REGULATING

THE DODD-FRANK ACT AND THE NEW ARCHITECTURE OF GLOBAL FINANCE

FOREWORD BY MYRON SCHOLES, 1997 NOBEL PRIZE LAUREATE IN ECONOMICS

VIRAL V. ACHARYA | THOMAS F. COOLEY | MATTHEW P. RICHARDSON | INGO WALTER
EDITORS

NEW YORK UNIVERSITY
NYU STERN
LEONARD N. STERN SCHOOL OF BUSINESS

Regulating Wall Street

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VIRAL V. ACHARYA
THOMAS F. COOLEY
MATTHEW RICHARDSON
INGO WALTER

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Foreword

This book continues the collaborative effort and scholarship of the New York University Stern School of Business faculty. I was amazed that part of the group that published the series of white papers that became the book *Restoring Financial Stability: How to Repair a Failed System*, published by John Wiley & Sons in March 2009, would have the energy and dedication to undertake this economic analysis of the complete Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. And I was amazed that they would do so in such a short period of time and with such a level of comprehension and clarity as to the issues to consider and evaluate, and also be able to provide new insights into methods that would lead to economically sound financial market reform. In the various sections, Acharya, Cooley, Richardson, Walter, and their colleagues at the Stern School not only consider the benefits and costs of the various sections of the Dodd-Frank Act, but also articulate clearly the Act's possible success in meeting the objectives, the likely consequences and unintended consequences, and the costs of the reforms in each of its sections. They should be commended for this effort.*

I was also amazed that this volume is not just an amplification of the original book but pushes academic and applied research to a new level. New work on measurement of systemic risk probabilities and costs, a new proposal for taxing banks differentially for systemic risk contributions, analysis of new forms of contingent capital, a clear discussion of the Volcker Rule and its consequences, and exploration of the likely effects of taking over entities to resolve failures—all these are thought-provoking. In the words of a scientist, "Why didn't I think of many of the issues raised in the book?" For example, when the government takes over a bank, the bank must pay employees to stay to unwind it—they won't stay on government salaries. Does the new financial protection agency help or hurt consumers—and does it mitigate systemic risk?

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*I will refer to the "book" in my comments because it is a collaborative effort by so many on the Stern School faculty. I would worry that I was not giving proper credit or was incorrectly identifying the sources of the arguments and analysis.

Although others perhaps won't give the authors proper attribution (for all good ideas are copied freely), the arguments and analysis in this book will be used by bankers and other market constituents to make the case for forms of regulation that they deem appropriate and to point out to the regulatory bodies the unintended consequences of other regulations. Regulators, in turn, will use the book's structure and economic arguments to counter and to develop more appropriate regulations. With inputs and analyses from this book, along with the work of others, my hope is that a sensible balance will arise that will neither cripple the financial system nor create a false sense that the new financial regulatory architecture will prevent failures in the future.

In the summer and fall of 2008 the global financial system was in chaos. Since then, there have been myriad discussions, conferences, television shows, Internet discourses, books, and articles about the crisis, its causes, who was to blame, and the failures. There have been congressional hearings, commissions, G-20 meetings, government and central-bank proposals, et cetera. There was, and is still, anger directed at Wall Street, the bailouts, and the bonus awards, and against central bankers and legislative bodies for not acting sooner to constrain the excesses of the financial system or for promoting them. As the book discusses, although the independence of the Federal Reserve is intact, its wings have been clipped as a lender of last resort. Moreover, we might have lost the opportunity to examine whether an active monetary policy should target only inflation and not changes in asset prices and risk, or whether inflation-targeting policies exacerbated the crisis (as some suggest). And this crisis has had a direct effect on jobs and on those who have owned homes and had leveraged balance sheets. As the book suggests, although government support of housing, mortgage finance, the government-sponsored enterprises (GSEs), and the rating agencies should have been the core of the Dodd-Frank Act, 25 percent of this legislation is devoted to moving liquid over-the-counter interest rate swaps to clearing corporations, where, paradoxically, more than 50 percent of swaps among dealers are already cleared, a large increase occurring subsequent to the crisis. The book clearly addresses these issues of housing finance as well as what is left out of the Act.

The Dodd-Frank Act arose from anger and cries for retribution against Wall Street. I had hoped that the chaos would provide the opportunity to reflect, to understand, and to learn from the crisis, and that from that learning financial entities would change practices (such as in clearing swaps) on their own and that gaps in regulatory rules would be corrected or old rules would be adjusted to reflect modern realities. Understanding takes discussion, argument, effort, and, most important, time to gather data and to conduct analyses of that data. At 2,319 pages, the Act requires that 243 new formal rules be adopted by 11 different regulatory agencies, all within a year and a half of its passage. This is a massive undertaking. It is shocking that so many failures in the system have now come to light. Or is it the case that Congress really could not pinpoint the causes of the crisis or know how to prevent future crises? Why did Congress fail to define the new rules precisely? Why did it pass on the actual rule-making responsibility to the agencies that will make new rules either to punish or to garner new jobs from Wall Street? And why, if these failures are now so important and devastating, do new requirements need to be phased in over such long time frames? Why are the rules so vague (such as transactions that include "a material conflict of interest" between the bank and its clients are prohibited)? And why might the Volcker Rule, which limits proprietary trading and constrains hedge fund and private equity investments to some extent, not actually be implemented, in part, for up to four years and perhaps as long as seven years? The book provides excellent discussions of these difficulties.

I am not sure that market failures and externalities (that were mispriced) were the only causes of the crisis. An important cause was also the poor infrastructure to manage financial innovations. If rules were insufficient for the Treasury or the Federal Reserve Bank to unwind failing institutions or too many agencies without expertise were watching over various financial entities, then the makeup and constitution of regulatory bodies should be changed. I am suspicious that this became important only after Lehman Brothers' default caused a much larger mess than regulators expected. And I think that the Dodd-Frank Act buried only one agency.

Since successful innovations are hard to predict, economic theory suggests that infrastructure to support financial innovations will, by and large, follow them, which increases the probability that controls will be insufficient at times to prevent breakdowns in governance mechanisms. It would be too expensive to build all of the information links, legal rules, risk management controls, and so forth in advance of new product introductions. Too many don't succeed in incurring large support costs in advance of market acceptance. For this reason, those financial innovations that grow rapidly are more likely to fail and to create crises—such as failures in mortgage finance, failures in subprime mortgage product innovations, failures to monitor mortgage originators, failures to provide mortgage bankers with the correct incentive systems, failures in adjustable-rate mortgages, failures in rating agency modeling of mortgage products and their synthetics, failures of investment banks in monitoring the growth of their mortgage products, and failures by those entities insuring mortgage products. There was a lack of infrastructure in place at large banks such as Citibank and with regard to credit default swaps at American International Group (AIG). Unfortunately, failures in mortgage finance tend to have vast consequences for homeowners as well as for the industries that service them.

Failures are expected. Some will be low-cost, whereas others will exact a large cost. And not all fast growing innovations fail. Before the fact, failures are hard to identify. Failures, however, do not lead to the conclusion that reregulation will succeed in stemming future failures. As this book clearly argues, while governments are able to regulate organization forms such as banks or insurance companies, they are unable to regulate the services provided by competing entities, many as yet unborn in the global community. Innovation benefits society, and innovation has costs. This crisis has caused many to conclude that the Dodd-Frank Act should have slowed down innovation to prevent too rapid growth, but it is hard to justify this conclusion, as the book's discussion of the role of government oversight and guaranteeing of systemic entities suggests.

The response to this dilemma is difficult. Infrastructure to support innovation is a business decision. The senior management of financial entities must decide when more resources are necessary to monitor and to understand innovation. They must decide whether the returns to innovation are worth the risks, including the risks of having incomplete information systems and controls; and they must decide whether the returns are measured correctly and whether the capital supporting innovation is sufficient. Financial entities are building entirely new risk systems in response to the crisis. Innovation risks are being incorporated into decision making from the outset. Measurement technologies are being built to provide senior management with the information they need to make informed decisions about product lines and their controls. In the past, risk management had been a reporting and a regulatory requirement within a bank. That is changing as risks and returns are being evaluated as part of the optimization process. That banks relied on the Bank for International Settlements to set risk rules is inappropriate. For example, their value at risk metrics, which rely on portfolio theory, did not allow for the possibility that liquidity shocks could result in asset prices around the world becoming highly correlated. The book goes to great length to model and discuss appropriate regulatory capital rules and their consequences that address some of these pitfalls of current rules.

We don't yet have a deep understanding of the intermediation process. Markets work because intermediaries are willing to step in and buy when sellers want to sell before buyers want to buy, and vice versa. Financial intermediaries provide liquidity or risk transfer services in mostly nontraded markets, and service the idiosyncratic needs of consumers, students, commercial or residential mortgage holders, corporations, pension funds, insurance companies, and others. The demand for intermediation services is not constant. The price of liquidity changes—increasing with lack of synchronicity in demand and supply, and becoming extreme at times of shock when intermediaries no longer have confidence in the value of the underlying assets and rationally withdraw from the provision of intermediation services as a result of an inability to determine new valuations quickly. With a shock, liquidity prices and valuations change simultaneously; sometimes liquidity prices change much more than valuation changes or vice versa.

Central bankers have always operated under the assumption that they provide collateral for good value to smooth out liquidity crises until markets work again. But, if this were true, no liquidity crisis would occur. Every intermediary would know of valuations, and as prices deviated from equilibrium values they would step in to reduce spreads and make large returns on capital. The uncertainty about what proportion of the price decline or increase was caused by changes in liquidity or fundamental value is extremely difficult to parse out quickly. Sometimes it takes a short time; sometimes it takes much longer. If it takes a long time, however, markets are chaotic; and as time expands, fundamental values continue to change.

I believe the economics of innovation and intermediation are key reasons why financial crises have such broad effects. Shocks affect intermediation across unrelated segments of the financial markets as shocks in one market are transmitted by intermediaries that reduce risk in one market in light of losses to other intermediaries, who in turn reduce risk in other markets.

The book discusses the consequences of rapid innovation and breakdowns in the intermediation process. Innovation affects compensation, for without measurement or adequate risk controls, senior management has difficulty discerning skill from risk taking. Innovation leads to seeming moral hazard issues. Lenders often don't spend resources in the short run to monitor instances in which others will step in to protect them. (For example, since AIG posted collateral to each of its counterparties and bankruptcy laws allowed them to seize the collateral in the event of AIG's default, the counterparties did not have to monitor the credit or the size of AIG's business. This was obviously true of government foreign debt holders, for example.) The true moral hazard in the system is that debt holders suffer little loss during a financial crisis. If they did, they would monitor or force management to monitor innovations.

The intermediation process must break down from time to time. This is the nature of markets. Markets work. In a sense the market breakdown can be considered a failure, but it is a failure only in that markets don't operate in times of crisis as they do when times are calm. The fact that markets work this way does not mean that regulators can do a better job of controlling markets. They watch the water from afar. The picture is far different up close.

As I read through the book's excellent discussion of the Dodd-Frank Act and its likely good or bad consequences, I was unable to discern whether regulators had addressed the innovation questions and whether they understood the nature of the intermediation business. The book, however, does discuss moral hazard issues, compensation programs, and accounting issues—mark-to-market and information systems within the firm and how they affect other firms. It tackles the role of government and how the government leads to bad innovations such as the GSEs or the monopoly of the rating agencies. In this vein, the book also covers the new role of central clearing agencies for the over-the-counter derivatives markets.

The 2008 financial crisis and its aftermath will cause financial entities to learn on their own. And this learning will mitigate the consequences of future shocks.

The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 will take years to implement. The uncertainty about the form of these new rules will impede growth in our society. I am sure that I will return to this book regularly for its analysis as events unfold over the next number of years. Congratulations to the team for such a commendable accomplishment.

Myron S. Scholes
Frank E. Buck Professor of Finance, Emeritus
Graduate School of Business
Stanford University

Preface

In the fall of 2008, at the peak of the crisis, we launched a project among the New York University Stern School of Business faculty to understand what had gone wrong, what the policy options were, and what seemed to be the best course of action at the time. This resulted in a series of white papers authored by 33 members of the faculty. These were widely circulated among politicians and their staff members, as well as practitioners and academics worldwide. Taken together, the white papers were guided by a public interest perspective and intended as an independent and defensible assessment of the key issues by people who understand the theoretical concepts and institutional practice of modern finance and economics. The result was a book, *Restoring Financial Stability: How to Repair a Failed System*, published by John Wiley & Sons in March 2009.

Drawing on the insights gathered in that effort, it seemed logical to think about a second project that would focus specifically on the myriad reform proposals under discussion, provide an objective evaluation of their merits, add some new ideas to fill in the gaps or improve outcomes, and suggest their likely impact on the global financial system and economy as a whole. A total of 40 members of the Stern School faculty and doctoral students—virtually all participants in the first project and several new members as well—stepped up to contribute to this effort. First, we produced an e-book in December 2009 that addressed the U.S. House of Representatives financial reform bill. This was followed by the Senate bill in April 2010, requiring important modifications in our analysis. This had to be repeated when the two bills were reconciled in conference and finally signed by President Obama on July 21, 2010—all the while keeping a weather eye on developments in Basel, London, Brussels, and other centers of global financial regulation.

Along the way, we have read the entire Act and its predecessors in detail, debated it among ourselves and professional colleagues, and identified strengths and weaknesses through the lens of modern financial economics. We like to think our first project helped to shape some of the debate leading up to the Dodd-Frank legislation as we commented on various versions of the proposed reforms in congressional testimony, speeches, workshops, and other forums around the world.

At the end of the day, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 is the keystone of the financial reform structure in the United States and will be influential worldwide. It is more or less aligned to some basic principles agreed on in G-20 meetings of heads of state during and after the crisis, as well as to parallel developments in the Basel Committee on Banking Supervision, the European Union, and at the national levels in the United Kingdom, continental Europe, and elsewhere. This book presents a comprehensive and objective analysis of the various initiatives legislated or proposed by the Act, along with their implications for financial firms, markets, and end users going forward. There will undoubtedly be a number of further surprises, as well as unintended consequences of what has now been legislated. We have tried to anticipate and face up to as many of them as possible. We feel confident that we have provided readers with a coherent and rigorous framework for thinking about whatever may lie ahead for global finance.

We are grateful for the many comments we received from readers of our first book. They did much to sharpen our thinking and inform our effort in this volume to look ahead. Special thanks are due to Joanne Hvala, Jessica Neville, and the rest of the staff at the Stern School, who supported our efforts, to Sanjay Agrawal and Anjolein Schmeits for their diligent reading and copyediting of the manuscript, and to Philipp Schnabl and Kermit (Kim) Schoenholtz, who provided invaluable editorial inputs in addition to contributing to book chapters. And certainly not least, we confess admiration of the entire team at John Wiley & Sons, with a special nod to Pamela van Giessen, for their incredible professionalism and some amazing turnaround times to get our thoughts into print.

New York
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VIRAL V. ACHARYA
THOMAS COOLEY
MATTHEW RICHARDSON
INGO WALTER

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Prologue

A Bird's-Eye View

The Dodd-Frank Wall Street Reform and Consumer Protection Act

Viral V. Acharya, Thomas Cooley, Matthew Richardson, Richard Sylla, and Ingo Walter

Recently, Friedrich Hayek's classic *The Road to Serfdom*, a warning against the dangers of excessive state control, was the number one best seller on Amazon. At the same time, the foundation of much modern economics and capitalism—Adam Smith's *The Wealth of Nations*—languished around a rank of 10,000. It is a telling reflection of the uncertain times we are in that precisely when confidence in free markets is at its all-time low, skepticism about the ability of governments and regulation to do any better is at its peak. So it is no trivial task for the United States Congress and the Obama administration to enact the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 and convince a skeptical public that financial stability will be restored in the near future.

The Act is widely described as the most ambitious and far-reaching overhaul of financial regulation since the 1930s. Together with other regulatory reforms introduced by the Securities and Exchange Commission (SEC), the Federal Reserve (the Fed), and other regulators in the United States and Europe, it is going to alter the structure of financial markets in profound ways. In this Prologue, we provide our overall assessment of the Act in three different ways: from first principles in terms of how economic theory suggests we should regulate the financial sector; in a comparative manner, relating the proposed reforms to those that were undertaken in the 1930s following the Great Depression; and, finally, how the proposed reforms would have fared in preventing and dealing with the crisis of 2007 to 2009 had they been in place at the time.

THE BACKDROP FOR THE DODD-FRANK ACT OF 2010

The backdrop for the Act is now well understood but worth an encore.

When a large part of the financial sector is funded with fragile, short-term debt and is hit by a common shock to its long-term assets, there can be en masse failures of financial firms and disruption of intermediation to households and corporations. Having witnessed such financial panics from the 1850s until the Great Depression, Senator Carter Glass and Congressman Henry Steagall pushed through the so-called Glass-Steagall provisions of the Banking Act of 1933. They put in place the Federal Deposit Insurance Corporation (FDIC) to prevent retail bank runs and to provide an orderly resolution of troubled depository institutions—banks—before they failed. To guard against the risk that banks might speculate at the expense of the FDIC, they ring-fenced depositary banks' permissible activities to commercial lending and trading in government bonds and general-obligation municipals, requiring the riskier capital markets activity to be spun off into investment banks.

At the time it was legislated, and for several decades thereafter, the Banking Act of 1933 reflected in some measure a sound economic approach to regulation in case of market failure:

- *Identify the market failure*, or in other words, why the collective outcome of individual economic agents and institutions does not lead to socially efficient outcomes, which in this case reflected the financial fragility induced by depositor runs.
- *Address the market failure through a government intervention*, in this case by insuring retail depositors against losses.
- *Recognize and contain the direct costs of intervention, as well as the indirect costs due to moral hazard arising from the intervention*, by charging banks up-front premiums for deposit insurance, restricting them from riskier and more cyclical investment banking activities, and, through subsequent enhancements, requiring that troubled banks face a "prompt corrective action" that would bring about their orderly resolution at an early stage of their distress.

Over time, however, the banking industry nibbled at the perimeter of this regulatory design, the net effect of which (as we explain in some detail later) was to keep the government guarantees in place but largely do away with any defense the system had against banks' exploiting the guarantees to undertake excessive risks. What was perhaps an even more ominous development was that the light-touch era of regulation of the financial sector starting in the 1970s allowed a parallel (shadow) banking system to evolve. In hindsight, while at least some of this could be judged as inevitable innovation in financial technology, it is hard to dispute the claim—made, for instance, by Paul Volcker, the former chairman of the Federal Reserve—that much evolution of the parallel banking system was designed precisely to circumvent existing regulations.

The parallel banking system consisted of the following: money market funds collecting uninsured short-term deposits and funding financial firms, effectively reintroducing the fragile maturity mismatch of traditional banking that the Banking Act had attempted to fix; investment banks performing many functions of commercial banks and vice versa; and a range of derivatives and securitization markets providing tremendous liquidity for hitherto illiquid loans but operating unregulated (or at least weakly regulated) in the shadow of regulated banks. The result was a parallel banking sector that was both opaque and highly leveraged. The fact that much of this innovation took place outside of the banking system rendered ineffective other regulatory institutions, like the SEC, that had been introduced in 1930s to address information asymmetries in intermediation.

In many ways, the parallel banking system reflected *regulatory arbitrage*, the opportunity and the propensity of the financial sector to adopt organizational forms and financial innovations that would circumvent the regulatory apparatus designed to contain bank risk taking. Ignoring this regulatory arbitrage—or at least leaving it unchecked—was possible, in part, for several reasons: regulatory naiveté in the face of the ingenuity of the financial sector, the ideology of the times, and a cognitive failure by everyone to appreciate fully the unintended consequences of existing regulation and to develop the tools to deal with them.

As a result, the Banking Act began to be largely compromised. In four decades since its birth, the parallel banking system grew to over $10 trillion of intermediation in the U.S. economy and reached a scale similar to the deposit-based commercial banking system. Traditional banks gradually morphed into large, complex financial institutions (LCFIs). The increasing size and connectedness of traditional and shadow banks rendered many of them too big to fail or too systemic or interconnected to fail—or rather, to be *allowed* to fail. Deposit insurance, which was explicit, rule-based, and bundled with mechanisms to contain risk taking, was replaced by the effective insurance of the uninsured wholesale deposits of LCFIs—in other words, by anticipation of government intervention that was implicit, discretionary, and divorced from moral hazard concerns.

For sure, there were efforts to contain these financial behemoths. The increasingly global nature of the LCFIs and the threat that competition among