RISK MANAGEMENT STARTS AT THE TOP

Paul Strebel and **Hongze Lu** asked why, at the end of 2008, Citigroup, Merrill Lynch and UBS had well over $40 billion in sub-prime write-downs and credit losses, while some of their competitors were much less exposed. Their research into the situation revealed correlations of great import to today's firms.

Where were the boards of directors of the world's largest financial firms when their managements were loading up on risky collateralized debt obligations and structured investment vehicles? What happened to the risk-management procedures laid out in their corporate governance guidelines? We have found a strong correlation between the size of the sub-prime write-downs and losses, the lack of financial market expertise on bank boards, and the negative role played by dominating CEOs and board chairmen. Most importantly, we have found that risk management at the top of corporations, especially financial firms, is not about computer modelling; it's about executive judgement.

Risk modelling can be very misleading

It's widely recognized that much of the current economic mayhem can be traced to banks and other financial institutions that allowed themselves to become subjected to ever-riskier loan portfolios. Bundles of loans tied to unwise mortgage lending (also known as sub-prime loans) became collateralized debt obligations (CDOs) and structured investment vehicles (SIVs) – names for huge collections of debts that were without reliable debtors and/or without properties whose intrinsic value equalled the amounts of the loans. As an enormous imbalance grew between assets and debts, many financial firms either needed (and received) a government bailout – or they went out of business. Lehman Brothers, a company with a history going back to 1850, is a prime example of a major financial firm that ultimately went bankrupt when it failed to garner government support. There are many other examples. How could it happen – especially when firms had developed systems and computer models to avoid such a calamity?

Even firms with sophisticated computer models can be led astray if they fail to adapt their underlying assumptions to changing conditions. For example, UBS had the reputation of being one of the world's best managed banks with the most prudent risk management. Its risk-management philosophy was backed up by the latest quantitative modelling techniques, which determined the risk limits associated with individual assets and investments, enforced by the head office in Zurich. The separation of front-line operations and control was in line with best practices in risk management. But the mathematical sophistication of the models did not lend itself to judgement based on common sense. The models encouraged a mechanistic application of the risk assessments they produced.

Moreover, the models were unreliable because they depended on data from rating agencies developed during the period of booming housing prices from 2000 to 2005. Rating standards →

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→ tend to be loose during periods of peak prosperity and tight during recessions; and ratings shift with the business cycle, the industry and location of the borrower. With the growth in sub-prime originations, the average characteristics of borrowers changed, and a significant drop in borrower quality was not captured by the ratings.

In particular, the data fed into the risk models showed that AAA-rated bonds would never fall more than two per cent below their face value. As a result, AAA-rated CDOs could be converted into risk-free securities by buying protection against a loss of two per cent of their face value. Since they were risk-free, investment in the "insured" CDOs was not limited by the risk-management process. UBS's in-house hedge fund, Dillon Read Capital Management, pioneered the investment into insured CDOs and made hefty profits in the first 18 months. To boost their results, traders on the UBS CDO desk also started accumulating insured CDOs on the bank's book. In addition, the treasury division, responsible for investing the bank's surplus cash in safe liquid investments, climbed on the insured CDO bandwagon.

With everyone brainwashed by the superiority of mathematical modelling (without questioning inputs), there was little room in the risk-management process for common sense questions such as: "How can assets that are as risk-free as cash continue to earn so much more than cash?" In remarks accompanying the release of UBS's interim report to the Swiss Federal Banking Commission on the breakdown in its risk management, Marcel Rohner, its then-CEO, said the bank had missed the bigger picture by relying too much on its risk-management process. Consequently, people "no longer asked the basic questions." He added, "Most of our colleagues reviewed transactions, hedged risks, refined models and performed analyses with the best intentions. The problem was not a failure to appreciate complexity, but rather the opposite: it was a lack of simplicity and critical perspective, which prevented the right questions from being asked while there was still time."

Risk judgement requires expertise

Asking the right questions about exposure to major risks is ultimately the responsibility of top management and the board of directors. A meaningful discussion of risk at the top presupposes directors with sufficient industry expertise and power to challenge management about the major risks facing the firm, as well as the appropriate degree of risk to take in pursuit of value creation. It is unreasonable to expect board members, no matter how eminent in their field but lacking financial industry expertise, to raise the red flag on CDO risk with a triple-A rating. Or to expect them to pass judgement on the risk associated with investment, for example, in a CDO-cubed portfolio of CDO-squared portfolios comprising multi-sector CDOs backed by different forms of debt.

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There is a striking contrast in the composition of the boards of those banks with the biggest write-downs and credit losses in 2007–2008 and those with much lower losses. We studied the top banks worldwide with total assets in 2006 above $800 billion. From the resulting list of 30, we excluded four financial institutions due to lack of information. We rank-ordered the 26 remaining financial institutions according to the one-year percentage change in their net income from 2006 to 2007, as measured in local currency. This resulted in two groups of similar size: those banks that weathered the crisis in 2007 with positive net income change and those with more negative net income change. The 2007 income change is closely correlated with the size of the sub-prime write-downs and credit losses reported as of February 9, 2009. The better performers had an average $13.6 billion in write-downs and credit losses, while the poorer performers averaged $27.9 billion.

For each bank, we examined the biographies of the board members as of April 18, 2008, before the crisis forced changes in board composition. If board members had been working in the financial and banking industry recently, we classified them as board members with experience in financial services. We then looked at the number of board members with financial experience for each bank compared with the total number of board members. Goldman Sachs topped the list with 60 per cent of experienced board members, and Citigroup (with 7.69 per cent) had almost the lowest percentage of board members with financial expertise. Better-performing banks had an average 28 per cent of board members with financial experience, much higher than the 15 per cent on the boards of the

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underperforming group. Those banks with the biggest write-downs – Citigroup, Merrill Lynch and UBS – had *almost no one* on their boards with the industry expertise needed to credibly challenge their CEO-chairman. The same is true for all the institutions acquired by the government or another bank. Those with more limited write-downs typically had much more financial expertise on their board.

In the Citigroup case, in which the CEO-chairman himself had no experience in trading and investment banking, the losses were especially dramatic. Charles Prince became Citigroup's CEO in 2003, when it was reeling from a string of scandals. As a lawyer, he seemed to be the right troubleshooter to fix Citi's exposure to Enron, WorldCom, Global Crossing, Parmalat and other charges, including illegal bond trading in Europe and illegal private banking operations in Japan. Citigroup said that Prince would not micromanage, as he had to concentrate on cleaning up the legal mess. Investors were sceptical, and Citi's stock fell 2.8 per cent on the day that Prince was announced as the new CEO. In the words of an insider: "It's like they took the lawyer for an NFL (National Football League) team and made him the quarterback overnight." In the years leading up to 2008, Citigroup became one of the largest underwriters and holders of CDOs backed by sub-prime debt. On February 9, 2009, Citi's write-downs and credit losses had reached $85.4 billion, topping the loss-league group.

At Merrill Lynch Stanley O'Neal got his first job at General Motors. He received a scholarship from GM to study for an MBA at Harvard Business School. In 1986, he joined Merrill Lynch; he rose to the top and headed Merrill's brokerage division in 2000. O'Neal made his name at Merrill Lynch after the 9/11 terrorist attacks on the World Trade Centre. He fired more than 20,000 employees and shut down 266 offices around the globe; he was awarded the CEO position in 2002 in part for his ruthless cost cutting. O'Neal was known for his despotic management style, and he pushed the bank to take more risk and to expand aggressively in the new business of CDO underwriting.

According to *The Wall Street Journal*, "Merrill Chief Executive Stan O'Neal would grill his executives about why, for instance, Goldman Sachs was showing faster growth in bond trading profits. Subordinates would scurry to analyse the Goldman earnings to get answers to Mr. O'Neal. 'It got to the point where you didn't want to be in the office' on Goldman earnings days, one former Merrill executive recalls." For Merrill's former CFO, Jeffrey Edwards, risk management was not easy. "People close to Merrill say that even if Edwards saw the risk, contradicting O'Neal was a dangerous game. 'Either you did what he wanted or you were out,' says a Merrill employee." O'Neal got rid of bond executives the same way he fired the other 20,000 employees in 2001. The fixed-income department was like a revolving door for management change.

Under O'Neal's push for quick returns, Merrill became increasingly hooked on the high-risk CDO returns. In order to underwrite more CDOs, Merrill Lynch acquired sub-prime mortgage originator First Franklin for $1.3 billion in December 2006. In May 2007, O'Neal delegated responsibility for risk management to Ahmass L. Fakahany, despite his lack of any trading experience. Fixed-income revenues increased dramatically together with increased risk. "More than anything else," Mr. O'Neal wrote in July 2007, "the quarter reflected the benefits of a simple but critical fact: we go about managing risk and market activity every day at this company." O'Neal was quoted as saying: "It's what our clients pay us to do, and as you all know, we're pretty good at it."

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Beware the dominant CEO-chairman

Even with financial services expertise, good judgements about risk can only be made if there is a critical spirit at the top open to warning signals both from the outside and the front line inside the business. It is difficult to imagine such wide-open dialogue if the CEO-chairman dominates the board agenda. During the critical period of mid-2005 to mid-2007, when those with the biggest write-downs bulked up on sub-prime backed CDOs, Citigroup, as we've seen, had a dominant CEO-chairman with no financial expertise; Merrill Lynch had a dominant CEO-chairman and UBS had a dominant executive chairman. The stories of the CEOs have sadly become the stories of the companies.

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→ But the push into CDOs and timing of the purchase of First Franklin were precisely wrong, as the sub-prime market and CDO trades dried up quickly in 2007. When the market for even the highest-rated CDOs froze in late 2007, Merrill Lynch board members faced mountainous write-downs. Yet, in October 2007, O'Neal announced his retirement and walked away with a compensation package valued at $161.5 million. By February 2009, Merrill had the second-highest write-downs of any bank, $55.9 billion.

At UBS Marcel Ospel joined Swiss Bank's (SBC) planning division in 1977. Prior to leaving for Merrill Lynch, where he spent three years and gained experience in investment banking, his general manager at SBC wrote an evaluation for Ospel's personnel file: "A capable person, bends over backwards to prove his worth, very ambitious, thinks materialistically, could make mistakes because of big ambition. Therefore needs control." After returning to SBC in 1987, Ospel rose in the ranks and became executive chairman in 2001 after the UBS/SBC merger. Ospel's ambition for growth was neither controlled nor challenged. From 2005 to 2007, UBS's balance sheet increased 21 per cent to 2.54 trillion francs. By February 2009, UBS had the third highest write-downs totalling $48.6 billion.

At UBS, Ospel controlled the board and management through the chairman's office, which was the power centre within both the board and the executive team. As CEO, he was known to prefer younger less-known executives. These he rotated out after four to five years. Coupled with a board of notables lacking in financial market expertise, this prevented any challenge to his power at the top. In 2006, he held a now-notorious conference call with the top UBS executives worldwide exhorting them to go for growth to beat their investment-banking competitors. Ultimately, UBS faced 2008 write-downs of almost 19 billion pounds. It thus came as no surprise that Ospel was not invited to keep his seat on the board, and he retired. Interestingly, while Ospel was exhorting everyone at UBS to take unhealthy risks, at Credit Suisse, the risk management committee of the board (made up of experts in financial markets) called for a reduction in the exposure to CDOs. Its losses during this period were dramatically lower.

Rotations can help

CEOs-chairmen become dominant when they are successful and entrenched, hold their position for a number of years, and have a tendency towards hubris and excessive confidence in their decision making. Newer CEOs-chairmen are more likely to ask probing questions and be sensitive to risk exposure. They normally are not yet comfortable relying exclusively on their own judgement. Indeed, our research has shown that the banks with the biggest losses had stable power structures in the sense that their chairpersons and CEOs were in place for an average of four and a half years prior to 2007. By contrast, banks with more limited losses had, on average, a change in chairman and/or CEO in the last two and a half years prior to 2007.

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Rotation is a way to provide learning experience and avoid a single individual dominating the corporate culture. Top management rotation provides a pool of candidates with healthy competition for the top job, thereby making the CEO-chairman less entrenched. In the banking industry, too many boards have let dominant CEOs-chairmen force out potential successors and purge most of their company's top leaders. When no internal candidates are available, the CEO knows the board cannot easily fire him.

The banks with the biggest losses also gave their star traders and hedge fund managers iconic status, which allowed them to dominate the controllers. Banks with lower losses were better at reining in their stars. The better performers often had an explicit policy of rotating executives between the front line and control, with more comparable compensation for these roles.

Goldman Sachs provides a high-profile example of staff rotation between the control and the revenue-generating sides of its business. When announcing Goldman Sachs as Bank Risk Manager of the Year in January 2008, *Risk* magazine cited the career path of Robert Berry, head of quantitative risk modelling in the risk-management department at Goldman Sachs, as an example of management

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rotation. Berry started as a fixed-income trader, and then spent three years improving interest rate derivatives models in the dealer's front office before working in risk management and control. As a result of rotation, Goldman Sachs's top executives are versed in risk management.

In December 2006, Goldman wrote off its mortgage-related losses, and management quickly reached the decision that "we'd rather be short than long". The company bought a large amount of protection against the decline of US home loan-backed securities. Goldman sold off most of its CDOs at a loss in April and May 2007, but the protective positions made them billions in profit.

Needed: strong sparring partners

With many banking CEOs-chairmen and board members fired, new CEOs and board members have been recruited. How should they structure risk management at the top to survive the next banking crisis?

Sophisticated risk management systems and modelling, as we have seen, are clearly not enough. The data from the recent crisis strongly suggest that, at board level, especially in a complex industry like banking, expertise weighs more than diversity. Though board members may be eminent in their fields, without financial expertise they cannot ask the right questions to assess risk. On average, the banks that did best at weathering the sub-prime crisis had more financial market expertise on their boards. In addition, the banks that did best had a recent change at the top, either of CEO or chair.

However, if a CEO is doing a great job, he cannot be moved out without endangering value creation. The task of controlling him then falls to the board chair or lead director; and the more successful and entrenched the CEO, the stronger the chair-lead director required to manage him. But if the chair-lead director becomes too powerful, he can easily get locked into conflict with the CEO and/or freeze out other members of the board. To avoid dominance by either the CEO or chairman-lead director, it is essential that all the board members act as strong sparring partners and raise a red flag when necessary, especially when both the CEO and chair have been in their positions for some time.

This suggests that to prevent the next crisis, not only should all board members have financial expertise to identify risks, but they should also ask the right questions and prevent either the CEO and/or the chairman from becoming dominant. To provide the board with alternatives to CEO power accumulation, top executives should be exposed to the board to develop a succession pipeline; middle managers should be rotated and versed in the best risk-management practice (in mathematic models and especially in judgement) to support and check the top team. In brief, effective risk management at the top requires executives and board members with financial expertise who are strong enough to see that the CEO or chair does not become entrenched and that the company does not become mired in financial quicksand. ■

Resources

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