

After the panic of '08

A veteran technology investor looks at the causes of the crisis and says scientific advances and entrepreneurship will help lead us out of it.

By Glenn Hutchins
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The Panic of '08

(Fortune) – It is axiomatic that to solve a problem, one must first understand it. To that end, I have devoted my spare time in recent months to studying our financial crisis – unearthing its root causes, delving into its manifold consequences and pondering its far-reaching implications.

A couple of conclusions leap to the fore: First, the failure of Lehman Brothers was the catalytic and catastrophic event that converted what could otherwise have been a garden-variety recession into a full-blown crisis. Prior to the fall of the house of Lehman, most economic indicators and measures of risk signaled a impending recession, but the world's financial markets were operating within normal parameters. The sudden collapse of Lehman, however, set off a panic – “The Panic of '08” – which plunged global credit markets into a deep freeze, cutting off the vital supply of financing to a frail economy. In rapid succession, asset values all around the world plummeted causing a sudden and dizzying loss of household wealth and retirement savings which in turn spurred the newly frugal consumer to save rather than spend. The consequent precipitous decline in economic activity tipped the global economy into a recession that threatens to be deep and brutal and necessitated an unprecedented government response.

Second, everyone is at fault. Describing as the fault of a clutch of over-paid bankers – as too many of our politicians and pundits have done – is deeply misleading, risks stretching our social fabric perilously thin and points us toward wrong-headed solutions. In this crisis, failure has many fathers – mortgage lenders and home-owners, bankers and consumers, chief executives and politicians, the mighty Fed and the lowly rating agencies.

For a generation, the American consumer over-spent, under-saved and ran up large personal debts. People purchased homes they couldn't afford with mortgages they couldn't support. The U.S. government ran unsustainable budget deficits, and neglected massive trade deficits – all of which necessitated gargantuan amounts of foreign financing. The Bush administration pushed through lower taxes but lacked the resolve to cut spending. Politicians across the spectrum pressed the government-sponsored mortgage lenders to heedlessly over-expand home ownership – distorting incentives and diminishing discipline in the mortgage markets. Main Street banks facilitated this binge with generous consumer loans of all flavors – mortgages, home equity lines, credit cards, auto, tuition, etc. Wall

Street firms – egged on by generous compensation schemes – packaged these securities into complex products that were distributed worldwide. The rating agencies debased the AAA rating and the regulators lost sight of the forest for the bark on the trees. From its lofty perch, the Fed “shrugged” and abetted all of this with cheap money and a deregulatory bias.

The denouement came when the consumer rolled over and began to default on mortgages – particularly of the sub-prime variety. This triggered a cascade of consequences that we are only now beginning to understand. But to really grasp what happened and why, we have to begin at the beginning.

How Did We Get There?

Three separate phenomena interacted over the past decade to plant the seeds of the crisis: A surge of liquidity around the world combined with a residential real estate bubble of epic proportions and widespread excess leverage in all sectors of our economy. Consequently, we enjoyed for a time a virtuous cycle that inflated wealth globally.

Let’s start with liquidity. As often happens, one crisis engenders another. In the wake of the dot com collapse early in this decade and the resulting recession, the Fed reduced the federal funds rate by 550 basis points over 3 years engendering a period of unusually low and often negative real interest rates. In short, money was “free” and abundant. Simultaneously, a foreign savings glut built up in the oil exporting and the Asian manufacturing countries. As energy prices rose inexorably, we witnessed one of the greatest wealth transfers in history as the Persian Gulf states in particular – but also Norway, Russia and Venezuela - amassed vast amounts of dollars. In Asia, the lessons of the ’97 crisis taught the manufacturing and exporting countries (most notably China) to keep their exchange rates artificially low to accumulate capital as a bulwark against future crises. This all led to the accumulation of mountainous foreign exchange reserves denominated in dollars and the emergence of the much discussed Sovereign Wealth Funds which needed to recycle their capital back into the world financial system.

In the financial capitals of the world, the large banks –which would later be judged “too big to fail” – discovered that they could swell their balance sheets with low cost, short-term financing and then lend at a rich profit. The debt on the books of many of the world’s largest banks grew by near threefold with no meaningful growth in their tangible net worth, inflating their leverage to previously unimagined levels. In parallel, a panoply of off-balance sheet entities known as structured investment vehicles (SIVs) were created to hold a variety of assets, particularly mortgages. These vehicles were financed with minimal equity and large amounts of short-term commercial paper. At its peak, the amount of outstanding asset backed commercial paper exceeded \$1 trillion with the preponderance of it maturing in one to four days. The liquidity raised both on and off balance sheet converged with the flow of foreign savings to pour a Niagara of cheap capital into all sectors of the global economy.

A meaningful portion of this liquidity found its way into the US residential real estate market, fostering the mother of all bubbles. House prices grew at an unprecedented rate. From 1930 to 1997, US house prices grew by .7% annually. From 1998 to 2006, they rose at an 8% clip. This was of course enabled by cheap mortgages of all stripes offered to less and less creditworthy borrowers. Much of this borrowing was used to subsidize consumption as home-owners extracted equity from their homes driving mortgage equity withdrawals to over 10% of disposable income versus 3% a decade earlier and the equity content of the US housing stock down to from nearly 70% in 1965 to 43% - the lowest level since records have been kept.

The back-story to the real estate saga played out in the marble halls of Washington, D.C. At the urging of politicians and bureaucrats pursuing the laudable goal of expanding home ownership Fannie Mae and Freddie Mac ramped up their mortgage lending programs. Since Fannie and Freddie were regarded as having an implicit government guarantee (which has since predictably become explicit), they enjoyed a huge advantage in the cost of capital over their private competitors. According to market participants, this led the private companies to search for creative ways to compete and they reportedly struck on two. The first was to originate as many mortgages as possible which, though unprofitable to hold, they could syndicate to others while retaining the lucrative servicing rights. The second was to offer mortgages, known as sub-prime (or Alt A, Option ARM, etc), to less than creditworthy borrowers at high rates and exorbitant fees. Over the decade, the amount of these loans sky-rocketed. These lower quality mortgages grew from less than 10% to 40% of originations; interest only or negative amortization loans which didn't require near-term principal repayment were introduced and grew to around 25% of originations; and over 75% of these mortgages were not held by the lenders but rather were packaged into securities and sold to others. Since the US home mortgage market at \$10.5 trillion is about the size of the US equity market, this had an enormous impact on our economy.

This behavior was not isolated to the residential real estate market but became endemic. Cheap and abundant capital flooded every sector and leverage built up everywhere. The investment banks prime brokerage divisions made debt readily available to hedge funds whose leveraged market positions reportedly grew fourfold over the decade. Ever larger buyouts supported by greater and greater quantum of financing attracted popular attention. Corporation after corporation borrowed money to finance stock buybacks. The notional amount of outstanding OTC derivatives positions grew to \$525 trillion or 35 times the size of our GDP. The global issuance of structured products grew to nearly a trillion dollars per quarter from negligible amounts a decade earlier. Insurance companies like AIG used their "rock-solid" balance sheets to offer cheap insurance (such as credit defaults swaps) on many of these securities. And so on.

Government and consumers piled on board as well. Consumer balance sheet swelled with indebtedness as debt service payments reached nearly 15% of disposable income – as in the 1930s. As manufacturing moved offshore but Americans refused to adjust their lifestyles or save, the US current account deficit ballooned to over 5% of GDP—historically regarded by the IMF as a crisis level for lesser developed countries. And the 800 pound gorilla of the economy – the US government – ran unprecedented deficits to finance two

wars and large tax cuts causing a spike in our national debt. Since we generated virtually no savings in our economy over the decade, these deficits were largely financed from abroad as foreign ownership of US Treasuries grew to nearly 60% in 2008.

Meanwhile, the sentries who were entrusted with guarding our markets - the rating agencies and regulators - abandoned their posts. The ratings agencies allowed the value of the vaunted AAA rating to be degraded. In 2008, there reportedly were 12 AAA rated institutions globally but 64,000 structured products rated AAA (up from 37,000 in mid 2007). The credit default swap market was essentially unregulated without an exchange, central clearing or capital requirements. In 2004, the SEC relaxed capital rules for the now extinct species formerly known as investment banks allowing them to increase their leverage to 40 times. An alphabet soup of regulators with overlapping jurisdictions deployed legions of lawyers who delved into all manner of minutiae but - with the notable exception of the NY Fed - took virtually no account of the big picture.

Add all this up and you see the problem. Every sector in our economy reached debt levels not seen since the '30s and climaxing at 350% of GDP. We hear a lot these days about how the bankers are at fault for all this. That conclusion plainly isn't supported by the data. Rather, everyone is at fault – households, corporations, financials, the government enterprises, regulators and the government itself. In sum, “we have met the enemy and he is us”.

What Happened?

Herbert Stein once famously declared, “if something cannot go on forever, it will stop”. And stop it did.

The mortgage market reached a tipping point sometime in 2007 when homeowners in droves could no longer service their mortgages. All through the decade, middle-class incomes and lifestyles came under stress as large pools of cheap labor entered the global market for the first time since World War Two – putting pressure on wages and benefits in the US. As a result, we experienced after 2002 the first economic recovery since the war in which real median incomes went down. So, as the recovery drew to a close and recession loomed, homeowners with mortgages they couldn't afford and consumers who had supported their lifestyles by withdrawing equity from their homes were particularly vulnerable and defaults on mortgages began to mount - as always happens in recessions.

In the past, mortgages typically had defaulted at around a 1% to 2% rate during good times and climbed to approximately 6% to 7% during recessions. Most bank balance sheets were constructed and stress-tested to withstand this. And that is almost precisely what happened in the prime conventional market: fixed rate mortgage defaults approached 2% and adjustable rate defaults grew to nearly 7%. However, there was a new pest in the house – subprime mortgages – where default rates rose to levels never experienced or even contemplated. Subprime fixed rate mortgage defaults neared 10%, subprime adjustable rate defaults exceeded 25%, and option adjustable rate defaults approached 60%. As the subprime defaults mounted in the summer of '07 without an apparent end in sight, it

became clear that banks which were particularly exposed to the mortgage market had looming capital problems. These included most notably the private mortgage lenders such as Countrywide, Washington Mutual and Golden West plus the Wall Street firms with concentrated positions in mortgages such as Bear, Stearns, Merrill Lynch and Lehman Brothers – not to mention Fannie and Freddie.

The “price of risk” began to reflect this new reality. Perhaps the most instructive measures of the price of risk is the TED spread. It is the difference between the rate banks pay to borrow from the Fed and what they charge to lend to each other. These loans are usually of very short duration (often just overnight) and serve to distribute the life-sustaining flow of liquidity to our global financial system. The price banks charge each other for this sustenance represents their most timely evaluation of the risk in the banking system. In late 2007, the TED spread climbed precipitously signaling enormous concern. To their credit, public authorities reacted swiftly and effectively. A host of policy actions including new Fed borrowing facilities, economic stimulus, the Bear Stearns rescue and fed funds rate cuts all soothed the market and brought spreads back to levels normal for recessions.

All through this time, the real economy outside of the housing sector chugged along like the little engine that could. Corporate performance, particularly in the technology sector where I spend my time, was excellent as investment and innovation proceeded apace and profits grew. In the first nine months of 2008, operating earnings for the S&P 500 companies not in finance or consumer discretionary products surged 16% and US GDP eked out 1.8% growth. Regions outside of the US, particularly in Asia, hurtled forward as long-term development plans picked up steam causing global GDP to grow by an estimated 4% through the end of September. . Housing and finance were weak but the technology and industrial sectors continued to be global locomotives. We seemed to be muddling through.

The Panic of '08 (or Apres Lehman, le deluge)

Then, for reasons that only history will judge, regulators allowed Lehman to fail. This unleashed what I have dubbed the Panic of '08 which had catastrophic global consequences. Living in New York, I felt during the fall of '08 as if I occupied a farmhouse on the battlefield at Antietam. Though I was not a combatant, I witnessed daily the confusion and carnage.

In a world held together by an intricate web of mutual dependencies among the largest financial institutions, the collapse of a major market player, known as a “counterparty”, shocked the system. The failure of Lehman and especially the unforeseen receivership of its UK broker – which was the counterparty for a host of derivative trades and held a mountain of collateral in its electronic vaults – set off historic dislocations of financial markets around the globe. Once again, the TED spread tells the story. It gapped almost immediately to a eye-popping 5percentage points. In rapid succession, money market funds which had invested to Lehman paper “broke the buck” driving investors around the world to pull their money - approximately \$350 billion - out of anything that wasn't federally guaranteed.

Global credit markets, deprived of cash, ground to a sudden halt as pricing sky-rocketed and availability plummeted. Almost no entity in the world other than governments and perhaps the very most creditworthy borrowers could borrow money. The market for syndicated credit, which had supplied much of the global liquidity, evaporated. The SIV market was particularly hard hit. With an average life of assets (those pesky mortgages again) of 3.7 years but an average duration of their debt of 5.5 months, SIV's saw financing melt away and their asset values fall by half. AIG, which had guaranteed the value of a prodigious amount of credit assets, collapsed into the arms of the government. The world's asset markets imploded in sympathy. Commodity prices, which had been weakening as the economy slowed, cratered and the global equity markets went into free fall dropping on average almost 50% from peak levels in 2007. It was a rout of historic scale and speed.

This is when the financial markets began to wreak havoc in the real economy. Buffeted by the reverberations from the financial sector, businesses and consumers reacted swiftly. The decline in the prices of stocks and values of homes robbed American households of nearly \$11 trillion in net worth – which equals the combined output of Germany, Japan and the UK - and perhaps \$30 trillion globally. Since consumers usually spend about 5% of their net worth a year, the negative “wealth effect” likely caused them to reduce spending by about \$550 billion domestically and perhaps \$1.5 trillion globally. Accordingly, consumer confidence fell to new lows and savings rates, which had been in steady decline for a generation, perked up. Spending on everything from electronics to automobiles quickly dried up.

For their part, businesses moved aggressively to raise cash and reduce costs, slashing or postponing all manner of operating expenses, R&D, and capital spending plans. Bank liquidity was further stretched as companies drew on back-up lines of credit to replace commercial paper or just to hoard cash. And, unfortunately, layoffs and furloughs became commonplace as jobless claims marched sadly, steadily upwards and unemployment reached 8.1% in February.

The real economy was no longer impervious to the financial debacle and had plunged suddenly into a serious recession. The US GDP fell at an annual rate of 6.2% in the fourth quarter which ties for the fourth worst quarterly performance since World War II - and the first quarter of '09 could be even worse. Economic performance in the fourth quarter outside of the US was equally distressing as Europe declined by 5.7% (including a decline of 8.2% in Germany), Japan by 12.7% and Korea by 20.8%. Even the world's growth miracle, China, is estimated to have been flat for the quarter.

The virtuous cycle had turned vicious. All three contributors to the bubble – liquidity, home prices and leverage – migrated south for the winter. The beneficiaries of the virtuous cycle – consumers, home-owners and the banks – experienced unrelenting stress. This was ominously true of the banks which saw the value of all assets they held plummet with an unexpected fury in the fourth quarter raising a new round of questions about their safety and soundness. If the economy were to have a hope of getting back to growth in 2009, swift and certain action needed to be taken to stabilize the financial system.

Innovation Will Set You Free

While at times rushed and incoherent, the public policy response to the crisis has been breathtaking in its scale. The approximately \$10 trillion in resources shoveled at the problem dwarfs any prior undertaking in our history including World War 2 - which is estimated to have cost \$5 trillion in today's dollars. This is the all important difference between today and the '30s. In contrast to the passive and counterproductive actions taken then by the Hoover administration and the world's central bankers, today's leaders – having learned the lessons of the Depression and quickly grasping the ramifications of the Lehman failure – resolved to err on the side of doing too much rather than too little. This is why the Fed and the IMF are currently projecting a return to growth in the US and the rest of the world by the end of this year.

So, the real question is “what's next”? The answer resides where it has always been – in innovation and entrepreneurship. Lost in the fog of today's economic storm is the fact that this is an exciting time to be a technology investor and entrepreneur. The way out of the doom and gloom of the seventies – which was a period much like today – was a wave of technology innovation that spurred a generation of company formation, job creation, productivity gains, wealth accumulation and GDP growth. Today's opportunities are every bit as big if not bigger. For instance, we stand on the cusp of perhaps one of the mightiest technology trends of our lifetime in the field of wireless broadband mobility. The innovation and opportunity in all corners of that ecosystem – devices, components, semiconductors, network gear, operating systems, applications software, content and services – are nothing short of game-changing. Innovation backed by entrepreneurial capital is also rampant in green technologies, biotechnology and stem cell research, nanotechnology, and other information technologies such as VOIP, virtualization, cloud computing, collaboration, software as a service and social networking. The economic and social benefits that will flow from this tsunami of innovation stand to propel another quarter century of prosperity.

The public policy agenda, when it pivots from the immediate crisis to fundamental questions of how to foster growth, must focus like a laser on promoting capital formation and innovation. We should recognize that being for good jobs but being against wealth creation is akin to being for families but against procreation. One flows naturally from the other. Policies which increase the after tax cost of capital or discourage the best and the brightest from working the investment industries would be every bit as disastrous as letting Lehman fail. Portraying business leaders as culprits - while letting consumers, homeowners, and public officials off scot free – risks moving us from a culture of aspiration to one of blame. Buttressed by policies which reflect an understanding of both shared responsibility and opportunity, investors and entrepreneurs can create the future.

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