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> *After the Crash: Will Finance Ever Be the Same?*

THE FINANCIAL CRISIS of 2007–08, which led to what is now known as the Great Recession of 2008–09, will go down in history as one of the most troubling economic events of the postwar era. Although some prescient analysts forecast that the housing bubble in the United States, which triggered the crisis, eventually would burst, we suspect that few foresaw the crisis bringing the United States and other global economies nearly to their knees. Certainly, no main-stream forecaster or high-profile policymaker predicted this outcome.

Even now, after the dust has settled somewhat and a halting recovery is under way, many questions about the future of the global financial services industry remain. After receiving massive government infusions of capital and experiencing large numbers of failures, what will the U.S. commercial banking industry look like in the years ahead? Further, with only one major independent investment bank left in the United States after the crisis, what impact will new regulations have on the investment banking business, under whatever corporate structure it is conducted? The same question can be asked of the hedge fund industry, which went into the crisis largely unregulated. And finally, what is the evidence that the executive compensation structures of some financial companies contributed to the crisis (a criticism leveled by regulators and many in the media)? Should compensation regulation be imposed on the financial services industry? And if so, what form should it take? These are important questions not just for those who own shares in or work for financial services companies but also for the policymakers designing a regulatory framework and for concerned citizens, who fear another disruption of their lives, destruction of their wealth, and the fiscal consequences of government spending on cleaning up after such crises.

It is appropriate, then, that these questions were also the subjects of a research conference jointly organized by the Nomura Institute of Capital Markets Research, the Brookings Institution, and the Wharton Financial Institutions Center in October 2009. This volume contains the revised presentations made at the conference, which came just one year after the worst of the crisis unfolded. During the third week in September 2008—after Lehman Brothers declared bankruptcy, after Merrill Lynch fled to safety in the arms of Bank of America, after the Federal Reserve improvised an unprecedented bailout of the creditors of AIG, and after the U.S. Treasury rushed to guarantee the more than \$3 trillion held in U.S. money market funds—many observers believed the future of the financial services industry was utterly bleak.

We provide in this introductory chapter a summary of the chapters that follow. A broad theme that runs through these chapters is that each of the segments of the financial services industry we review has been significantly affected by the crisis and is likely never to be the same again.

Alan McIntyre and Michael Zeltkevic, of Oliver Wyman Group, focus in chapter 2 on the industry in which many of the problems first surfaced, the U.S. commercial banking industry, and examine its future. But first the authors briefly revisit the industry's recent past, specifically what they call its golden era, the decade between 1993 and 2003. Cognizant of the savings and loan and banking crises of the previous decade, banks during the golden era recapitalized (at the direction of new legislation) and earned returns on equity of roughly 14 percent, the highest of any decade since the 1920s.

The industry's performance began to deteriorate in 2004, however, as the Federal Reserve reversed the loose money policy it had pursued in the wake of the 2000–01 recession. With a flatter yield curve, the spread between bank lending and deposit rates (upon which banks traditionally relied to earn most of their profits) narrowed. To cover their fixed costs, banks turned to asset growth, especially subprime and alt-A mortgage lending to make up the difference.¹ Larger

^{1.} Alt-A mortgages (alternative-A paper) are considered riskier than prime mortgages (A paper), because borrowers have less than full documentation, lower credit scores, higher loan-to-value ratios, or more investment properties than prime borrowers. Alt-A mortgages, however, are considered safer than subprime mortgages.

banks seemingly hedged the risks of such lending in one of two ways: one, by packaging the loans into securities and then selling them to third-party investors, who might mix them with other securitized assets and resecuritize the pool as collateralized debt obligations; or two, by holding them in theoretically off-balancesheet affiliates, the so-called structured investment vehicles.

As we all know now, when the residential real estate market began to sour in 2007, those less-than-prime loans, and the securities that used them for collateral, turned toxic. Banks that had such "assets" on their balance sheets suffered, as did the large institutions that were forced by reputation—and arguably by contractual liquidity arrangements—to provide liquidity or take the structured investment vehicles and their newly troubled assets back onto their balance sheets. As a result, by 2008 the industry's overall return on equity had turned negative and a number of institutions, large and small, either failed or had to be rescued through arranged mergers.

What lies ahead? McIntyre and Zeltkevic projected in October 2009 that banks and insurers around the world still had substantial credit losses to come and not just in securities backed by mortgage loans but also in commercial real estate loans held directly or in the form of securities. But the authors' focus here is on the period after these losses have been absorbed; they spell out three future scenarios for bank performance. Each scenario reflects different assumptions about the key drivers of performance, including macroeconomic factors, the regulatory environment, and intensity of competition between banks and between banks and nonbanks, including capital markets.

In the authors' baseline scenario, which is the one they believe the most likely, the industry's return on equity will average 10 percent, or roughly the historical norm over the past seven or eight decades. Their benign scenario sees the industry returning to golden era profitability, with credit losses returning to precrisis levels and the global economy recovering reasonably smartly. In the third scenario banks barely break even, the macroeconomic environment is poor, and U.S. unemployment remains in the 9 percent range.

The scenarios depict industry averages, but within any average, some institutions will outperform, others will underperform. What factors are likely to make the difference? The authors suggest that the keys to superior performance include positioning in rapidly growing markets and the ability to manage risks and to take advantage of disruptive change (perhaps through targeted acquisitions). The authors also expect wider dispersion in performance among banks in what they call the new normal (less-buoyant) business environment.

The investment banking business was a major casualty of the financial crisis and the Great Recession. Two leading institutions—Bear Stearns and Lehman—disappeared (one by forced merger, the other by failure). A third, Merrill Lynch, merged with Bank of America, pushed by the Treasury and the Federal Resrve. And the two remaining bulge-bracket investment banks—Goldman Sachs and Morgan Stanley—hastily converted to bank holding company status to ensure access to the Fed's discount window and to forestall liquidity pressures. At the time of the October conference, Nomura Securities was the only major independent international investment bank standing.

In chapter 3 Kei Kodachi and Tetsuya Kamiyama of the Nomura Institute examine the future of the investment banking business through the lens of eight major regulatory changes that, at the time of the conference, were contemplated by the G-20: strengthening the risk-weighted bank capital standards, raising capital charges for banks' (commercial and investment) trading books, adopting and enforcing leverage ratios, extending certain banking rules to nonbanks, tightening the rules governing securitization, increasing regulation of over-the-counter derivatives, regulating short selling, and regulating hedge funds. The chapter describes each of these initiatives and argues that, in general, these changes individually and collectively would harm investment banking. Accordingly, they offer alternatives that address the perceived problems but in ways the authors believe to be less harmful and more cost effective.

For example, higher capital standards in general carry the danger of giving investment and commercial banks incentives to engage in "regulatory arbitrage," thereby moving such activity to unregulated markets or affiliates. Instead, the authors suggest improvements in risk control by the institutions and the regulators that oversee them. Similarly, higher capital charges for trading activities could be counterproductive by reducing trading activity and therefore liquidity, which could lead to increased price volatility. An alternative approach is to limit the kinds of assets in trading books. A simple leverage ratio ignores the quality of assets on the balance sheet (the reason regulators have adopted risk-based standards) and would have a disproportionately negative impact on countries, such as those in Asia, where banks are more important than markets as providers of credit. The authors suggest instead that country-specific leverage or capital requirements be adopted.

Because the crisis has revealed that large nonbanks (such as investment banks) may pose just as much systemic risk as large commercial banks, there is much interest within the G-20 in extending banklike regulation to large nonbanks. But this could lead to the same difficulties as with stringent bank regulation. Accordingly, the authors urge regulators to look for alternatives to the Basel II (risk-based) capital framework for reducing the systemic risks associated with large nonbanks.

As for the lack of incentives for prudence in securities origination, the authors argue that there is no need for a mandated "skin-in-the-game" requirement for mortgage originators, because the market, they assert, already imposes such requirements. There are clear systemic risks in over-the-counter derivatives markets, but these can be handled with greater standardization of the instruments traded and greater reliance on central clearinghouses. With respect to naked short selling, the authors see some regulation as inevitable. And with respect to the systemic risk posed by hedge funds, the authors urge greater regulatory supervision of prime brokers and reporting by the funds of their leverage.

More broadly, independent of the specific regulatory changes that may be coming, the authors outline a future of the U.S. financial service industry in particular, which contains a mix of financial conglomerates (some services dominated by commercial banks, others by investment banks), megaregional banks, and perhaps a few "pure play" investment banks.

Although much concern had been expressed in the years before the financial crisis about the systemic risks posed by hedge funds, these financial institutions in fact played little or no role in the crisis. That does not mean, however, that they will be immune from forward-looking reporting and perhaps regulatory requirements (for those few large funds that regulators deem to be systemically important).

At the same time, however, the crisis has had a major impact on the hedge fund industry. Although some funds earned record profits, many incurred substantial losses during the decline in equity markets. And although some of the bleeding stopped when equity prices picked up in the spring of 2009, many hedge funds have closed their doors (or have been obliged to shrink their asset base by their prime brokers, who withdrew much of their leverage).

What does the future hold now for hedge funds? In chapter 4, Christopher Geczy of the Wharton School seeks to answer that question, among others: what the consultants who advise institutional investors have been saying about the future; the past and likely future performance of the hedge fund industry; efforts to develop new products aimed at replicating the performance of hedge funds; how hedge fund exposures have changed over time; and the likely changes in regulation and enforcement in the post-Madoff era.

The consultants who advise institutional investors, according to a survey conducted by the author in late 2009 and the first quarter of 2010, report significant postcrisis changes in the advice they give their clients. There is much more focus now on transparency of hedge fund activities and risk exposures, greater attention to liquidity, more emphasis on lowering the fees the funds charge, an expectation that hedge funds will be subject to more regulation, and the likelihood that many investors will want to invest in "hedge fund replicators" rather than in the funds directly.

Gezcy's survey of consultants also reveals that most institutional investors are believed to have limited knowledge of hedge funds. Of those pension funds that allocate some investments to hedge funds, the allocation tends to range between 2 percent and 10 percent. A majority of consultants recommend (and expect to observe) a modest increase in hedge fund investment. Gezcy's chapter reports more specific results on various provisions in hedge fund arrangements, including the typical length of "lockups" (six to twelve months), risk measures, fees, application of fair value principles to the valuation of hedge fund investments, and concerns about fraud and the quality of due diligence.

Gezcy next turns to the performance of hedge funds, beginning by offering a typology of four types of fund, each with different investment strategies. The central conclusion is that one should not measure aggregate performance of all hedge funds because of the differences in risk factors to which they are exposed. The only meaningful comparison is to examine the performance over time of funds in a particular category, adjusted for the risk factors in that category.

A recent phenomenon is the development of a new class of funds that seek to replicate the performance of hedge funds of a given type without actually making the investments and following the precise strategies of those funds. A key advantage of replicators is that they can be constructed as mutual funds or exchange-traded funds and thus are open to a much broader class of investors than typical hedge funds, which are open only to sophisticated individuals of means or institutional investors. There are pros and cons to these tracker, or replicator, investment vehicles. Some argue that they are more transparent than the hedge funds they track. Critics argue that replicators generally track only the average or aggregate performance of funds in a category and thus miss out on any superior returns offered by star funds.

A key claim of hedge funds is that they in fact offer their investors superior returns, adjusted for risk, to other investment vehicles: alpha, for short. Gezcy evaluates this claim, noting that measures of alpha obviously depend heavily on the measure of risk used. His overall assessment is mixed, with only about half of the funds he studied reporting statistically significant alpha.

Gezcy also evaluates through standard statistical techniques the impact of Statement of Financial Accounting Standards 157 on fair value measurements (FAS 157) on hedge funds, which became fully effective in November 2008—or right in the middle of the financial crisis. FAS 157outlines the conditions under which certain assets, such as the kinds of mortgage-backed securities making up many hedge funds, have to be marked to market. Gezcy finds that FAS 157 did, in fact, have a noticeable impact on returns reported by some hedge funds.

Gezcy ends his chapter with several tentative conclusions about the future of the hedge fund industry. He shows that private equity strategies and hedge fund strategies have been converging and thinks it likely that the trend will continue. He believes that one of the key lessons hedge fund managers learned from the crisis is the need to place much tighter controls on the mismatch between the duration of their assets and liabilities. Gezcy expresses some skepticism that the interest of consultants in separately managed accounts (as a means of making hedge funds more transparent) will change the structure of the industry, given its passion for secrecy.

Although it is tempting to forecast the demise of the traditional compensation standard (2 percent of assets under management and 20 percent of profits above a high-water mark) because of the advent of replication approaches and other more liquid, transparent, and cheaper ways of gaining access to some hedge fund strategies, he concludes that, instead of a compression of fees, we are likely to see a bimodal distribution, in which the hedge fund managers with the best track records will continue to command stratospheric fees while other fund managers will be forced to reduce fees to meet the competition from the cheaper replication techniques.

Policymakers around the world and many in the media and among the public in fact blame the compensation structures of financial institutions for creating the crisis or, at the very least, for making it worse. The main purported villain: salaries or bonus arrangements tied in some fundamental way to the volume of business generated (such as mortgage origination), regardless of the downstream or longer-term consequences. Is this criticism correct? And if so, what kinds of compensation regulation might be appropriate? John Core and Wayne Guay of the Wharton School at the University of Pennsylvania take up these questions in chapter 5 and provide some unconventional answers.

The authors begin by placing their topic in the larger context of mounting concerns over CEO compensation generally, concerns related in their view to even broader concerns about growing income inequality. There is no doubt that CEO compensation, especially for those heading the largest corporations, is high. But is it too high?

By one standard, the answer is—not really: the authors point out that economic theory would suggest that compensation of managers, and CEOs especially, should rise as the size of their entities increases, since larger organizations tend to be more complex and more difficult to manage. And it turns out that, empirically, CEO compensation is correlated with firm size. Corporate CEO compensation is also not high when compared to compensation of hedge funds and private equity funds (which, in some ways, may be less difficult to manage than the typical large corporation). The authors note that U.S. corporate CEOs do make more than their counterparts in the United Kingdom but that U.S. executives also bear greater equity risks.

If, then, there is a plausible defense of the level of CEO pay among U.S. corporations, can the same be said about CEO compensation in the financial services industry? Based on their empirical analysis of the 1992–2006 period, the authors find that both the levels and the composition of the pay packages of financial services CEOs are comparable to those of CEOs at nonfinancial firms. The authors also cite evidence rebutting the common view that financial executives' compensation is too short-term oriented; to the contrary, the bulk of their compensation consists of stock and options, which the authors argue give the executives a long-term outlook. This finding is consistent with recent evidence that financial executives took heavy losses during the financial crisis and did not cash out in advance.

Nonetheless, it is not surprising that, in the wake of the crisis, financial compensation has become an explosive political issue. U.S. Treasury Secretary Timothy Geithner suggested in June 2009 that, going forward, financial institutions should pay their top executives in a manner consistent with a number of key principles. Perhaps the most important of these are that financial executives should be rewarded in relation to the performance of their institutions over the long run, not the short run and, further, that pay practices be aligned with sound risk management of the institutions. The authors find these principles noncontroversial and argue that compensation practices have been largely consistent with them.

Still, since mid-2009 the Treasury Department has strictly limited financial executive compensation at institutions that received government money under the Troubled Asset Relief Program (TARP). The authors are critical of a number of aspects of Treasury's rules in this regard and the ways they have been implemented by the department's pay czar, Ken Feinberg. For example, the required by stock exchange listing standards. The push to have financial executives' pay consist partially or primarily of restricted stock is puzzling to the authors in light of their evidence that executive compensation already conforms largely to this model. The authors level substantive critiques of other aspects of the pay rules, including the attacks on severance payments, tax gross-ups, and nonbinding

say-on-pay votes by shareholders. While not all of the participants at the conference shared the authors' resistance to greater regulation of financial executive compensation, their chapter marshals the best evidence available supporting the notion that further regulation is unwarranted.

The financial crisis of 2007–08 clearly was a watershed event in the financial and economic history not only of the United States but also of the rest of the world. The financial institutions and industries at the heart of that crisis—commercial and investment banking—as well as the hedge fund industry, which some believe could be at the heart of a future crisis, clearly have changed and will undergo more change in the future. We hope that the chapters in this volume shed light on what these changes are likely to be and how, in some cases, current and future policy might affect them.