil price shocks of the 1970s. In that era stock prices dropped, but commodities and real estate values increased along with general price inflation.

Most economists would agree that aggregate consumption is dependent on both income and perceived wealth. The asset deflation is exacerbated by the fact that there is huge debt outstanding against these assets. Many home-owners are "underwater," owing more than the value of their home. Government treasuries are also depleted. Hopefully much of the cash infusion will be recovered as banks regain solvency, but some will be permanently lost. Economic recovery will be burdened by excessive debt, which reduces flexibility for both governments and consumers.

The fourth wave – a global recession

China still forecasts economic growth on the order of 8% in 2009 and its leaders have announced infrastructure investments intended to support it. However, legitimate questions can be raised about the viability of such plans when economies around the world are faltering. After all, China has prospered by selling manufactured goods to consumers in developed economies.

The swift rise in commodity prices, particularly crude oil, is partially responsible for the meltdown. It was learned in the oil price shocks of the 1970s that the sudden shift in cash from consumers to energy producers jolts the economy and provokes a combination of inflation and recession. Oil is not as important to the overall energy market now as it was in the 1970s, but it is still significant, particularly for the US.

In 1974 the US produced more oil than it imported, so much of the money associated with higher prices re-circulated. The situation is reversed today and most of the money spent on oil flows out of the country. The rapid shift in funds withdrew liquidity from banks, making it difficult for them to recapitalize.

The drop in demand for manufactured goods and commodities will reverse the financial trends of the last few years. The countries with huge pots of cash now may find the funds rapidly depleted over the coming months, and the counter-shock could also be disruptive.

Perspective on derivatives

How can a relatively small set of low-grade mortgages end up causing a global recession and requiring public funding of trillions of dollars? The answer, of course, is that derivatives can be used as leverage, and leverage magnifies either profit or loss. According to the New York Times, the derivative market totals $531 trillion, just about 10 times global GDP. The market for CDSs has been about $55 trillion.

When market values change quickly, and in unexpected ways, it disturbs normal commerce. The essence of finance is trust – to make a loan in the expectation of repayment. Trust in turn depends on confidence in the institutions and traders in the marketplace. Derivatives that are not transparent or inadequately backed by assets have the power to undermine confidence and trust.

What Wall Street should have learned from Enron's collapse

There were some important lessons to be drawn from Enron's collapse that appear to have been lost in the din of good times. First, Enron misused derivatives and engaged in other manipulations to move suspect assets from its balance sheet and cover up losses. It completed these transactions through a series of complex maneuvers, the purpose of which was to obfuscate, rather than illuminate, their true liabilities.

It seems that the lesson to be drawn from Enron did not stick. No one on Wall Street, including the bond rating agencies, questioned the veracity of the sub-prime mortgage bonds, despite the complexity of the packaging, their opaque nature and the flimsiness of their credit credentials.

Second, is the interrelationship between derivatives, mark-to-market accounting, and managerial bonuses. Most derivatives are traded in the over-the-counter (OTC) market, but the concepts that underlie them are extracted from futures exchanges. In a futures exchange, traders' positions are marked to market at the close of each trading day. There is no other way to treat a liquid and marketable asset; book value or the price paid is irrelevant. Problems arise, however, when the asset cannot be easily sold and its value has to be estimated.

Enron frequently tied bonuses to the present value of future profits from freshly negotiated deals. They even claimed a portion of the present value as a current profit in their balance sheet. This is akin to mark-to-market accounting, except that the contractual commitment is unlikely to be resold, thus valuation is subjective. This incentive structure created two distortions. The company's managers focused on short-term deal-making rather than that long-term planning. Moreover, the booking of theoretical profits was at variance with actual cash flow, so Enron had to constantly borrow money to make ends meet.

One of the most troubling aspects of the financial crisis is the way in which Wall Street financial firms followed the Enron paradigm and ignored its consequences. Large bonuses were paid out even if the firm retained the asset or a residual liability associated with it. Most financial firms deal in paper and have limited physical assets. The basis for their profitability is having clever people who need to be compensated if they are to be retained. So, as all the bad paper rolled in, bonuses rolled out. Banks simply did not keep the profits garnered in the mortgage writing frenzy, and when the paper and other questionable assets turned toxic, liabilities grew, necessitating a public-sector bailout. Once again, the banking sector proved "too big to fail."

There is no question that the global system of derivatives trading needs to be carefully reviewed. There are two issues to be addressed: inadequate third-party clearing and asymmetrical risk. Third party clearinghouses for commodities, such as NYMEX's Clearport, are already being offered by the marketplace and volume is rising rapidly. In these arrangements an exchange manages and clears bilateral contracts between buyers and sellers providing objective valuation and minimizing the risk of default.

Commodity trading has a natural symmetry in that there is active hedging by both buyers and sellers. There may not be a perfect match, but financial derivatives offered by a bank can be offset so that the net position is nearly balanced. Unfortunately, there is no natural offset for CDSs; they are akin to insurance. That is, insurance buyers want to hedge against a catastrophe, but usually no one benefits from such an event so the activity is typically one-sided. Thus, issuers need to be sure they have adequate capital to cover all eventualities. Obviously, the capital base has been inadequate for these types of derivatives.

The consequence of financial crisis on the energy industry

Policy makers, traders, and investors are all trying to sort out the depth and duration of the coming recession, but the impact on the energy industry is immediately obvious. Oil prices have dropped by over two-thirds since their peak in July 2008. With lower economic activity comes less demand for oil, and although the difference is not great, it is sufficient to completely reverse the market.

One feature of oil market developments in the last few years is the speed at which things can change. After the 1970s price run-ups, seven years passed between the peak of oil prices in 1980 and their collapse in 1987. The price drop observed from mid-July through November took only about 100 business days.

Although the drop in oil prices provides consumers a well-deserved break, it raises a pointed question. Is the relief short- or long-term? The primary reason why economic growth has stalled is that investment has dried up. Many energy development projects are funded by cash flow. This is particularly the case for OPEC's National Oil Companies (NOCs), which have the greatest potential for new supply. For that supply to be realized, however, investment must continue and low oil prices will be a major inhibition.

A variety of financial reforms have already been suggested: greater regulation of banks, an enhanced role for the Commodity Futures Trading Commission (CFTC), a streamlining of regulatory bodies, an international clearing house, registration of derivative contracts, etc.

Restrictions on trading will reduce the risk of default, but it comes at a cost, reducing the flexibility and liquidity of the market. Officials in some countries are even seeking to completely overhaul the international system of foreign exchange and trade, a

"Bretton Woods II." It is important to recognize that there is a tradeoff between economic efficiency and stability, just as there is between risk and return and it is hoped that the coming process will get the balance right.

Like it or not, the financial crisis will enhance the role of NOCs and Government Sponsored Enterprises (GSEs). The movement of oil around the globe, like the smooth workings of the international financial system, is crucial to economic growth and prosperity. Many important private institutions have collapsed in the last year, so it will be argued that the new reality necessitates a much larger role for government.

In contrast, consider Raymond Mikesell's summary of the goals of the Bretton Woods conference and the post-war plan to restructure the international economy: "…free and nondiscriminatory markets for currencies, capital, and goods." The Bretton Woods system bestowed over 60 years of economic growth and prosperity following the Great Depression. In that context, the 2008 financial crisis has been only a minor setback. OGFJ

About the author

Sam Van Vactor is an energy economist who has analyzed oil, natural gas, and electricity markets since 1973. He has consulted many organizations on energy issues, including the American Petroleum Institute and has advised a variety of major oil and gas companies. Before his present activity, he was an officer on destroyers in the US Navy, an economist with the US Treasury, a senior economist at the International Energy Agency of the OECD, and head of energy planning for the State of Oregon. He holds a BS degree in economics from the University of Oregon, an MA in economics from the University of Washington, has done research at the London School of Economics, and earned a PhD from Cambridge University. Dr. Van Vactor is president of Economic Insight Inc.

Oil & Gas Financial Journal January 01, 2009
volume 6, issue 1
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