Basel II in Review: The Impact on Bank Capital

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THEY TOLD US SO

Some economists, analysts and risk managers anticipated the crash and warned of its dire consequences. What did they know and how did they know it?

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— Dan diBartolomeo, Northfield Information Services

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COVER STORY

Who Knew?

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Concerned about a lack of rigor, Dan diBartolomeo of Northfield Information Services tried to convince investors to take a more sophisticated approach to real estate risks.

Photo by Leslie Jean Bart

In April 2008, as the global financial storm was gathering strength, a small band of economists gathered at Bard College in the quiet village of Annandale-on-Hudson, New York. It was the 17th Annual Hyman P. Minsky Conference on the State of the U.S. and World Economies, an event named for a less-than-famous American economist, and, for a gathering of dismal scientists, it had a decidedly celebratory air.

Minsky, who lived from 1919 to 1996, left behind a theory of economic cycles and instability that was suddenly generating mainstream interest because the economic downturn that began in 2007, what many observers now label the Great Recession, meets the definition of a "Minsky moment." Minsky followers were not surprised.

"In a way," Chancellor said in the 2008 conference proceedings, "Minsky looks through the capitalist system and sees a kind of digital or financial code that is actually much more important than all the macro nonsense that those poor students who have to study economics at university have thrust down their throats. None of these things tell you . . . that a crisis is about to happen. But the Minskyan analysis does."

James Galbraith, a prominent economist affiliated with the Levy Institute and a professor at the University of Texas at Austin, acknowledged that there was some debate whether the subprime mortgage debacle "constitutes Ponzi finance in the technical sense that Hyman Minsky intended." But, he added, "The fact remains that current events have again raised the profile of Minsky's contribution, and that is assuredly a good thing." Galbraith noted that "systemic instability is the cornerstone of Minsky's work. He argued that the system dynamics inherent to capitalism breed fragility and crisis; specifically, stability spurs risky behavior, and risky behavior leads to crisis. As he put it most succinctly, 'Stability is destabilizing.'"

The dynamics of capitalism breed fragility and crisis;

They had seen these clouds before, notably in the Asian and Russian crises of 1997 and 1998, and were warning that the extended period of stability and debt accumulation in the 2000s was sowing seeds of volatility and contraction. "I only wish that legislators and regulators of the financial system could learn something from this experience," Dimitri Papadimitriou, a longtime Minsky colleague who is president of the Levy Economics Institute at Bard College, sponsor of the conference, said in his opening remarks.

Before the summer of 2007, the bearish Minskyites could have been dismissed as Cassandras, in the tradition of the Greek mythological figure who had the gift of prophecy but was not believed. Now, at least, they are beginning to be recognized and rewarded. Edward Chancellor, a member of the asset allocation team at Grantham, Mayo, van Otterloo, had picked up a piece of hardware on his way to the Minsky conference: a George Polk Award, one of the most prestigious journalism prizes, for an article he wrote for the February 2007 *Institutional Investor* titled "Ponzi Nation" – a reference to Minsky's concept of a financial system driven by speculation to be dependent on ever-rising asset prices.

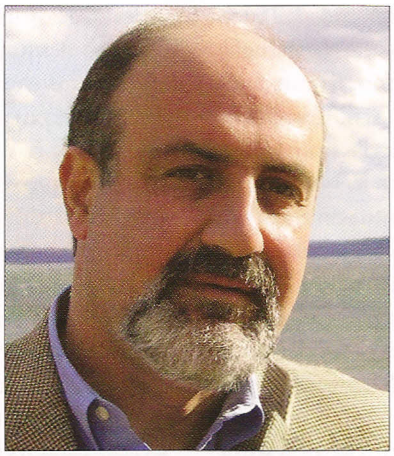
It all seems so obvious now. But observers like Chancellor and Galbraith had and were articulating insights for some time that others, purposely or not, overlooked or ignored, and the consequences and costs on both a micro and macro scale continue to mount up. To be sure, some of the blame rests with corporate leaders and cultures blinded by seemingly limitless profits and attendant bonuses. Any alarms were drowned out, and, assuming recovery will eventually be on the way, it's another lesson that threatens to be lost or unlearned.

"Nobody had an incentive to listen when they were making so much money," comments Paul Wilmott, a London-based consultant and educator in quantitative finance who was warning as early as 1999 and 2000 about dangers in structured products, though, he admits, "I didn't know it would be this bad." He adds, "People forget so quickly," and "there is a very real possibility this will be forgotten again."

Charles Morris picks up on that theme. He literally wrote the book on the subject – "Money, Greed, and Risk: Why Financial Crises and Crashes Happen" – in 1999, when the Asian and Russian crises were fresh in memory. Those incidents turned out to be relatively modest foreshadowings of

2007-'08, but many non-historians failed to learn from them. Morris even warned of future derivatives hazards, not by claiming any crystal-ball clairvoyance, but by looking back on "a long string of fiascos in derivatives markets [that] showed that even many of the gurus hadn't a clue to what was going on in their own businesses."

Morris followed up in 2008 with "The Trillion Dollar Meltdown: Easy Money, High Rollers, and the Great Credit Crash," and amended the title for the paperback edition to "The Two Trillion Dollar Meltdown." By the 1990s, Wall Streeters were flocking to Sun Microsystems workstations, engineering 125-tranche wonders that "no one could possibly understand," Morris writes. "The complexity of the instruments spiraled into absurdity."



Nassim Nicholas Taleb, author of "Fooled by Randomness" and "The Black Swan," would ban derivatives that are not clearly priced in exchange trading.

stability spurs risky behavior, and that leads to crisis.

Too many people "just didn't get it," Morris tells *Risk Professional*. He recalls forecasting sessions at the Council on Foreign Relations in New York where veteran Morgan Stanley economist Stephen Roach "since 2006 would point to a disaster, and there were always three other economists who would just laugh at gloomy Steve. It became a running joke, but of course he was absolutely right, looking at the same data as everyone else. Warren Buffett saw it coming. George Soros saw it coming. Paul Volcker saw it coming, looking at the same stuff I did."

As Morris's roll call of investing and economics luminaries suggests, one didn't have to subscribe to any philosophy or school of thought, Minskyan or otherwise, to see ominous signs or raise red flags. His study of about a dozen crashes over a century and a half showed recurring patterns of innovation that "makes a lot of money for second and third movers and then goes wildly overboard and crashes." By his pessimistic reckoning, the U.S. was due for a fall by 2004. As he wrote in "Money, Greed, and Risk," "Events follow the same broad pattern today as always – currency crises are still currency crises – but move breathtakingly faster."

Others whose reputations and profiles have risen in inverse proportion to economic indicators include James Grant, editor of the perennially skeptical newsletter *Grant's Interest Rate Observer*; former derivatives trader Nassim Nicholas Taleb, author of "Fooled by Randomness: The Hidden Role of Chance in Life and in the Markets" (2005) and "The Black Swan: The Impact of the Highly Improbable" (2007); Nouriel Roubini, professor of economics at New York University's Stern School of Business and chairman of consulting firm RGE Monitor, whose continually worsening prognoses have earned him the moniker "Dr. Doom;" Yale University professor Robert Shiller, whose 2005 second edition of the 2000 book "Irrational Exuberance" laid out the real-estate-crash scenario, and who went into greater depth in 2008's "The Subprime Solution" and 2009's "Animal Spirits" (with George Akerlof); and Meredith Whitney, who was a lone voice predicting the tanking of Citigroup and other financial stocks while she was an analyst with Oppenheimer & Co., and who recently started her own firm.

It may be small consolation, but some who were in the trenches and did what they could to avert the worst of the crisis can, and in some cases do, claim unsung-hero status. Brooksley Born, a retired partner of Washington law firm Arnold & Porter and chairman of the Commodity Futures Trading Commission in the late 1990s, called for tighter regulation of derivatives trading but was outgunned by Clinton administration Treasury Secretary Robert Rubin, his deputy Lawrence Summers and Federal Reserve Board chairman Alan Greenspan.

William Black, an associate professor of economics and law at the University of Missouri, Kansas City, who was a savings and loan regulatory official during that industry's bailout and currently blogs on the Huffington Post, not only contends that fraud was rampant in nonprime mortgage lending. He also points out that the Federal Bureau of Investigation had deemed it "epidemic" but was unheeded by the Bush administration.

And according to a January 19 report in the *New York Times*, while Deutsche Bank was touting collateralized debt obligations to institutional investors, Greg Lippmann, Deutsche's head of trading in CDOs and asset-backed securities, was warning select clients and traders "about the fragile state of the housing market" and encouraging hedge funds to bet against mortgages. He reportedly handed out T-shirts to some clients with the message, "I'm Short Your House." M&T Bank Corp. in Buffalo, New York, which counts billionaire Warren Buffett among its shareholders, blamed Deutsche for $80 million of losses it incurred on a hybrid CDO. (Deutsche Bank declined to comment on the article but asserted that M&T entered into the investment aware of the risks.)

Dan diBartolomeo is one risk management practitioner who brings a historical perspective into his business as president of Northfield Information Services, a Boston-based provider of risk modeling systems and software. DiBartolomeo played a behind-the-scenes role in the defining scandal of the era: Bernard Madoff's multibillion-dollar Ponzi scam. When Harry Markopolos, a Boston-based money manager, delivered explosive testimony to Congress in February, recounting how he had tried to warn the Securities and Exchange Commission as early as 2000 that Madoff was reporting bogus returns to investors, Markopolos credited diBartolomeo as his risk management consultant and number cruncher. DiBartolomeo punched holes in Madoff's performance data, which showed improbably steady gains over time.

DiBartolomeo, who earned his undergraduate degree in applied physics from Cornell University, combines a sense of history with analytics and clear thinking, but sometimes that just doesn't attract the right amount of attention. In 1998, long before the credit rating agencies were blamed for not downgrading mortgage-backed securities until it was too late, Northfield studied how Moody's Investors Service was assessing collateralized loan obligations (CLOs), using what the agency called diversity scoring, later changed to binomial expansion technique. "Basically," says diBartolomeo, "they treated loan default risks as if they were independent across borrowers, which is nonsense. It just made the math simpler."

In 2004 Northfield, working for a Middle Eastern client, developed a more sophisticated method of looking at risk. But U.S. clients weren't interested, says diBartolomeo. "This meant that even purportedly sophisticated institutions had no idea how much risk they had in commercial real estate." U.S. institutions approach to real estate risk was "hopelessly primitive."

In 2007 diBartolomeo saw another, bigger jaw-dropper. A guest presentation at a client conference showed futures contracts being traded on real estate price indices at discounts of over 30 percent for U.S. cities such as Miami. "This implied that investors expected price declines of almost this size," he notes. "How could any rational financial institution give out a mortgage with a 5 percent down payment, on a property whose value is expected to decline 30 percent?"

DiBartolomeo was most likely glimpsing the other side of deals that Morris had seen being packaged into CDOs. In 2005 Morris was puzzled that even though yields on prime conventional mortgage loans had dropped as low as 5.3 percent, the number of CDOs had continued to expand. Morris knew bankers needed at least 7 to 8 percent yields to make money on a CDO.

"The only mortgages you could've made CDOs from under those circumstances were Alt-A or subprime," he says. Indeed, a Standard & Poor's report showed that almost all CDOs were being built from this lower-quality debt. Yet S&P was still putting investment grade ratings on the CDO pools. "S&P was very concerned," says Morris. "But its rating side didn't seem to read what its analytic side was putting out."

In mid-2006, hedge funds came into the commercial mortgage-backed securities (CMBS) market and changed what had been a conservative investing game, pushing loan-to-value (LTV) ratios toward 100 percent. "The hedge funds didn't care about the risk, they just wanted to sell the bonds," says Morris. "They were originating mortgages and securitizing them for fees. In order to dominate the lending, they offered ridiculous deals, assuming far higher rent rolls than a bank would give – ten-year, interest-only and the like."

"Even classic banks like JPMorgan Chase and Wachovia were playing catch-up with these guys," he says. "Wachovia had to ratchet up from LTVs of 75 percent to get deals away from hedge funds. I figured, here is really the time for a big

How could an institution make a 5 percent down-payment

crash." The loose credit practices migrated from one lending silo to the next; first residential, then private equity and finally commercial.

When Morris reviewed major bank annual reports, he found that off-balance-sheet exposures were typically about half as large as their reported exposures. They had transferred assets to entities such as structured investment vehicles. But the fine print showed that the off-balance-sheet vehicles usually had a put-back of some kind to the bank. And that was assigned a minimum liability value that could be buried in the "other liabilities" line.

"So the bank was at risk for the whole thing, and you didn't have to be a genius to see it," says Morris. "We know most of these things are residential mortgages. And we know from Standard & Poor's report that most of the mortgage-backed stuff is made up of high-risk mortgages, funded by short-term paper. If there are any losses, the banks are going to eat them. They're not on the balance sheet and the bank booked a big profit when it sold them to an off-balance-sheet trust. We know that's storing up problems – and the regulators didn't seem to care."

Morris also found that American International Group, the insurance giant that has cost some $170 billion in federal bailout money, was hiding risk in plain sight. It disclosed in annual reports that it had sold regulatory relief swaps to European banks, put on the books at par. In other words, the company anticipated no losses from subprime residential mortgage assets. "Because they were not taking any reserves, they were grossly exposed," says Morris. Although this was a major revelation according a *Wall Street Journal* post mortem on AIG's downfall, Morris exclaims, "But it was in their annual reports!"

Like many of the experts now entitled to say "I told you so," Morris insists he has done nothing special and admits to being, if anything, too conservative in estimating the extent of the economic downturn and financial losses. "It was all there – not on the balance sheets, but in the footnotes, for anyone to see," says Morris.

Macroeconomic analyses have turned to the roles of central bankers and regulators in causing or exacerbating the housing market swings and, ultimately, the crash. But those verdicts tend to come after the fact, as in classic analyses of the Great Depression that point to an excessively tight Federal Reserve monetary policy. The cyclical interplay of policy, regulatory arbitrage, firm behavior and innovation are key elements in Minskyan analysis – another reason for its coming into favor since the real estate bubble.

"This was not a situation like the Great Depression, where just printing money or providing liquidity was the solution; rather it was due to fundamental problems in the financial sector relating to risk," John Taylor, a U.S. undersecretary of the Treasury from 2001 to 2005 and now a Stanford University economics professor and Hoover Institution senior fellow, has said.

Taylor points his finger in "Getting Off Track: How Government Actions and Interventions Caused, Prolonged and Worsened the Financial Crisis," published in March. He tells *Risk Professional* that warning signs were not completely obvious, but his book documents some real-time diagnoses by him and collaborator John Williams in 2007 and 2008. The dark days of September 2008, including the Lehman Brothers bankruptcy, followed several policy responses that failed in their attempts to stimulate liquidity, credit and spending.

"If it was a liquidity problem, then providing more liquidity by making discount window borrowing easier or opening new windows or facilities would be appropriate," Taylor writes. "But if the issue was counterparty risk, then a direct focus on the quality and transparency of the banks' balance sheets would be appropriate, by requiring more transparency, by dealing directly with the increasing number of mortgage defaults as housing prices fell, or by looking for ways to bring more capital into the banks and other financial institutions." He concludes that "monetary excesses during the period leading up to the housing boom" set the stage for the bust, and "the failure to diagnose the financial crisis early on as mainly due to increased risk rather than to liquidity is a key reason that the policy responses were inappropriate and that the crisis was prolonged."

Like seismologists poring over geological data to discern overlooked hints of an earthquake, Taylor and Williams look at dramatic and sudden changes in money market conditions,

loan on a property expected to decline 30 percent?

as seen in the three-month London Interbank Offered Rate (Libor) on August 9, 2007. It surged in comparison with the overnight federal funds rate on interbank loans. "Rates on such term lending seemed to disconnect from the overnight rate and thereby from the Fed's target for interest rates," they write. "Because interest rates on trillions of dollars of loans and securities are linked to Libor, bringing the spread down became a major concern of policy officials at the Federal Reserve." The sudden change, they say, was reminiscent of the highly extraordinary "black swan" events that were the subject of Taleb's book.

Taylor and Williams zeroed in on counterparty risk because banks became reluctant to lend to other banks because of the perception that "the risk of default on the loans had increased and/or the market price of taking on such risk had risen." They note that lending between banks in the Libor market is "unsecured. There is no collateral to claim in the case of a default."

The authors also point out that credit default swap (CDS) rates for banks rose in the summer of 2007, which could explain the increase in Libor-OIS (overnight indexed swap) spreads during the same period. A sizable CDS market spike also occurred during the Bear Stearns Cos. crisis in March 2008. The CDS rates fell after JPMorgan purchased Bear Stearns.

Those who are being recognized now for their prescience earlier command attention that they did not enjoy when their views might have helped stave off the worst of the crisis. So what are they advising now?

Taylor, in a November 2008 paper, "The Financial Crisis and the Policy Responses: An Empirical Analysis of What Went Wrong," recommends:

• A return to principles used to set interest rates during the "Great Moderation," a period of declining volatility that lasted from the 1980s into the 2000s.

• Basing future government interventions on a clearly stated diagnosis of the problem and rationale for the interventions.

• Creating a predictable exceptional-access framework for providing financial assistance to existing financial institutions, similar to the International Monetary Fund's framework for emerging market countries.

DiBartolomeo promotes the use of synthetic real estate models, developed by Northfield, so that risk exposure can be constructed in line with "the economic forces that drive returns." He believes such "synthetic products may be an important step forward in overcoming the inherently illiquid nature of real estate" and create better benchmarks, active hedging of interest rate risk to property values and more appropriate inclusion of real estate in optimal asset allocation.

Taleb maintains on his www.fooledbyrandomness.com Web site a list of "quotes and warnings [from "The Black Swan"] that the imbeciles chose to ignore." Among them: "Globalization creates interlocking fragility, while reducing volatility and giving the appearance of stability. In other words it creates devastating Black Swans." And: "Recall the story of banks hiding explosive risks in their portfolios. It is not a good idea to trust corporations with matters such as rare events because the performance of these executives is not observable on a short-term basis, and they will game the system by showing good performance so they can get their yearly bonus."

On the matter of marking troubled assets' value to market, Taleb tells *Risk Professional*, "Anything not marked to market at a transactional price is prone to model error. I am in favor of banning derivatives that do not have a clear price on an exchange."

"We're at a knife's edge now -- no one has a model," Morris says today. He has written that "it comes down to taste, and balance, and judgment." After the shift that began in the 1980s from a government-centric style of economic management to a more markets-driven one, "it's time for the pendulum to swing in the other direction."

As Stanford professor Taylor argued in a February 9 *Wall Street Journal* column previewing his latest book, "It did not have to be this way. To prevent misguided actions in the future, it is urgent that we return to sound principles of monetary policy, basing government interventions on clearly stated diagnoses and predictable frameworks for government actions."

We're at a knife's edge now – no one has a model.

Maureen Nevin Duffy is a New Jersey-based independent journalist who has written about derivatives, complex instruments and investment performance since the 1990s. Risk Professional *editor Jeffrey Kutler contributed to this article.*