

Challenges to Business in the Twenty-First Century



Edited by Gerald Rosenfeld, Jay W. Lorsch,
and Rakesh Khurana

AMERICAN ACADEMY OF ARTS & SCIENCES

Challenges to Business in the Twenty-First Century

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Introduction

Although it began with the failure of subprime loans and mortgage-backed securities, the most recent financial crisis has touched every aspect of our society and called into question many of the basic assumptions by which we have lived for the last fifty years. It has been the ultimate interdisciplinary dilemma, implicating technological innovation as much as financial innovation, scholarly theory as much as global realpolitik. The essays collected in this volume reflect the range of causes and examine many of the consequences.

But this volume does not merely rehearse the well-documented errors, failures, and misfortune that resulted in the panic of Fall 2008. Instead, it seeks a way forward.

In December 2009, with guidance from Jay W. Lorsch and Rakesh Khurana, the American Academy of Arts and Sciences and New York University School of Law convened a group of distinguished scholars and business leaders to help consider what we have learned from the recent economic crisis. (A list of conference attendees is included at the end of this volume.) The discussions and essays resulting from this meeting are presented here.

Since its founding, the Academy has studied the American business enterprise. At a meeting in 1781, Academy Fellows resolved to “attend to the subject of the Commerce of America, to enquire into the principles on which it has been heretofore conducted and the effect of those principles as the balance of trade, to investigate the most advantageous sources of future trade both in a commercial and political view and particularly to consider the subject of money the medium of trade.” Recent examinations include the 1988 study “The U.S. Business Corporation: An Institution in Transition” and a project on “Corporate Responsibility,” led by Martin Lipton, Jay Lorsch, and Larry Sonsini. The latter brought together leading scholars and practitioners to reflect on the corporate scandals of the early 2000s. The first publication of the project, *Restoring Trust in American Business* (MIT Press, 2005), featured essays by eighteen prominent scholars and business leaders, including John Reed, Felix Rohatyn, and John Biggs, who examine the failure of “gatekeepers” to stand between corporate misconduct and the public interest.

In that volume, Mark Roe predicted that the failure of Enron, WorldCom, Arthur Anderson, and other giants in the early 2000s would not be the last of the major corporate cascades. “If we’re lucky,” Roe commented, “someone will anticipate the problem and fix it up beforehand. If not, we’ll muddle through once again.”

The articles in this present volume offer more than one way out of the most recent muddle.

Roger W. Ferguson, Jr., begins by proposing a holistic approach to financial management, one that attempts to “align the interests of employers and employees, sellers and consumers, issuers and investors.”

Myron S. Scholes argues that financial innovation has been crucial to the development of a global economy; he asks regulators responding to the collapse to consider the benefits of innovation as well as its costs. Jeffrey Wurgler focuses on one such innovation, the expansion of index-linked investing, and the cost of the “economic distortion” resulting from the growing popularity of indices.

David A. Moss discovers in the financial history of the past century a “deregulatory mindset,” a null hypothesis among economists and academics about the inability of government to remedy market deficiencies, which may have been a self-fulfilling prophecy. Challenging the importance of an anti-government mindset as a root cause of present difficulties, Simon M. Lorne argues that the crisis is the result of three discrete deregulatory actions by Congress and the Securities and Exchange Commission. He concludes that the crisis is a failure of people rather than institutions.

Justin Fox examines the crisis as a particularly complicated example in a long history of “manias and panics” driven by the pairing of “financial craziness and media innovation”—in this case, the decline of traditional media companies and the burgeoning of digital sources. Jeff Madrick continues this analysis by focusing on the diminished opportunities for analytical business reporters and the bottom-line pressures that influence editorial decisions in the new media environment.

Finally, Jagdish N. Bhagwati explains how a globalized economy has maintained a high level of trade activity, despite the severity of the world crisis, and why the international community has eschewed tariffs and protectionism in response to financial collapse.

The Academy could not have prepared this volume without the invaluable contributions of our co-editors, Jay Lorsch and Rakesh Khurana. William Allen and Robert Merton also assisted as we planned the conference. We are grateful to Richard Revesz, who made the resources of the New York University Law School available to us for the conference. We also want to thank John Tessitore, of the American Academy staff, for his contributions to this project.

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CHAPTER 1

Long-Term Financial Security

Roger W. Ferguson, Jr.

In order to determine the way forward for business and society in the twenty-first century, we must first know where we stand.¹ Today, the relationship between businesses and individuals—consumers, borrowers, investors, and employees—is strained. In the wake of the global economic crisis, the American public holds a cynical view of business and Wall Street.

As a nation, we are contemplating regulatory reform because our existing oversight system has not evolved with the financial services industry. We are rethinking health care; in Congress and across the nation, people are grappling with what could be the most significant overhaul of the health care system in forty years.

These are fundamental issues with the potential to shift our society. As *New York Times* columnist David Brooks wrote in a recent op-ed, we are in the midst of “a debate about what kind of country we want America to be.”² What role will business play as society tries to right itself? How can we as Americans achieve a more balanced state to ensure long-term financial security for our society?

In proposing answers to these questions, I will focus on:

- Our opportunity to revisit the social contract;
- Measures we can implement to help businesses adopt a more prudent, long-term view; and
- Steps we can take to help individuals enjoy sound financial health over the long run.

1. This essay was first presented at the 1950th Stated Meeting of the American Academy of Arts and Sciences, held in collaboration with the New York University Pollack Center for Law & Business, on November 30, 2009, at New York University School of Law. The meeting was part of the Academy’s conference on “Challenges to Business and Society in the Twenty-First Century: The Way Forward,” chaired by William T. Allen (New York University School of Law), Rakesh Khurana (Harvard University), Jay Lorsch (Harvard University), and Gerald Rosenfeld (Rothschild North America and New York University). The essay was subsequently printed in the Academy’s *Bulletin* LXIII (3) (Spring 2010).

2. David Brooks, “The Values Question,” *The New York Times*, November 23, 2009.

THE SOCIAL CONTRACT

Over the past few decades, employees have assumed greater responsibility for their careers, professional development, advancement, and retirement. The workforce has become more mobile as it has adapted to the global economy.³ In an age of “employment at will,” corporate loyalty has waned.⁴ We know that lifetime employment is no longer an option. But lifetime income should be our objective as we rethink and renew the social contract.

New research from McKinsey & Company finds that the average American family will face a savings gap of \$250,000 at the time of retirement.⁵ Even with payments from Social Security and pensions, as well as from personal savings in 401(k) and other retirement plans, the average family will have only about two-thirds of the income it will need. Moreover, according to the McKinsey study, for every five years we wait to address the issue of retirement security, we will see a 10 percent decline in the typical retiree’s standard of living.

That is one reason why TIAA-CREF and others are calling for a holistic system that ensures Americans will have the retirement income they will need. A holistic system would:

- First, ensure full participation and sufficient funding by enrolling employees automatically on their first day of work and offering incentives for employers and employees that encourage total contributions between 10 percent and 14 percent of pay—roughly double the average contribution today. Automatic IRAs, which President Obama has proposed, could provide a tax-favored saving opportunity to those without a workplace retirement plan—currently, about half the American workforce.
- Second, help employees manage risk by offering a menu of fifteen to twenty investment options. This menu would provide sufficient diversification without presenting an overwhelming number of choices.
- Third, give workers financial education and objective, noncommissioned advice to help them build a portfolio that reflects their goals and risk tolerances.
- Fourth, provide opportunities and incentives for employees to save for retirement medical expenses.
- Fifth, provide lifetime income through an affordable fixed annuity option.

3. John C. Edwards and Steven J. Karau, “Psychological Contract or Social Contract? Development of the Employment Contracts Scale,” *Journal of Leadership and Organizational Studies* 13 (3) (2007).

4. Roger Eugene Karnes, “A Change in Business Ethics: The Impact on Employer-Employee Relations,” *Journal of Business Ethics* 87 (2009): 189–197.

5. “Restoring Americans’ Financial Security: A Shared Responsibility” (McKinsey & Company, October 19, 2009).

I believe we have an obligation to help our colleagues, neighbors, and fellow citizens move safely to and through retirement. With the holistic system I have outlined, we can help all Americans enjoy greater financial security. But in order to accomplish that goal, we need to encourage businesses and individuals to adopt a more balanced, long-term, risk-managed approach.

PROMOTING FINANCIAL SECURITY IN BUSINESS

As we look to recover from the worst recession in seventy years, we must be mindful of the far-reaching structural changes that have altered the macroeconomy, including the globalization of capital, labor, and production and the evolving role of national governments in driving growth and expanding regulatory oversight. These forces may have a moderating effect on inflation, particularly given the rise of unemployment and the strongest productivity growth rate we have seen over a six-month period since 1961.⁶

But these structural changes may also create favorable conditions for asset bubbles by encouraging sudden price increases in discrete sectors of the market. Commercial real estate in the late 1980s, the dot-com equity market of the late 1990s, and the housing market in the present decade are a few examples of financial bubbles that ultimately burst.⁷ In such an environment, businesses must resist the temptations of a short-term outlook and focus instead on sustainability.

A group of financial and academic leaders convened by the Aspen Institute has posited that “a healthy society requires healthy and responsible companies that effectively pursue long-term goals.”⁸ Citing the insidious nature of the problem, the group noted that “many college savings, 401(k), and related retirement funds engage in behavior that is inconsistent with their investors’ goals, as they trade securities, pay their managers, and engage in (or support) activism in pursuit of short-term financial objectives at the expense of long-term performance and careful analysis of fundamental risk.”

Regulatory reform can help to reemphasize long-term thinking. Indeed, Congress is considering comprehensive financial regulatory reform. Led by the House Financial Services Committee and the Senate Banking Committee, both congressional chambers have been working actively on this issue.

Well-conceived reforms can ensure that financial services firms are able to innovate, develop new businesses, and take reasonable risks within an appropriate supervisory framework that promotes overall long-term stability and protects market participants. In fact, at a New York University (NYU) conference on regulatory reform in September 2009, I participated in a panel dis-

6. Bureau of Labor Statistics, November 5, 2009.

7. Brett Hammond and Martha Peyton, “Economic and Market Scenarios: Sea Changes, Inflation and Bubble Bias” (TIAA-CREF Internal Research, September 4, 2009).

8. “Overcoming Short-termism: A Call for a More Responsible Approach to Investment and Business Management” (The Aspen Institute, September 9, 2009).

cussion with Eric Dinallo, former New York superintendent of industry and visiting professor at NYU's Stern School of Business, in which we discussed the creation of an Optional Federal Charter (OFC) for the insurance industry. This measure, which TIAA-CREF supports, would provide life insurers with the choice to be regulated by a single federal entity or to continue to operate under the current state-by-state regulatory structure. An OFC could increase the efficiency of the life insurance industry, maintain product safety and soundness, and make U.S. life insurers more competitive on a global scale.

Proper reform will take time. But there are steps businesses can take immediately to operate more prudently, such as strengthening their risk management programs and ensuring—through good corporate governance—that their strategies and compensation are aligned with the long-term interests of shareholders. These long-term-planning strategies can drive corporate performance and help strengthen the market overall.

Furthermore, shareholders in the United States should be given greater rights, including access to the proxy to nominate directors, majority voting in director elections, and a shareholder vote on executive compensation. Shareholders and companies have a common goal of long-term wealth creation and must work toward that goal together.

Encouraging businesses to adopt a more rational, long-term approach will enhance the health and financial security of the country's economic system. Individuals need similar help and guidance to achieve personal financial security.

HELPING INDIVIDUALS ACHIEVE FINANCIAL SECURITY

Since the mid-1980s, the ratio of household debt to disposable income has more than doubled, increasing from 65 percent to an unsustainable, all-time high of 133 percent in 2007.⁹ Americans have been living beyond their means. Two-thirds of the U.S. GDP was driven by consumer spending, and easy credit helped fuel its growth.

That scenario is changing out of necessity. The personal savings rate, which was around 10 percent of income in the 1970s and fell to zero in 2005, has risen to roughly 5 percent. Households are focused on paying down their debts. This deleveraging will have a dampening effect on consumer spending in the short term, but it bodes well for long-term economic stability in the United States and globally. Moreover, encouraging individuals to save more money will help restore their personal balance sheets. One way to assist individuals to achieve this end is with financial education.

In a recent study, Americans over the age of fifty were asked three questions involving interest rates, the effects of inflation, and the concept of risk diversification¹⁰:

9. Reuven Glick and Kevin J. Lansing, "U.S. Household Deleveraging and Future Consumption Growth," FRBSF Economic Letter no. 2009-16, May 25, 2009.

10. Annamaria Lusardi and Olivia S. Mitchell, "Financial Literacy: Evidence and Implications for Financial Education" (TIAA-CREF Institute, May 2009).

- 1) Suppose you had \$100 in a savings account and the interest rate was 2 percent per year. After five years, how much do you think you would have in the account if you left the money to grow: more than \$102, exactly \$102, less than \$102?
- 2) Imagine that the interest rate on your savings account was 1 percent per year and inflation was 2 percent per year. After one year, would you be able to buy more than, exactly the same as, or less than today with the money in this account?
- 3) Do you think that the following statement is true or false? “Buying a single company stock usually provides a safer return than a stock mutual fund.”

Only half of the respondents were able to correctly answer the first two questions; only one-third of the respondents were able to correctly answer all three. These are Americans over age fifty—individuals who are either close to retirement or in retirement. As it turns out, the ability to solve a few basic math problems can significantly influence an individual’s financial security.

Researchers have established a correlation between financial literacy and retirement planning, which in turn is a powerful predictor of wealth accumulation. People who plan for retirement have more than double the wealth of people who do not plan. Conversely, individuals with a lower degree of financial literacy tend to borrow more money, accumulate less wealth, and select mutual funds with higher fees; they are less likely to invest in stocks, more likely to experience difficulty with debt, and less likely to know the terms of their mortgages and other loans.

If we are to strengthen the long-term financial security of our society, we must do more to improve financial literacy; financial services firms can (and should) lead the way.

To promote long-term financial security, we need to strengthen the relationship between businesses and individuals. We must align the interests of employers and employees, sellers and consumers, issuers and investors. We need to wean ourselves off of unchecked consumerism and focus on exports and investments to drive growth. We need to save more and consume less. We need to think about what kind of country we want America to be.

A new social contract should include a holistic system to help ensure that all Americans can enjoy a more secure retirement; eschew short-termism in favor of long-term performance, sustainable value creation, and prudent risk management; and advocate a balanced approach to saving and investing by raising the level of financial literacy. By seizing these opportunities, we will strengthen our economy and create a more vibrant, financially sound society.¹¹

11. The views described above may change in response to changing economic and market conditions. Past performance is not indicative of future results. The material is for informational purposes only and should not be regarded as a recommendation or an offer to buy or sell any product or service to which this information may relate.

CHAPTER 2

Challenges of Financial Innovation

Myron S. Scholes

The potential for financial innovation to provide benefits to individuals and institutions around the world has been threatened by the onset and continuing evolution of the global financial crisis. Today, a rising chorus of regulators, politicians, and academics argue that the freedom to innovate in the financial domain should be curtailed. Their opinion stems most notably from the recent failures in mortgage finance, financial derivatives, and credit default swaps as well as from the need for governments and central banks to bail out failing and failed financial institutions. These observers claim that “bad” innovations in global financial markets have proceeded too rapidly and without controls, operating as part of an incentive system that rewards risk-taking at the expense of government entities. They feel that “throwing sand in the gears” of innovation will reduce these “deadweight costs.”

These same proponents of re-regulation fail to measure the benefits of the myriad financial innovations that have succeeded since regulatory constraints were relaxed some thirty years ago. As a result, they have failed to proffer a new plan for regulation that would balance the benefits and costs of innovation.

THE POTENTIAL OF FINANCIAL INNOVATION

A major benefit of financial innovation is the potential to help solve a large range of global problems. The demographics are not promising. We expect that populations will double during the next ten years, that 50 percent of the nine billion of us will live on less than \$2 a day, and that we will experience unprecedented population migrations. The West will face an extreme aging of its population with low pension benefits, and governments will be unable to provide either pensions or health care benefits. While governments are local, these problems are global and need to be addressed by innovations and by flexible financial institutions. Change will happen. How to finance change will be a central focus of innovation.

To understand how financial innovation can address global problems, we must understand the functions of the system. Economist Robert Merton has listed six crucial functions of a financial system¹:

- *Facilitating transaction processing.* Exchanges provide this function to investors and other entities around the world.²
- *Funding large-scale investment projects that are outside the resources of an individual or an entity or country.*³
- *Transferring resources across time and boundaries;* that is, how investors save for the future or how corporations invest globally.⁴
- *Risk-sharing and risk reduction.* This function is all too apparent for those of us who are deeply involved in the risk-transfer mechanisms of derivative instruments.⁵
- *Providing pricing and valuation signals to investors.* This function provides the transparency investors need to make informed decisions about changing investments or making additional corporate investments.⁶
- *Seeking ways to reduce market frictions or costs through the reduction of asymmetric information conflicts among those who transact in markets.*⁷ This function may well be the most important to both entities and individuals.

1. Robert C. Merton, "A Functional Perspective of Financial Intermediation," *Financial Management* 24 (Summer 1995).

2. Consider, for example, the recent use of cell phones by farmers in rural villages in India to reduce transportation costs. The farmers communicate with their banks to borrow money on crops and sell them forward, and as a result, they bypass the local money-supplier monopolies.

3. Communication technology lowers information and monitoring costs, allowing for direct foreign investments and globalization on a scale many times greater than would have been possible without our modern communication infrastructure. The failure of the original vision of the Internet led to building the "pipes" for global communications to flourish. Most Chinese and Indians communicate through cell phones, not over land lines. At times, innovations lead to unintended consequences.

4. The main retirement savings vehicles provided by governments have been "social security" systems. Recently, countries such as Chile and Sweden have offered citizens the ability to save for retirement by allocating their own savings to invest in global financial instruments such as stocks and bonds. This practice has enhanced wealth and welfare for citizens of these countries. Moreover, countries with unanticipated accumulations of wealth, such as Denmark, are saving for future generations.

5. Although recent difficulties in financial markets have been severe, they might have been even more concentrated and severe without the ability that entities had to transfer and hedge risks. In fact, the difficulties might have been accentuated because entities such as UBS, Merrill Lynch, Fannie Mae, and Bear Stearns retained, rather than transferred, risks.

6. In an efficient market, market prices amalgamate the information of a diverse set of investors. They provide signals for when to invest and when investors should change their holdings. As I discuss below, information technology has led to financial innovations that have benefited investors around the world.

7. Economist Kenneth Arrow has classified these information costs as those relating to either "hidden information" (sometimes labeled the "negotiation problem" or the "winner's curse") or "hidden action" (sometimes referred to as the "principal-agent problem"). See Kenneth I. Arrow, "The Role of Securities in the Optimal Allocation of Risk Bearing," *Review of Economic Studies* 31 (April 1964).

The key to profitable provision of services is to provide one or more of these six financial functions at less cost or greater economic benefit than current institutional arrangements allow. Although the services that clients demand from providers might not be producible for a cost that they would be willing to cover, advances in both information technology and our economic understanding reduce these costs.

Current arrangements are fluid, giving way to new arrangements as competitors discover more efficient mechanisms to provide financial services to clients. For example, the technological advances during the last ten years have completely changed the economics of establishing exchange-trading mechanisms.

SOME FAILURE IS INHERENT

Economic theory suggests that all innovation, including financial innovation, must lead to some failures. And because successful innovations are hard to predict, the infrastructure necessary to support innovation needs to lag innovations, increasing the probability that controls will be insufficient to prevent breakdowns in governance mechanisms. Failures, however, do not lead to the conclusion that re-regulation will succeed in stemming future failures, or that financial entities will not learn on their own to provide governance mechanisms to prevent failures similar to the ones witnessed recently.

Because failures occur in bunches, legislatures will find it difficult to ascertain why they happen in any particular economic or financial crisis or whether they will feature at all in a subsequent crisis. The markets are interconnected in nonlinear and computationally difficult ways. The information set is too rich to arrive at definitive conclusions. For example, many pundits argue that subprime mortgages caused the 2008 crisis. Others claim that credit default swaps and other derivatives were the cause. Still others place the blame on monetary policy.

Financial innovation was certainly at fault. Many tax rules and regulations are implemented globally, and innovators respond and work around the rules to suit their own interests. However, the number of tools available to bend the rules has exploded, and regulators and governance mechanisms have been slow to keep up. Financial modelers have used information technology to design new financial instruments and to obfuscate the economics underlying them.

Models and modelers have also been blamed for the crisis. In part, that is correct. By definition, a model is an incomplete description of reality. Faulty assumptions lead to models with a greater chance of error. Modelers who use existing models and ignore their underlying assumptions do so with predictable

consequences. And model appliers need data or predictions to calibrate them.⁸ To provide services, a financial entity must develop models to price and evaluate whether they are profitable for the risk undertaken. Governance mechanisms, however, must control scale. For that, common sense, control mechanisms, and incentives are primary. Without measurement, senior management cannot control financial innovation. Incentives without monitoring will be insufficient to prevent large failures.⁹

RISK MANAGEMENT IS KEY

In response to failures, risk management and risk managers should be given higher status in financial entities. The board of directors must understand risk management and take responsibility for the risk decisions made by senior management.

The global accounting system is archaic and does not correctly account for risk and for economic valuation. For example, if Goldman Sachs enters into a financial derivative contract and books a profit of \$200 million, shouldn't the other party to the contract book an immediate \$200 million loss? This must be a zero-sum game; if accounted for correctly, it would stop the growth of many contracts that are used to circumvent regulations. If an advisor were to suggest that California issue taxable bonds and buy a broad index of common stocks with the proceeds, voters would reject this proposal. On the other hand, if California promised state employees a pension benefit indexed to wages, which are indexed to bond returns, and invested the foregone wages in a broad portfolio of common stocks, this practice would be accepted (indeed, it *is* accepted) without question. The same holds true for corporate pension plans. Although the economics of the two are exactly the same, the pension promise and funding (or lack thereof) are not recorded as corresponding liabilities and assets (nor are other derivatives) on financial statements.

8. Agencies such as Moody's and Standard & Poor's gave many financial structures their highest rating. Many of these structures defaulted during the crisis. This was an extremely low probability outcome. Why did it happen? It could have happened by chance, or the underlying models could have been at fault, or the calibration of the models could have been made in error. For example, the rating agencies used only recent data in their simulations to determine whether housing prices might decline; they assumed that, in general, homeowners defaulted on home mortgages idiosyncratically, and they did not take account of the fact that Goldman Sachs might reverse engineer its methods and reduce the quality of inputs just to pass the test and achieve the highest rating.

9. Merrill Lynch was an also-ran in the mortgage packaging business. Within three years it shot up to be among the top three in the business. Common sense would suggest that that outcome would be impossible unless Merrill was underpricing its products, and if not, that management did not measure the risks or monitor the consequences of the growth in risk concentration. Similarly, AIG Financial Products had a gigantic position in credit default swaps booked as insurance contracts. Insurance companies rely on the law of large numbers to protect them. When the debts of many companies fall in value, in unison, their losses grow exponentially. Models or modelers, along with the applications of existing models, failed dramatically. But governance and common sense failed as well.

In another example, how is it possible for a money market mutual fund to promise its investors that they will always receive their money back when the underlying fund invests in risky securities? The accounting system should not allow banks to hold risky, illiquid, nontraded assets—or to book income on the higher return they earn each period on these illiquid assets—without recording an appropriate reserve for the possible costs of forced liquidation prior to maturity. To present a complete picture of economic health, contingencies need to be taken into account. The accounting system in place today is, to say the least, not transparent. Financial innovators fashion contracts that feed on these inconsistencies. A revised accounting system should correctly account for all assets and liabilities (direct or contingent) and provide measures of risk.

MANAGING RISK IN THE SAVINGS MARKET

During the last fifteen years, we have witnessed the disaggregation and deregulation of financial services in the United States, especially at the retail level. The government no longer guarantees financial performance. Where Social Security and the defined-benefit pension plan once assured households that others had taken care of their retirement program, including its risk, there has been a major shift away from government-provided retirement income (other than for low-income earners) as well as away from corporate plans to defined-contribution pension plans. The amount a household has available for retirement depends on the performance of these plans. The household bears the responsibility and risk for the allocation of the funds. Individuals are asked to make decisions on risk that they did not have to make in the past and may not be trained to make now. We have moved financial functions down to the level of the individual.

Disintermediation and deregulation are also occurring in Europe and Asia, but with a lag. Government deficits in Europe and Japan suggest that societies can no longer afford to pay their past unfunded-pension promises. Corporations, fearful that retirement and health care burdens will be passed along to them, are moving away from wage replacement to defined contribution programs. Thus, European and Japanese savers will soon be in the same position faced by U.S. savers.

But this deregulation provides an opportunity for innovation to the benefit of savers. The next generation of successful financial institutions will recognize this vacuum. Investors and savers need help. The population of baby boomers, currently aged forty to sixty, will be retiring in the next five to fifteen years. At that time, they will want income products.

The Friedman and the Modigliani life-cycle models imply that after a moderate bequest motive, we should spend our last remaining dollar the day we die. Empirical evidence, however, rejects this model. Individuals die with too much unspent wealth. Many must over-save (and as a result, pay too

much in taxes) because they feel exposed to external events that they have not hedged. Holding equity (reserves) competes with hedging. But for savers, reserves might not be as efficient as direct hedging. Obviously, clients want to hedge their larger financial exposures, such as dying too soon and thereby leaving loved ones unprotected, living too long, or living in bad health. They also want to provide for the purchase of large assets, such as a home or second home, for the education or the homes of children or grandchildren, and for protection against personal liabilities.

Although technically sophisticated to develop, computing, communication, and financial technologies are currently available to provide help for individuals. Some products will be packaged and developed by organizations such as banks, in conjunction with insurance companies, and distributed in their own name. The products most likely will incorporate these dynamic elements without the client having to learn how to manage each one or to bear tax and other adjustment costs. The bank will offer products created to suit client needs; it will hedge out the risks of making the products available by using underlying funds, insurance products, and other financial instruments.¹⁰

Exchanges that provide efficient risk transference and risk-sharing services will play an increasing role. These providers will need to find other investors or entities (such as hedge funds) to offset their own risks, which will increase the growth of hedging devices such as derivatives. Moreover, dynamic products that adjust to changing market circumstances to hedge risks will themselves be traded on organized exchanges. Although in the near term it will be too costly to provide a unique solution to every client, the Internet offers a way to assist clients to make choices efficiently. Standardized solutions can be developed and augmented to suit client needs.

MANAGING RISK IN CORPORATIONS AND GOVERNMENTS

Hedging as a form of financial innovation will continue to grow as an integral component of corporate strategy. In addition, corporations will separate the products that clients want from the risks of producing them.¹¹

10. Financial entities are more efficient at assuming basis risk than individuals. They diversify across many clients and products. They have shareholders. They are more efficient at transferring risk in the market.

11. When technology company Dell sells a computer, it knows the cost of each component and the cost of producing a specific component for future delivery. It quotes a firm price to a client and produces the machine for an anticipated profit after the order is placed. It takes “basis risk”: the risk that its quote will be too low because prices change prior to its securing the components or labor to produce the requisite machine. Similarly, through hedging, financial service companies can quote a firm price on a financial product to a client prior to producing (hedging the risks by buying the components). The clients are better off. Information technology makes this possible. Clients state what they want, with the financial service provider specifying the price and then producing the product to hedge its own requirements to do so. For example, mortgage companies are paid a fee to service mortgages. They lose these fees if mortgages are paid off sooner as a result of a decline in interest rates. To hedge these risks, investment banks sell these companies synthetic

Again, hedging competes with equity capital. As information technology and financial technology have reduced the cost of hedging, entities are turning to hedging and reducing more expensive equity capital. Equity capital is an all-purpose risk cushion. It hedges not only the idiosyncratic risks necessary to earn money in a business, but also the generalized risks undertaken as a necessary consequence of running the business. Generalized risks, such as adverse changes in interest rates, commodity prices, or exchange rates, are uncompensated risks with zero present value.¹² The market is well developed to hedge these risks.

It is not possible, however, to hedge idiosyncratic risks. Corporations must concentrate in idiosyncratic risks to make money. These risks have positive present value. With hedging, the firm can undertake larger positions in positive present value risks without increasing equity capital. At the appropriate margin, the cost of hedging might be less than the cost of additional equity capital. The recent financial crisis, however, has taught us that adjusting hedges in a crisis might be very expensive.

Emerging governments as well as governments in smaller countries face the same predicament. They are akin to a small, nontraded firm. Their citizens must concentrate their activities to be efficient. They cannot replicate the world economy within their own borders, nor can they provide sufficient assurances to outsiders to garner a low-liquidity premium. Hedging what they cannot produce internally may allow countries to reduce risks and enable them to concentrate in efficient activities at lower costs than by holding currency reserves or by diversifying into many activities. The extent to which a country issues hedging securities depends on the cost.¹³

INNOVATION AND SPECULATIVE BEHAVIOR

Innovation provides tools for speculators to bet against one another in the market. With efficient markets, most of these bets are zero-sum: one party gains at the expense of another. And with any zero-sum game, we tire of playing after a while. If it is not a money-maker, we desert it. Most speculation in the markets is not zero-sum, in that speculators are paid by hedgers to carry

mortgage contracts that provide a compensating payoff if mortgages are prepaid sooner than expected. They quote a price on these contracts and then enter the market to produce these contracts by combinations of mortgages, swaps, and options. They produce the computer, so to speak.

12. For example, Starbucks makes money selling coffee and does not make money holding coffee beans. Its profits derive from assuming idiosyncratic risks that arise from its need to anticipate customers' demand for coffee. That is, it makes money from turning over its inventory, not from holding onto its inventory of coffee beans, its generalized risk in this instance.

13. At a talk I gave in Chile a number of years ago, several macroeconomists asked me how they should react to a financial crisis. I argued that there is a cost to waiting for a crisis. There is a cost of hedging or transferring risks in advance of a crisis. Being reactive is costly; being proactive is costly. The government needed to trade off the costs of doing nothing with the costs of hedging in advance. They needed to develop a risk budget.

risks or bring out-of-line markets back into equilibrium. Without the function of the speculator, markets would not work. Every speculator needs a valuation anchor to intermediate supply-and-demand imbalances caused by liquidity and risk-transfer needs. Hedgers know that they are paying speculators for services rendered. Speculators compress time for prices to return to equilibrium and make the markets more efficient. They step into the shoes of the ultimate buyer of securities by carrying inventory or providing inventory to the markets.

Innovations such as derivatives, short selling, credit default swaps, options, swaps, futures, computers, and models have added to the speculators' tool kit. Hedge funds and the proprietary departments of financial entities make money as speculators. These new tools speed up the intermediation process and tend to reduce the money-making ability of any entity to the benefit of hedgers. The speculators are always first to be blamed when prices that need to adjust do so quickly and cause immediate loss to counterparts in the transactions. Some believe that speculators benefit by working in unison to force down asset prices, buying back in at the bottom and profiting from the uninformed. If this practice is occurring—and there are laws that penalize collusive behavior—it must be rare indeed. For speculators must have strong beliefs that an asset is overvalued to “attack” it. Otherwise, competing speculators will game against them and, as a result, they waste time employing their capital in the wrong activity. Speculators make markets work and mitigate larger frictions that would exist without them. At times of shock, when speculators stop intermediating until they ascertain liquidity and valuation components, the effects on market prices are dramatic. Markets function chaotically until they return.

RISK AND LIQUIDITY

Financial institutions are the natural providers of risk transfer and liquidity services. They earn returns by providing liquidity to markets. In the Black-Scholes framework, a put option prices the value of liquidity. It prices liquidity of a specific form. If an intermediary issues an illiquid contract and buys a put option on that contract, the value of the put increases as the price of the asset falls; and as the asset continues to fall, the put value increases dollar for dollar with a fall in asset value. It is a self-liquidating contract. Although the put contract or various nonlinear option contracts price liquidity, financial institutions have insufficient information to define the “liquidity contracts” or payoffs that they need to hedge their risks at times of crisis or shock. The inability to aggregate the hedging demands of all entities in the market in order to define the needed liquidity options made the recent crisis more extreme.

The Bank for International Settlements encouraged banks to use portfolio theory to measure risks. Portfolio theory, otherwise known as “value-at-risk,” measures risks when there is no aggregation problem and no liquidity

shock. Value-at-risk does not work when it is needed. In a crisis, the lack of speculative interest and the need to reduce risk changes the correlation structure. Financial entities that lose money need to reduce leverage. To do so, they raise more equity and sell assets. If many entities need to do so simultaneously, their risk reduction requires that asset prices fall and liquidity prices increase.

The financial system is innovative. Banks and other financial entities will learn from this crisis. They will increase capital and they will charge more for providing liquidity services. Moreover, they will use their information systems to build methods to monitor and control risks.

NEVER LET A FINANCIAL CRISIS GO TO WASTE

We need to gauge the extent to which financial innovation was the cause of the 2007–2008 financial crisis. Although there have been many financial crises in the past, this one was extreme by any measure. To learn from it, however, is no easy matter. Myriad scholars and pundits have multiple explanations of what and who were at fault. With so many explanations and so little data, it will be extremely difficult to parse out the connection between financial innovation and crises. Given this problem, many will come to a conclusion that might be without merit. Andrew Lo, a professor of finance at MIT, has proposed the establishment of a Financial Inquiry Board, patterned after the Federal Aviation Authority that studies airplane crashes.

As discussed above, innovation must lead infrastructure to support successful innovation. In recent years, innovations such as pooled mortgage products and credit default swaps expanded dramatically—in many cases, without adequate internal controls and risk management. Senior management's primary responsibility is to measure the risk of each activity its business engages in and to judge whether the returns are worth that risk. If innovation leads to growth that outstrips these controls, then it is management's responsibility to make sure that infrastructure catches up. Although innovation has rewards, costs might rise exponentially if innovation is unbridled. Detailed study of why these innovations caused failures might lead future managers to provide more efficient risk management and control systems.

Experience broadens theory and theory focuses attention. Needed regulations should follow after this learning. Antifraud rules are in place. Without study, it is unclear whether and how subprime mortgage holders and/or financial entities were duped. To me, it appeared that many were duping the mortgage providers. If true, rules should be in place to protect the buyers of mortgages, pension funds, or foreign banks. But we need more time to dig deeply into understanding why they bought these products and why they held tranches on their own balance sheets.

To help control innovations, regulations might penalize the failure to act. Some financial instruments and contracts that have existed for centuries might

have caused financial crises in recent years because the growth of both economic knowledge (for example, derivatives) and information technology exposed their weaknesses. For example, the limited liability corporation allows investors to invest capital in an enterprise without the possibility of clawback in the event of bankruptcy. Moreover, debt contracts allow corporations to borrow additional capital from another class of investors who might have been restricted to invest in less risky securities (for example, insurance companies). Bankruptcy laws allow firms near or at insolvency to declare bankruptcy and to be unwound or reorganized, preserving capital for the priority claimants of the firm and, if possible, any residual claimants. Generally, this is a costly and time-consuming activity.

In addition, bankruptcy might introduce spillover effects between financial entities and into the general economy. If human capital and the value of teams are major assets of the banks, losing this talent makes reorganizing the financial entity extremely expensive.¹⁴ To reduce these deadweight costs, governments and central banks have stepped in to bail out the firm's claimants—debt-holders mainly and stockholders to a limited extent—as an alternative to bankruptcy.

Because liquidity prices are mean reverting, the primary value of these bailouts is the belief that liquidity, not valuation, is the cause of a bank's difficulties during a financial crisis. Providing temporary support to financial or other institutions gives the market time to resupply liquidity once speculators return to buy undervalued instruments after they have regained confidence in their underlying valuations. The bankruptcy mechanism is too draconian and permanent to solve a temporary liquidity problem. That is why mark-to-market accounting comes under heavy attack at times of liquidity crises. This accounting forces liquidation or triggers debt covenants that were not meant to handle liquidity shocks. Mark-to-market accounting is excellent at times other than a liquidity crisis, for correct valuations help senior management make better investment decisions. We need to suspend mark-to-market accounting during a crisis. But to identify whether liquidity and/or a valuation is causing a crisis is not easy.

If crises are generally liquidity crises, debt contracts can be restructured to provide time for markets to provide liquidity again. New contracts would supplement or replace bailouts as alternative mechanisms. For example, debt could be converted into equity on a systemic event. Without having to reduce risk, bank management would have more time to assess when and whether prices will revert as the liquidity crisis ebbs. As a result, the bank would continue without taxpayer support. Debt-holders will have incentives to monitor bank activities. And, in a crisis, if values are permanently affected—in that

14. After the bankruptcy of Lehman Brothers in September 2008, employees left with their knowledge of the financial models and the programs to value financial contracts. The debt-holders and shareholders did not retain the benefits to the infrastructure within the financial entity to protect their interests.

prices do not mean revert to a great extent as liquidity returns—the debt- and equity-holders suffer loss.

This alternative might be superior to breaking up “too big to fail” entities. It might also be superior to mechanisms to unwind a bank’s so-called living will on a government takeover. We must be careful to measure the net economic benefits of various alternatives. Anger and retribution may not be costly, but there should be a better way. Setting examples may not work as expected. Preserving the value of the banking franchise under new ownership may be a better alternative.

THE CHALLENGE OF FUTURE INNOVATION

Future innovations will follow in the steps of previous innovations. Failures lead to changes. Some failures are permanent.¹⁵ Some failures lead to better and more efficient provision of financial services. Although the costs to provide services for individuals, corporations, and governments might increase as a result of the failures, the new learning enhances benefits.¹⁶ These benefits, coupled with correctly specified financial modeling, can reduce the dead-weight costs of financial shocks.¹⁷

I liken markets to men walking dogs. The dog walkers control the dogs on leashes and keep them along a set path. From time to time, the dogs break the leash and scatter. The men must retrieve the dogs. When done, they set off on a new path and continue their walk. While retrieving the dogs, the walkers’ actions appear chaotic. In this analogy, dog walkers are the speculators and the dogs are investors with particular needs or behavioral tendencies. The leashes are the provision of liquidity. Generally, bank trading desks anticipate investor demands—in other words, they follow the trends—while proprietary trading desks attempt to understand investor demands and react by taking opposite positions—in other words, they bring markets back to equilibrium values.¹⁸

15. It is unlikely that we will see the structuring of diverse mortgages (subprime mortgages) again without far more efficient screening devices. The information costs were far greater than initially assumed.

16. I have not addressed the moral hazard question here. I am not sure whether having a lender or liquidity provider such as the European Central Bank or the Federal Reserve Bank causes banks to take greater risks *ex ante*. At times, I think that wiping out the value of equity and the loss of reputation are sufficient to control this moral hazard issue. I think that the speed of financial innovation at times is so great that infrastructure and governance controls lag too far behind. The information link is broken. However, this problem can be fixed internally, within banks. The technology exists to do so.

17. The recent financial crisis might have resulted from (a) bad management, (b) imperfect incentive compensation contracts, (c) bad models, (d) bad inputs to models, (e) a lack of understanding of the aggregation problem, (f) a false sense fostered by government entities that the world was a safer place with less risk, or (g) a combination of all these explanations.

18. The Volcker rule (so-named for economist and former U.S. Federal Reserve Chairman Paul Volcker) would preclude banks from engaging in proprietary trading. Hedge funds or other entities would need to supply speculative capital.

Shocks and crisis create change. With disorder comes order. We learn from crises. Although financial employment has grown dramatically since 1980 as a percentage of total compensation in the economy, the number of risk managers or modelers with sufficient economic and econometric training has far from kept pace. More talent is needed to measure, monitor, and control risks. More talent is needed to manage horizontally diverse firms. Clients trust financial entities to provide products and services that solve their problems. Senior management bears responsibility for establishing controls to preserve this trust. The challenge of financial innovation, then, is to create products and provide services that address the functions of finance without abusing client trust. Financial innovations are crucial to address the changing desires of a global society. To harness the power of financial innovation—while controlling its inherent risks, conflicts of interest, and adverse incentives—is the challenge.

CHAPTER 3

On the Economic Consequences of Index-Linked Investing

Jeffrey Wurgler

A market index summarizes the performance of a group of securities into one number.¹ The use of stock market indices in particular has been growing exponentially for years. Since Charles Dow introduced his indices in 1884, the number of distinct stock market indices reported in *The Wall Street Journal* has increased roughly 5 percent per year, as shown in Figure 1. Today's *Journal* reports not just the Dow Jones Industrial Average (DJIA) and the S&P 500; it also reports on the Turkey Titans 20 and the Philadelphia Stock Exchange Oil Service Index. Markets are being tracked in more and more detail, and Figure 1 suggests that there is no end in sight.²

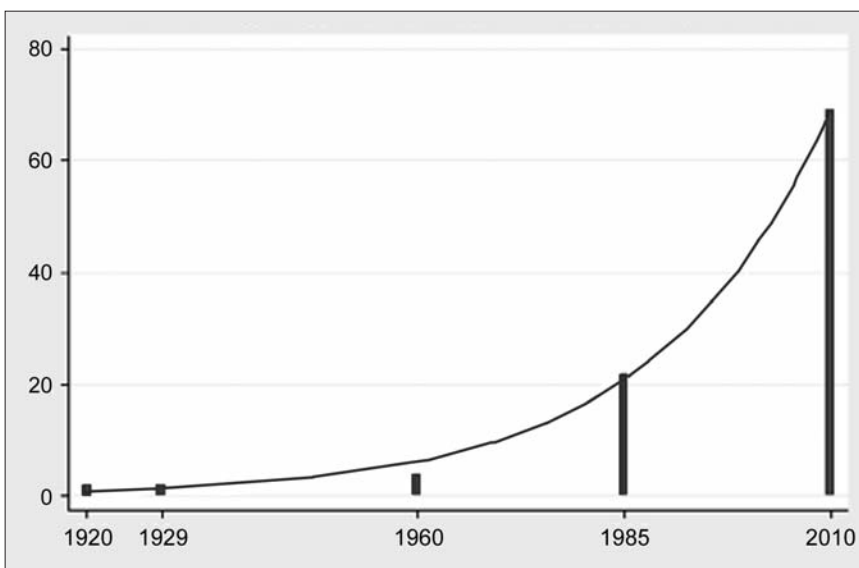
The proliferation of indices reflects their ever-growing importance to the investment industry. Trillions of dollars are managed with some connection to an index, with the S&P 500 and MSCI World being among the most popular equity indices. Institutional investors often ask a fund manager to beat a particular index. Individuals may wish to match one via an index fund. Hedgers, speculators, and fund managers may manage exposure to index members through index derivatives. While I focus on stock markets in this essay, indices and associated investment products have proliferated also in debt markets, commodities, currencies, and other asset classes.

It is time to reflect on the broader economic consequences of these trends. I define *index-linked investing* as investing that focuses on a predefined and publicly known set of stocks. Here, I review some evidence that indices are no longer mere carriers of information, but that they and their associated index-

1. I am grateful for helpful comments by Malcolm Baker, John Campbell, Ned Elton, Steve Figlewski, Martin Gruber, Antti Petajisto, William Silber, and Robert Whitelaw. I am also grateful to Randall Morck and Fan Yang for permission to reproduce Figure 3.

2. The fitted exponential curve in Figure 1 predicts that *The Wall Street Journal* will report 140 stock market indices by 2025. While this number may seem hard to believe, note that as of mid-2010, there are already more than 100 industry and regional indices listed on the MSCI, Inc., website.

Figure 1: Number of Stock Market Indices Reported in *The Wall Street Journal*



Data are for five selected years and fit to an exponential curve. Counts include both domestic and international indices. Source: Figure based on author's own analysis.

linked investing strategies have become so popular that they are generating new stock market phenomena in their own right. Because so many economic decisions are tied to stock prices, these phenomena affect the real economy.

For the sake of balance, I should start by acknowledging the many considerable benefits that indices and index-linked investment products provide. They allow managers and investors to calculate “betas” for cost of capital calculations and to learn from the information that indices contain about investment opportunities. Policy-makers use indices as forward-looking indicators of economic conditions.³ And, most obviously, investors have greatly benefited from these innovations. Index funds generally have lower expenses and costs than actively managed funds. They provide exposure to specific diversified portfolios, including portfolios of international stocks that would otherwise be difficult to construct and, for those delegating investment management, to monitor. Their core strategy tends to minimize distributions and thus is relatively tax efficient.

No doubt, indices and associated investment products are innovations that on the whole have benefited many individuals and institutions. On the other hand, their popularity has created underappreciated side effects. As I discuss below, these effects all stem from the finite ability of stock markets to absorb index-shaped demands for stocks. Not unlike the life cycles of some other

3. For example, the S&P 500 is a component of The Conference Board's Leading Economic Indicators (LEI) Index for the United States, the TOPIX is in the LEI for Japan, the FTSE All Shares Price Index is in the LEI for the United Kingdom, and so on for other of their country-level indices; and the *Federal Reserve Bulletin* reports the S&P 500, Amex, and NYSE indices.

major financial innovations, the increasing popularity of index-linked investing may well be reducing its ability to deliver its advertised benefits while at the same time increasing its broader economic costs.

INDEXING, INDEX FUNDS, AND STOCK PRICES

Indexed Assets Under Management (AUM)

As Figure 1 suggests, the importance of index-based investing strategies has risen rapidly. Index-based products now form a well-established segment of the investment management industry. The practitioner-oriented *Journal of Indexes* is over ten years old, as is an industry conference known as The Super Bowl of Indexing.

Huge sums are involved. As of this writing, Standard & Poor's reports that there is \$3.5 trillion benchmarked to the S&P 500 alone, including \$915 billion in explicit Index funds. Exchange-traded funds (ETFs) now amount to \$1 trillion across all asset classes and indices. Russell Investments estimates that \$3.9 trillion is currently benchmarked to its indices. Together, these numbers quickly add up to about \$8 trillion in easily countable products.

Active managers must also make distinctions between index and non-index members. Given tracking error concerns, an active manager who is benchmarked to an index is more likely to trade the stocks in that index, as well as associated liquid ETFs or index futures when equitizing inflows.⁴ For example, suppose a benchmarked manager forecasts that both an index member and a non-index member will appreciate 2 percent. He favors buying (or overweighting) the index member, all else equal, because it reduces tracking error. If the forecasts are -2 percent, he favors selling or shorting the non-index member on the margin. The very language of *outperform* and *underperform* implies a benchmark.

It is impossible to determine the exact dollar value of U.S. equities whose ownership and trading are somehow tied to indices, but the above suggests that the relevant numbers are in the trillions of dollars. This estimate means that every trading day, billions of dollars in net flows affect index members but not non-members. That this trading affects index members' share prices is not surprising.

Index Inclusion Effects

A stock is deleted from the S&P 500 when it falls below a threshold liquidity or is delisted, acquired, or otherwise determined by the S&P Index Committee to have become sufficiently less representative of the market than the next

4. Style drift is an example of a violation of an implicit tracking error constraint. An information ratio maximization mandate is an explicit constraint. Most directly, large institutional investment contracts often contain specific tolerances for tracking error.

available candidate.⁵ There are typically twenty or twenty-five changes to the Index in an average year. The press releases announcing the changes state that the inclusion of a stock is based not on any judgment as to investment merits but largely on liquidity and market representativeness; the lone requirement relating to economic fundamentals is four quarters of as-reported positive earnings, a simple piece of public information. The fact that Index inclusions are not associated with fundamental news allows for unusually clean estimates of the effect of demand per se on prices, which is the key question in light of the massive daily net flows faced by Index members.

The S&P 500 Index is a capitalization-weighted index.⁶ The percentage of each member that is held by explicitly Index-matching funds is therefore \$915 billion in total Index fund assets divided by the \$10.5 trillion total capitalization of the constituents (S&P estimates). This implies that, around the time of this writing, 8.7 percent of each stock that is newly added to the Index must be bought by Index fund managers—and rather quickly so, because their mandate is to replicate the Index. Whether they buy at a price that is “too high” is irrelevant.

On average, stocks that have been added to the S&P between 1990 and 2005 have increased almost 9 percent around the event, with the effect generally growing over time with Index fund assets.⁷ Stocks deleted from the Index have tumbled by even more. Given that mechanical indexers must trade 8.7 percent of shares outstanding in short order—and an even higher percentage in terms of the free float (not to mention the significant buying associated with benchmarked active management)—this price jump is easy to understand and, perhaps, impressively modest.

The obvious explanation for this jump is simple supply and demand. The argument could be made that one component of the price jump is due to expected increases in liquidity (an impact distinct from fundamentals of the firm). However, changes in volume, quoted spreads, and quoted depth are much smaller than would justify a price increase of several percentage points. After all, the S&P selected these stocks in part because of their high liquidity.

5. Much of the discussion below will involve the S&P 500 Index; it is among the most important in practice and has been the most studied by researchers. However, the supply indices of Wilshire Associates and, in particular, Russell Investments are becoming increasingly popular.

6. To be precise, it has been float-weighted since 2005, but this fact has little effect on the calculations below.

7. This figure is from Antti Petajisto, “The Index Premium and Its Hidden Cost for Index Funds,” *Journal of Empirical Finance* (forthcoming). For documentation of S&P 500 inclusion effects, see Larry Harris and Eitan Gurel, “Price and Volume Effects Associated with Changes in the S&P 500: New Evidence for the Existence of Price Pressures,” *Journal of Finance* 41 (1986): 815–829; Andrei Shleifer, “Do Demand Curves for Stocks Slope Down?” *Journal of Finance* 41 (1986): 579–590; Anthony Lynch and Richard Mendenhall, “New Evidence on Stock Price Effects Associated with Changes in the S&P 500 Index,” *Journal of Business* 70 (1997): 351–383; and several subsequent studies. For evidence of growth over time, see Jeffrey Wurgler and Ekaterina Zhuravskaya, “Does Arbitrage Flatten Demand Curves for Stocks?” *Journal of Business* 75 (2002): 583–608, and Petajisto, “The Index Premium and Its Hidden Cost for Index Funds.”

Index inclusion or weighting effects have been documented for the S&P SmallCap 600, the Russell 1000 and 2000, the Toronto Stock Exchange 300, Nikkei 225, MSCI country indices, and other indices. It is worth pointing out that there are notable price impacts even when the reweighting episode is unambiguously informationless: for example, the Russell indices' changes are highly predictable, and the TSE 300 reweighting change studied by Kaul, Mehrotra, and Morck was perfectly predictable.⁸ The same broader economic issues that arise in connection with the S&P 500 may therefore also arise, to some extent, in international markets.

Comovement and Detachment

If a one-time inclusion effect of a few percentage points were the end of the story, then the overall impact of indexing on prices would be modest. But the inclusion effect is just the beginning. The return pattern of the newly included S&P 500 member changes magically and quickly. It begins to move more closely with its 499 new neighbors and less closely with the rest of the market. It is as if it has joined a new school of fish. Figure 2 illustrates the phenomenon. It is worth repeating that this pattern is occurring in some of the largest and most liquid stocks in the world.⁹

These comovement patterns are where the real economic impact starts. Just as the initial price jump results from sudden index fund demand for the new stock, the increased comovement with other members of the S&P 500 relates to the highly correlated index fund inflows and outflows that they experience.¹⁰ To some degree, active managers with S&P benchmarks likely also contribute to this comovement, as discussed more below.

The net flows into index-linked products are both large and not perfectly correlated with other investors' trades. Indexers and index-product users are, by definition, pursuing different strategies from those of the more active investor. They are less interested in keeping close track of the relative valuations of index and non-index shares. Some are index arbitrageurs or basis traders who care only about price parity between index derivatives and the underlying stock portfolio. The upshot is that over time, the index members can slowly drift away from the rest of the market, a phenomenon I call *detachment*.

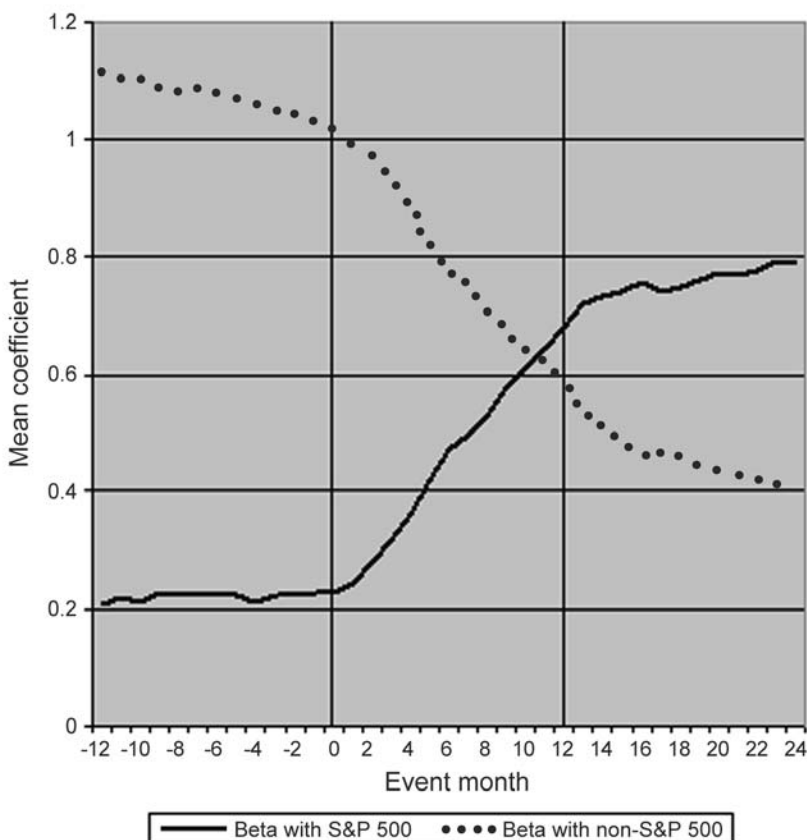
This price detachment is not just a theoretical concern. In an important paper from 2001, Morck and Yang find evidence that S&P 500 Index mem-

8. Aditya Kaul, Vikas Mehrotra, and Randall Morck, "Demand Curves for Stocks *Do* Slope Down: New Evidence from an Index Weights Adjustment," *Journal of Finance* 55 (2002): 893–912.

9. In the S&P 500, the beta changes reflect primarily an increased covariance in returns between the included stock and other S&P members; the standard deviation of returns of the included stock does not change much. Greenwood and Sosner find similar effects in Nikkei 225 changes; see Robin Greenwood and Nathan Sosner, "Trading Patterns and Excess Comovement of Stock Returns," *Financial Analysts Journal* 63 (2007): 69–81.

10. Goetzmann and Massa show this effect at daily frequency; see William N. Goetzmann and Massimo Massa, "Index Funds and Stock Market Growth," *Journal of Business* 76 (2003): 1–28.

Figure 2: Changes in Comovement Patterns of Stocks Added to the S&P 500 Index



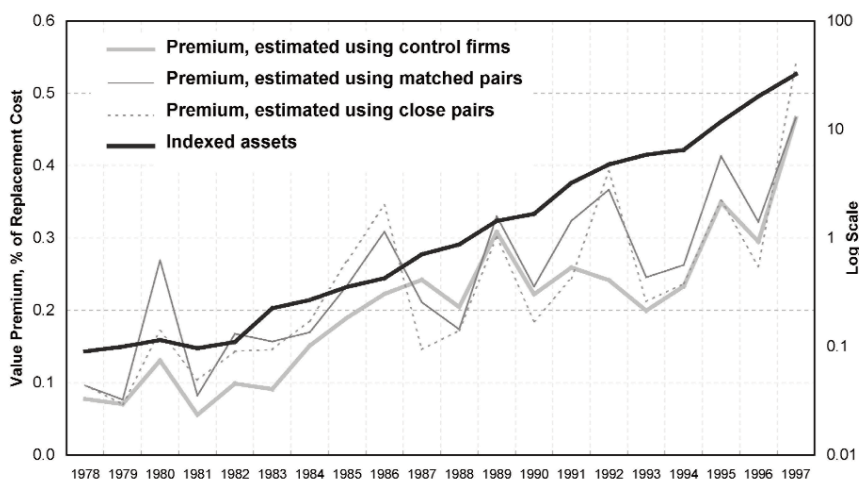
Results of a bivariate regression with daily returns of stocks added to the S&P 500 against the S&P 500 Index and the return on the rest of the market. Rolling twelve-month coefficients are computed for each added firm and the averages are plotted. The sample includes 153 stocks added to the S&P 500 between 1988 and 2000. Source: Nicholas Barberis, Andrei Shleifer, and Jeffrey Wurgler, “Comovement,” *Journal of Financial Economics* 75 (2005): 283–317.

bers have enjoyed a significant and increasing price premium, most likely due to the growth of indexing. They match each stock within the Index as closely as possible to a stock outside the Index, where comparability is defined in terms of size and industry, and then compare their valuations. Figure 3 shows their results. As of 1997, they find an S&P membership price premium on the order of 40 percent.¹¹

This number is much higher than the inclusion and deletion effects noted above. Part of the gap may be due to the fact that professional fund managers

11. Randall Morck and Fan Yang, “The Mysterious Growing Value of S&P Index Membership,” NBER Working Paper No. 8654, 2001. The authors are updating their data and analysis through the present; it will be interesting to see the current estimate of the membership premium and the time variation that has occurred since 1997.

Figure 3: Valuation Detachment of S&P 500 Index Members, 1978–1997



Vanguard 500 Fund assets in billions of 1982 dollars on the right axis, and membership valuation effect on the left axis. Valuations are measured as Tobin’s average Q. Source: Randall Morck and Fan Yang, “The Mysterious Growing Value of S&P Index Membership,” NBER Working Paper No. 8654, 2001. Figure reprinted here with permission from Morck and Yang.

are now widely aware of the inclusion effects and are increasingly predicting future changes, thereby attenuating announcement effects when they materialize.¹² Alternatively, the full implications of Index addition may just take longer than a few days to materialize. For example, active managers may decide that the newly added stock, even after the inclusion effect, is still undervalued relative to other Index members, the newly natural comparison group.

Or perhaps Morck and Yang are simply overestimating the Index membership premium due to a subtle methodological problem. However, Cremers, Petajisto, and Zitzewitz reveal other evidence that the S&P 500 has detached over this period.¹³ They find that between 1980 and 2005, the S&P 500 generated eighty-two basis points of annual “alpha” relative to the Carhart four-factor model. Cumulated over time, this finding implies a smaller but still substantial Index membership premium.

The comovement and detachment effects are difficult to measure precisely. But even if Morck and Yang’s price premium estimate is too high by a factor of two, it would remain a large mispricing. Furthermore, there are reasons to suspect that Figure 2 may actually understate comovement distortions from index-based investing, because a number of indices’ membership lists overlap. Consider a stock that is already in the S&P 500 but is then added to the MSCI North America Index and consequently the popular MSCI World

12. Petajisto, “The Index Premium and Its Hidden Cost for Index Funds.”

13. K. J. Martijn Cremers, Antti Petajisto, and Eric Zitzewitz, “Should Benchmark Indices Have Alpha? Revisiting Performance Evaluation,” Yale School of Management working paper, 2010.

Index. Figure 2 would not capture the MSCI effect because the stock's existing membership in the S&P had exaggerated its pre-addition comovement with all the other S&P stocks already in the MSCI indices.

In any case, the evidence is that stock prices are increasingly a function not just of fundamentals but also of the happenstance of index membership. This finding drives many of the negative consequences noted below.

Bubbles and Crashes

Investor reactions to index movements sometimes require increasing or decreasing exposure to the index, so feedback loops may arise. That is, shocks to prices lead to further demand, further shocks to prices, and further economic consequences. These cycles can operate at frequencies of both years and seconds.

One low-frequency loop involves simple return-chasing, and may be part of the story behind the Morck and Yang results. Indeed, they suggest that it is an "indexing bubble." Return-chasing is a well-documented phenomenon in the literature on fund flows. The S&P 500 Index's visibility and the easy access to ETFs and Index funds facilitate a high sensitivity of flows to returns.¹⁴ Active fund managers can face pressures to chase returns as well (including long-short investors), thereby limiting arbitrage forces that would otherwise reduce detachment.¹⁵ These effects are reinforced by the performance evaluation interaction that I discuss in more detail below: that is to say, the increasing popularity of indexing inhibits the ability of active managers to beat that index and make the case for their strategies. This returns-chasing feedback loop could be much of the story behind the S&P membership premium and the positive index alphas noted by Cremers and his colleagues.

Index membership also affects high-frequency risks, and may encourage trading activity that exacerbates those risks. Dramatic examples include the crash of October 19, 1987, and the intraday "flash crash" of May 6, 2010. SEC investigations have centered on S&P 500 derivatives in both cases.

The causes of the October 1987 crash are unknown, but it did not originate in any U.S. market.¹⁶ Nonetheless, some have argued that the shock propagated so quickly and dramatically due to a feedback loop involving portfolio insurance trades that used S&P Index futures to create synthetic puts:

The scenario is generally expressed as follows: An exogenous shock produces a stock market decline; that price decline triggers futures selling by portfolio insurers; such futures selling produces an undervaluing of the futures contract relative to the cash index; stock index arbitrageurs buy the relatively

14. Vincent Warther, "Aggregate Mutual Fund Flows and Security Returns," *Journal of Financial Economics* 39 (1995): 209–235, and many subsequent studies.

15. Andrei Shleifer and Robert W. Vishny, "The Limits of Arbitrage," *Journal of Finance* 52 (1997): 35–56, and Markus Brunnermeier and Stefan Nagel, "Hedge Funds and the Technology Bubble," *Journal of Finance* 59 (2004): 2013–2040.

16. Richard Roll, "The International Crash of October 1987," *Financial Analysts Journal* 44 (1988): 19–35.

underpriced futures and sell the relatively overvalued stocks; stock prices fall further; declining stock prices induce additional selling by portfolio insurers; and the process begins anew.¹⁷

On October 19, S&P stocks declined an average of seven percentage points more than non-members of the same market capitalization.¹⁸ This is a clear and dramatic example of the high-frequency risk—again, a systematic risk—that index membership creates.

The flash crash of May 6, 2010, is again drawing attention to an index-based product. SEC investigations are ongoing, and no academic studies are available yet, but a prominent explanation involves S&P 500 e-mini Index futures. The story goes that a negative shock to S&P 500 prices or demand led to a large intraday price decline that was exacerbated by further selling in the futures, and so on. If this hypothesis is correct, the basic mechanisms that played a role in the October 1987 crash seem to be here still, twenty-three years later.

To be clear, these stories hardly suggest that the world would be better off without index derivatives. They simply raise the question of how differently these episodes would have unfolded in a counterfactual world where trading in index members is limited to their floating shares outstanding.

The Cross-Sectional Risk-Return Relationship

The basic proposition of asset pricing theory is the positive relationship between risk and expected return. Numerous models take a risk-averse marginal investor as a given and derive this as an equilibrium relationship. It is an intuitive and appealing proposition that is taught both as a normative principle and often, at least implicitly, as a descriptively accurate one.

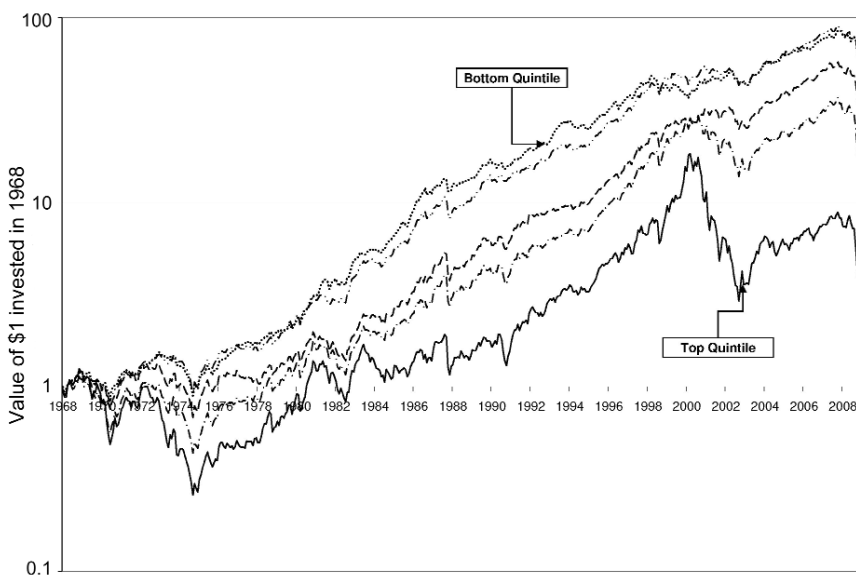
It is surprising that more investors, teachers, and students are not aware that *within* the stock markets, this proposition has been incorrect. High-risk stocks have, on average, delivered *lower* returns than low-risk stocks in both U.S. markets and those around the world.¹⁹ Illustrative results for U.S. stocks are plotted in Figure 4. A \$1 investment in a low beta portfolio in 1968 grows

17. Paula Tosini, “Stock Index Futures and Stock Market Activity in October 1987,” *Financial Analysts Journal* 44 (1988): 31. For evidence relevant to this mechanism, see also Harris and Gurel, “Price and Volume Effects Associated with Changes in the S&P 500,” and A. Craig MacKinlay and Krishna Ramaswamy, “Index-Futures Arbitrage and the Behavior of Stock Index Futures Prices,” *Review of Financial Studies* 1 (1988): 137–158. For additional analysis of the Federal Reserve’s role in relation to the crash, see Mark Carlson, “A Brief History of the 1987 Stock Market Crash with a Discussion of the Federal Reserve Response,” Federal Reserve Board of Governors Finance and Economics Discussion Series No. 13, 2007.

18. Marshall E. Blume, A. Craig MacKinlay, and Bruce Terker, “Order Imbalances and Stock Price Movements on October 19 and 20, 1987,” *Journal of Finance* 44 (1989): 827–848.

19. See Robert A. Haugen and A. James Heins, “Risk and the Rate of Return on Financial Assets: Some Old Wine in New Bottles,” *Journal of Financial and Quantitative Analysis* 10 (1975): 775–784; Andrew Ang, Robert Hodrick, Yuhang Xing, and Xiaoyan Zhang, “The Cross-Section of Volatility and Expected Returns,” *Journal of Finance* 61 (2006): 259–299; and Andrew Ang, Robert Hodrick, Yuhang Xing, and Xiaoyan Zhang, “High Idiosyncratic Volatility and Low Returns: International and Further U.S. Evidence,” *Journal of Financial Economics* 91 (2009): 1–23.

Figure 4: Return on High- and Low-Beta Portfolios



Each month, stocks are divided into quintiles according to trailing beta, where beta is estimated using up to sixty months of returns. In January 1968, \$1 is invested, according to capitalization weights. At the end of each month, each portfolio is rebalanced, with no transaction costs included. Source: Malcolm Baker, Brendan Bradley, and Jeffrey Wurgler, “Benchmarks as Limits to Arbitrage: Understanding the Low Volatility Anomaly,” *Financial Analysts Journal* 67 (2011).

to \$60.46 by 2008, while the same investment in a high beta portfolio yields \$3.77. The high beta portfolio actually has a *negative* real return; the 2008 portfolio adjusted for inflation is worth \$0.64. Restricting to larger cap stocks does not significantly change the qualitative picture.²⁰

Surprisingly, academics have turned attention to this spectacular anomaly only recently. I introduce the topic here because there is reason to believe that it is exacerbated by the practice of benchmarking professional investors, which in turn is facilitated by the popularity of certain indices. The SEC requires every mutual fund to report a benchmark in its prospectus, and almost all institutional products specify one. There are good reasons why investors like to use the MSCI World, S&P 500, Russell 2000, or another index as a benchmark.²¹ But Baker, Bradley, and Wurgler suggest that benchmarking may interfere with managers’ incentives to enforce the risk-return relationship.²²

20. Figure 4 and the following discussion are drawn from Malcolm Baker, Brendan Bradley, and Jeffrey Wurgler, “Benchmarks as Limits to Arbitrage: Understanding the Low Volatility Anomaly,” *Financial Analysts Journal* 67 (2011).

21. See Edwin J. Elton, Martin J. Gruber, and Christopher R. Blake, “Incentive Fees and Mutual Funds,” *Journal of Finance* 58 (2003): 779–804, and K. J. Martijn Cremers and Antti Petajisto, “How Active is Your Fund Manager? A New Measure That Predicts Performance,” *Review of Financial Studies* 22 (2009): 3329–3365. These authors find that the S&P 500 is the most frequently used benchmark by mutual funds. It is used even by some funds with small-cap, value, and growth strategies.

22. Baker, Bradley, and Wurgler, “Benchmarks as Limits to Arbitrage.”

The problem is that managers benchmarked against a simple index will tend to favor high beta stocks. Suppose a long-only manager is benchmarked against the market portfolio and its expected excess return is 10 percent. Suppose the institutional manager finds a stock with beta of 0.75 that is underpriced against a standard CAPM benchmark with an alpha of 2 percent. The expected excess return on the stock is 9.5 percent. But even though this stock is underpriced, the manager expects it to underperform the benchmark by 0.5 percent. In other words, for a manager benchmarked against the market portfolio, a stock with an alpha of 2 percent can be a candidate for *underweighting*. A similar argument shows that such a manager is also incentivized to *overweight* a low or negative alpha, high beta stock, unless the alpha is extremely negative.²³ Put differently, maximizing the so-called information ratio, which puts excess returns against a benchmark in the numerator (and tracking error in the denominator), is a different objective function than maximizing the Sharpe ratio, which has excess returns over the riskless rate in the numerator.

The bottom line is that many of the investors that have enough sophistication and capital to potentially correct the anomaly are handcuffed by their mandates. These incentives may well make the risk-return anomaly worse. Figure 4 does suggest that the anomaly has not diminished over time. It may even have grown a bit with the trend toward increased institutional ownership.

ECONOMIC CONSEQUENCES

The mispricings noted above would be a sideshow put on by the stock market if stock prices did not affect so many real economic decisions. Every decision that depends on stock prices is therefore distorted by mispricing. Below, I review some such decisions faced by corporate managers and some faced by investors.

Corporate Investment and Financing

There are a number of ties between the stock market and corporate investment policy. A familiar mechanism that links indexing to investment decisions is the calculation of market betas for inputs to the CAPM. Although the model is empirically inaccurate, indeed backward, it nonetheless continues to be taught to students and widely used in practice. A survey found that 73.5 percent of CFOs use that model in capital budgeting.²⁴

23. Important to the example is that the manager cannot leverage. Baker et al. review the evidence that broadly supports this assumption; see Baker, Bradley, and Wurgler, "Benchmarks as Limits to Arbitrage."

24. John Graham and Campbell Harvey, "How Do CFOs Make Capital Budgeting and Capital Structure Decisions?" *Journal of Applied Corporate Finance* 15 (2002): 8–23.

What are the consequences for real investment? The (equal-weighted) average stock added to the S&P 500 sees its beta increase by 0.10. With a market risk premium of 10 percent, the CAPM implied cost of equity for the average addition rises by 1 percent. Managers of these firms will find that fewer projects are positive NPV. This is ironic, given anecdotal evidence that managers are generally delighted at S&P 500 inclusion in part because they believe it improves access to capital markets.

Another effect on the cost of capital works through credit scoring models. These models place market valuations at the center; the greater the equity valuation, the greater the distance to default. This effect appears in Moody's KMV model, the Merton model, and Altman's Z-score.²⁵ Debt financing is more important than equity, especially for large firms, suggesting the price premium associated with S&P 500 membership in Figure 3 is again likely to affect corporate investment. Here, the direction of the investment effect is time-varying; it depends on whether Index members are at a premium or a discount.

Finally, stock market valuations affect corporate investment from an (average) Tobin's Q channel, where they are used as proxies for the profitability of investment. Like the credit risk effect, this mechanism induces a time-varying effect on investment that depends on the prevailing valuations of Index members.

Massa, Peyer, and Tong were the first to examine some of these predictions.²⁶ They find that new S&P 500 inclusions increase their rate of equity issuance and reduce their leverage. Greater effects occur among firms that jumped more when they were initially included. The cost of equity is notoriously hard to measure, but the authors argue that reduces the cost of equity, driving the equity issuance results. These results do not support the beta-increase channel noted above. They are consistent with the credit scoring and Tobin's Q channels in the context of S&P membership.

Investor Decisions

Index-driven mispricings affect expected returns and volatility. They also degrade investors' ability to measure fund manager skill.

Investing in Index Funds. A main selling point for index funds has been comprehensive, low-cost diversification. The S&P 500 Index's detachment means, however, that it is reflecting less and less the performance of the full stock market. Index funds based on the more comprehensive Wilshire 5000 (which has included as many as 7,200 stocks) are now providing more robust diversification and stock market exposure.

25. Return volatility plays a large role as well in these models. My calculations using the data of Barberis, Shleifer, and Wurgler do not show any significant change in volatility at standard horizons, so the effects of index membership on credit risk would come mainly through valuation levels. See Nicholas Barberis, Andrei Shleifer, and Jeffrey Wurgler, "Comovement," *Journal of Financial Economics* 75 (2005): 283–317.

26. Massimo Massa, Urs Peyer, and Zhenxu Tong, "Limits of Arbitrage and Corporate Financial Policy," INSEAD Working Paper, 2005.

Not only are index fund owners experiencing extra risk in the form of low-frequency detachment, index-based trading creates more risk at higher frequency. The reason is that it is a focal point for those who want to change their stock market exposure in a hurry. For an index fund investor, reallocating from a stock market index fund to a bond fund or cash involves two trades, rather than hundreds of individual stock sales. To the extent that investment managers regard index membership as shorthand for liquidity, additional trading pressure may be concentrated on members. “Index trader risk” could be seen as a particular form of noise trader risk; earlier, I discussed two dramatic crashes that may have included this risk.

Index funds can also have interesting expected returns properties that again may confuse rather than simplify portfolio choice. There are several possibilities.

Suppose the cap-weighted index starts with each stock at fundamental value. An i.i.d. mispricing shock would then lead the index fund investor to overweight overvalued stocks. As prices correct over time, this leads to a drag on performance for cap-weighted portfolios, potentially contributing to the observed long-term underperformance of cap-weighted indices relative to equal-weighted indices. Yet if there is an unknown distribution of mispricing in the starting portfolio, as is presumably the case, then we cannot make such a sweeping conclusion.²⁷

A second and very different possibility is that the market tends to underreact to stock-specific news. This does appear to be a stylized fact. In this world, the cap-weighted portfolio’s automatic movement toward stocks with positive news shocks induces what might be considered an attractive portfolio tilt; to invest in the cap-weighted index is to pursue something resembling a large-cap momentum strategy.

A third plausible case involves the hypothesized indexing bubble. Figure 3 shows that S&P 500 Index members have been on a roll, but if they are overpriced then presumably this cannot last forever. If this is indeed a bubble, then to invest in the cap-weighted Index is to pursue a strategy resembling a large-cap growth and momentum strategy, at least before the bubble pops.

For the sake of completeness, I should mention the textbook case: that is, the market is informationally efficient, and therefore indexing by using a subset of the stock universe cannot, on average, be beaten. Unfortunately, the evidence does not support the blanket assumption of market efficiency (I wouldn’t write this paper if it did), leaving all the other messy, non-mutually exclusive possibilities.

Clearly, the line between passive and active investment is blurrier than usually presented. In a world of inefficient markets—apparently, our world—to invest in a cap-weighted index is implicitly to assume an investing strategy

27. For a careful discussion of these issues, see Andre Perold, “Fundamentally Flawed Indexing,” *Financial Analysts Journal* 63 (2007): 31–37.

and take a view on the predictability of stock returns. Ambiguity about what cap-weighted indexing represents complicates the would-be passive investor's portfolio decision.²⁸

The good news is that there are opportunities for the sophisticated investor. Cross-sectional risk-return inversion provides an attractive investment opportunity. Institutional mandates that are flexible enough to capture this include maximum Sharpe ratio, minimum volatility, and absolute returns. The lack of clear benchmarks reduces transparency and accountability, though. Pension and endowment funds would find it more difficult to keep track of aggregate risk exposures.

Performance Evaluation. Finally, index detachment makes it harder to evaluate investment managers. If index members are moving as a separate category, using them as a yardstick to measure a manager's skill is problematic.²⁹ Performance relative to the index becomes period-specific: the likelihood of beating the index depends on which way the detached index members happened to move relative to non-members.

If there was an indexing bubble, then the associated high benchmark returns have created a headwind for active managers for decades. Indeed, as noted above, the S&P 500 did have "alpha" relative to common expected return models over the 1980 to 2005 period in which indexed assets exploded.

The popularity of indexing may not be simply a reflection of the fact that active managers are unable, on average, to beat the index; it may actually be contributing to their underperformance. Likewise, if the indexing bubble pops, or even springs a slow leak, even many low-skilled active managers will outperform the benchmark, and the popularity of indexing may wane. In a world with substantial index detachment, estimates of the relative alpha-generating skill across managers are still possible, but absolute statements about even the average fund manager's skill are quite tenuous.

LOOKING FORWARD

Indices and index-based trading are innovations that have not come for free. The economic implications are not well researched, and some are inherently difficult to measure, but they no doubt exist to some extent and are likely to grow in accord with the growth of index-based investing.

What are the policy implications? There may be none. There is no practical way to redeploy the trillions of dollars now indexed in a way that reduces their economic consequences. But we can at least consider a variety of thought experiments that involve small reforms.

28. Petajisto points out that the index inclusion effect itself represents a hidden cost on the order of twenty-five basis points per year on the S&P 500 and about twice that for the Russell 2000; see Petajisto, "The Index Premium and Its Hidden Cost for Index Funds."

29. Sensoy finds that mutual fund flows are sensitive to performance relative to inappropriate benchmarks; see Berk A. Sensoy, "Performance Evaluation and Self-Designated Benchmark Indexes in the Mutual Fund Industry," *Journal of Financial Economics* 92 (2009): 25–39.

A mass shift to the use of broader market indices would mitigate some of the problems discussed here. As of this writing, the S&P 500 represents about 78 percent of total U.S. market capitalization, so the risk reductions from a hypothetical mass shift to, say, the Wilshire 5000 (assuming the wish to retain a U.S. focus) would not be overwhelming. Mid-caps and small-caps do diversify a large-cap portfolio, however. Furthermore, if the S&P 500 membership price premium is as large as Morck and Yang suggest, 78 percent of total market cap overstates the proper weight of the S&P. If the Index lost its putative 30 percent premium, for example, then its corrected share of the market would be closer to 60 percent. This outcome would imply greater benefits to a mass move to a broader index.

Yet even this modest suggestion has some problems. At some point, the marginal firm is too small to handle its share of net flows without large price impacts. Adding mid-caps and smaller-caps to the mix would also destroy some of their current diversification benefits via comovement increases, and perhaps adversely affect the capital budgeting decisions of the new inclusions. The optimal breadth for a single U.S. stock market index, from the perspective of overall benefits and costs to all those affected by stock prices, is probably more than (most of) the largest five hundred stocks but fewer than the largest five thousand. As the markets grow, so, too, would this optimal breadth.

Practically speaking, the interest in new cap-weighted indices may be approaching certain limits. With more than twenty thousand readily investable equities worldwide, there are, in principle, over $2^{20,000}$ sets of securities that could be assembled, which is far greater than the number of atoms in the universe. But the number of U.S. indices reported in *The Wall Street Journal* in Figure 1 has plateaued at around twenty; international market indices make up most of the recent growth. Apparently, the U.S. market has been carved up as much as most *Journal* readers need.

The frontiers of index definition involve new combinations of weighting schemes, geographical areas, and industries. One interesting development is the introduction of so-called fundamental indexing strategies, in which holdings are weighted by variables such as dividend yield rather than market capitalization. These strategies are sometimes promoted under the claim that capitalization-weighted indices are generally overweight overvalued stocks. While that claim is flawed (as I have discussed), these strategies do represent a novel approach to active investing and may stimulate informative new indices.

Indices and index-based investing are innovations that are here to stay; they have become central to modern investing, and rightly so. The consequences are here to stay as well. Research on the magnitude of the economic distortions they cause is needed, as are suggestions about how regulators and market structures might reduce them.

CHAPTER 4

Reversing the Null: Regulation, Deregulation, and the Power of Ideas*

David A. Moss

It has been said that deregulation was an important source of the recent financial crisis.¹ It may be more accurate, however, to say that a *deregulatory mindset* was an important source of the crisis—a mindset that, to a very significant extent, grew out of profound changes in academic thinking about the role of government.

The influence of academic ideas in shaping public policy is often underestimated. John Maynard Keynes famously declared that the “ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed, the world is ruled by little else.”² Although perhaps exaggerated, Keynes’s dictum nonetheless contains an important element of truth—and one that looms large in the story of regulation and deregulation in America.

As scholars of political economy quietly shifted their focus from market failure to government failure over the second half of the twentieth century, they set the stage for a revolution in both government and markets, the full ramifications of which are still only beginning to be understood. This intellectual sea change generated some positive effects, but also, it seems, some negative ones. Today, the need for new regulation, particularly in the wake of the

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1. On deregulation and the recent crisis, see, for example, James Crotty, “Structural Causes of the Global Financial Crisis: A Critical Assessment of the ‘New Financial Architecture,’” *Cambridge Journal of Economics* 33 (2009): 563–580.

2. John Maynard Keynes, *The General Theory of Employment, Interest, and Money* (1936; repr., New York: Harcourt Brace Jovanovich, 1964), 383.

financial crisis, may require another fundamental shift in academic thinking about the role of government.

This essay begins with two stories: one about events (including financial crises and regulation) and the other about ideas (especially the shift in focus from market failure to government failure). Understanding the interplay between these two stories is essential for understanding not only the recent crisis but also what needs to be done, both politically and intellectually, to prevent another one. Meaningful policy reform is essential, but so too is a new orientation in scholarly research. This shift will require nothing less than a reversal of the prevailing null hypothesis in the study of political economy. I discuss what this “prevailing null” is—and what it needs to be—in the second half of the essay. First, though, two stories lay the foundation for what comes next.

THE RISE AND FALL OF FINANCIAL REGULATION IN THE UNITED STATES

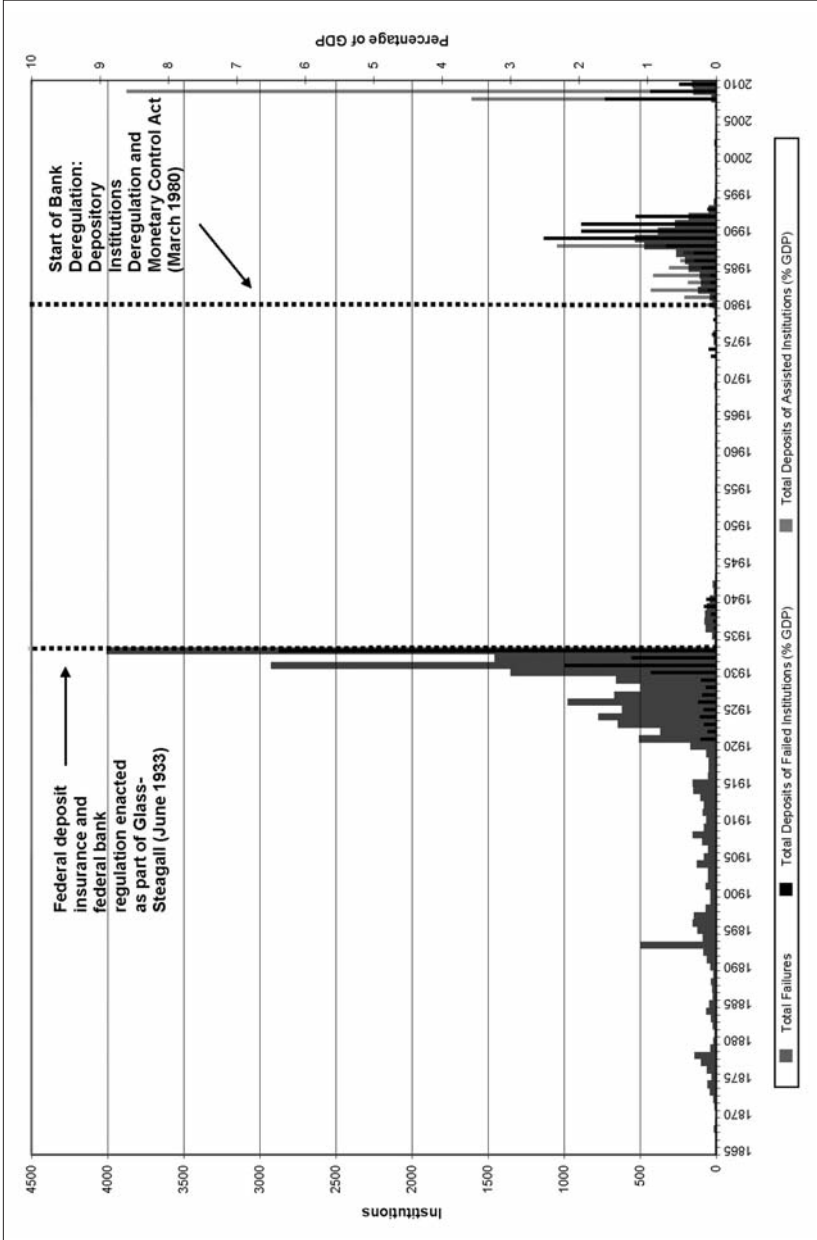
The first story—about events—begins with a long series of financial crises that punctuated American history up through 1933.³ Starting when George Washington was president, major panics struck in 1792, 1797, 1819, 1837, 1857, 1873, 1893, 1907, and 1929–1933. Although lawmakers responded with a broad range of policies, from state banking and insurance regulation throughout the nineteenth century to the creation of the Federal Reserve in the early twentieth, none of these reforms succeeded in eliminating financial panics.

Only with the adoption of New Deal financial regulation (including the Banking Acts of 1933 and 1935, the Securities Exchange Act of 1934, and the Investment Company Act of 1940) did the United States enjoy a long respite from further panics. In fact, Americans did not face another significant financial crisis for about fifty years, which represented by far the longest stretch of financial stability in the nation’s history (see Figure 1). Importantly, this was also a period of significant financial innovation, with U.S. financial institutions—from investment banks to venture capital firms—quickly becoming the envy of the world.

One reason the American financial system performed so well over these years is that financial regulators were guided by a smart regulatory strategy, which focused aggressively on the greatest systemic threat of the time, the commercial banks, while allowing a relatively lighter regulatory touch elsewhere. This approach made sense because most financial crises up through the Depression were essentially banking crises. As a result, the dual strategy of tough regulation (and insurance) of the commercial banks along with lighter (more disclosure-based) regulation of the rest of the financial system helped ensure both stability and innovation—a precious combination. Notably, the strategy was not devised by any one person or group, but rather arose out of

3. This section draws on David A. Moss, “An Ounce of Prevention: Financial Regulation, Moral Hazard, and the End of ‘Too Big to Fail,’” *Harvard Magazine*, September–October 2009.

Figure 1: A Unique Period of Calm amid the Storm: Bank Failures and Suspensions, 1865 to 2010



Data on deposits begin in 1921. This chart, prepared with the assistance of Darin Christensen, is based on an earlier version in David A. Moss, "An Ounce of Prevention: Financial Regulation, Moral Hazard, and the End of 'Too Big to Fail,'" *Harvard Magazine*, September–October 2009. Source: Historical Statistics of the United States: Colonial Times to 1970, Series X-741, 8 (Washington, D.C.: Government Printing Office, 1975), 1038; "Federal Deposit Insurance Corporation Failures and Assistance Transactions: United States and Other Areas," Table BF01, <http://www2.fdic.gov/hsob>; Richard Sutch, "Gross Domestic Product: 1790–2002," in *Historical Statistics of the United States, Earliest Times to the Present: Millennium Edition*, ed. Susan B. Carter et al. (New York: Cambridge University Press, 2006), Table Ca9-19.

the workings of the American political system itself, which required continual compromise and accommodation. In the end, the regulatory strategy appears to have worked, helping produce a long “golden era” of financial stability and innovation in America that lasted through much of the twentieth century.

This unprecedented period was dramatically interrupted following a new experiment in financial deregulation, commencing with passage of the Depository Institutions Deregulation and Monetary Control Act of 1980 and the Garn-St. Germain Depository Institutions Act of 1982. Before long, the nation faced a sharp increase in failures at federally insured depository institutions, including both commercial banks and savings and loans, an episode commonly known as the S&L crisis. Although a degree of re-regulation, enacted as part of the Financial Institutions Reform, Recovery and Enforcement Act of 1989 (FIRREA), proved useful in putting out the S&L fire, the broader movement for financial deregulation continued through the early years of the twenty-first century. Particularly notable were passage of the Gramm-Leach-Bliley Act of 1999, which repealed the Glass-Steagall separation of commercial from investment banking; the Commodity Futures Modernization Act of 2000, which prohibited the Commodity Futures Trading Commission and the Securities and Exchange Commission (SEC) from regulating most over-the-counter derivatives; and the SEC’s 2004 decision, driven in large part by Gramm-Leach-Bliley, to allow the largest investment banks to submit to voluntary regulation with regard to leverage and other prudential requirements.⁴

Although certain deregulatory initiatives may have contributed to the financial crisis of 2007 to 2009, more important was a broader *deregulatory mindset* that impeded the development of effective regulatory responses to changing financial conditions. In particular, the explosive growth of major financial institutions, including many outside of the commercial banking sector, appears to have generated dangerous new sources of systemic risk.

Among the nation’s security brokers and dealers, for example, total assets increased from \$45 billion (1.6 percent of GDP) in 1980 to \$262 billion (4.5 percent of GDP) in 1990, to more than \$3 trillion (22 percent of GDP) in 2007.⁵ Many individual institutions followed the same pattern, including Bear Stearns, the first major investment bank to collapse in the crisis, whose assets had surged more than tenfold from about \$35 billion in 1990 to nearly \$400 billion at the start of 2007.⁶

Undoubtedly, the nation’s supersized financial institutions—from Bear Stearns and Lehman Brothers to Citigroup and AIG—played a central role in the crisis. They proved pivotal not only in inflating the bubble on the way up

4. On the 2004 SEC decision, see Securities and Exchange Commission, “Chairman Cox Announces End of Consolidated Supervised Entities Program,” press release 2008-230, September 26, 2008, <http://www.sec.gov/news/press/2008/2008-230.htm> (accessed November 22, 2009).

5. Federal Reserve Board, “Flow of Funds Accounts of the United States, Historical,” Z.1 release, <http://www.federalreserve.gov/releases/z1/Current/data.htm>.

6. Data, courtesy of the New York Federal Reserve, are drawn from company 10-Qs.

but also in driving the panic on the way down. As asset prices started to fall as a result of the subprime mess, many of these huge (and hugely leveraged) financial firms had no choice but to liquidate assets on a massive scale to keep their already thin capital base from vanishing altogether. Unfortunately, their selling only intensified the crisis and, in turn, their balance sheet problems. Had the terrifying downward spiral not been stabilized through aggressive federal action, the nation's financial system might have collapsed altogether.

Given the enormous systemic risk posed by the supersized financial institutions, federal officials felt they had little choice but to bail out many of them—ironically, the very firms that had helped cause the crisis in the first place. The failure of Lehman in September 2008, and the severe financial turmoil that ensued, demonstrated just how much systemic damage one of these financial behemoths could inflict if allowed to collapse.

Clearly, the nation's largest and most interconnected financial institutions had become major sources of systemic risk, even though many of them (including Bear Stearns, Lehman, Fannie Mae, and so forth) operated entirely outside of commercial banking. Had we updated our original (1933 to 1940) regulatory strategy in the 1990s or early 2000s to account for these new sources of systemic risk, meaningful regulation of the largest and most systemically significant financial institutions (including, potentially, tough leverage and liquidity requirements) would have ensued. Indeed, had such regulation been developed and enforced, the worst of the crisis might well have been avoided. But, regrettably, there was simply no appetite for devising new financial regulation at that time given the pervasive belief that private actors could most effectively manage financial risks on their own, without interference from government regulators.⁷

The problem, therefore, was not so much deregulation per se, but rather a deregulatory mindset that hampered the development of new regulation that, in retrospect, was desperately needed to address the emergence of new systemic threats in the financial sector. The intellectual sources of this deregulatory mindset long predated the crisis. Indeed, they are part of a second story—one focused on the development and transformation of ideas—which is the subject of the next section.

7. Alan Greenspan, the former chairman of the Federal Reserve, acknowledged one aspect of this perspective in his now famous testimony before the House Committee on Oversight and Government Reform in October 2008. Greenspan stated, “[T]hose of us who have looked to the self-interest of lending institutions to protect shareholder’s equity (myself especially) are in a state of shocked disbelief.” See Testimony of Alan Greenspan, House Committee on Oversight and Government Reform, U.S. Congress, October 23, 2008, <http://oversight.house.gov/images/stories/documents/20081023100438.pdf>.

FROM MARKET FAILURE TO GOVERNMENT FAILURE: REVERSING THE NULL

Within the academy, ideas about the proper role of government in the economy were turned almost completely upside down over the course of the twentieth century. Until at least the 1960s, economists devoted particular attention to the problem of market failure, rejecting the notion that free markets always optimized social welfare, and believing that well-conceived government intervention could generally fix these failures in the private marketplace. By the 1970s, however, cutting-edge scholarship in both economics and political science increasingly spotlighted the problem of government failure. Even if markets sometimes failed, these new studies suggested, public intervention was unlikely to remedy market deficiencies because government failure (it was often claimed) was far more common and severe.

In a sense, what had changed was the prevailing null hypothesis in the study of government and markets.⁸ If students of market failure were responding to—and rejecting—the null that markets are perfect, then students of government failure were now responding to a new null—that *government* is perfect—and doing their best to reject it. This transformation (or, loosely, reversal) of the prevailing null hypothesis would fundamentally reshape academic research on the role of the state, encouraging scholars over the last third of the twentieth century to focus relentlessly on both the theory and practice of government dysfunction.⁹ When President Ronald Reagan announced in his first inaugural address in 1981 that “government is not the solution to our problem; government is the problem,” his approach was entirely consistent with a new generation of scholarship on government failure.

8. I am deeply indebted to Julio Rotemberg for encouraging me to think about the notion of a *prevailing null* in political economy.

9. The advantage of “owning” the null hypothesis has long been recognized: “As any empirical social scientist can attest,” one scholar has written, “it is extremely difficult to accumulate enough acceptable evidence to reject, or overturn, the null hypothesis, given the limited power of social science theory and our inability to identify adequate methods and techniques that can be applied to complex social situations. Therefore, whoever controls, or ‘owns,’ the definition of the null is apt to preserve it against attacks based on existing evidence”; see Jonathan R. Cole, “Balancing Acts: Dilemmas of Choice Facing Research Universities,” *Daedalus* 122 (4) (Fall 1993): 12. See also Harrison C. White, review of *Fair Science*, by Jonathan R. Cole, in *American Journal of Sociology* 87 (4) (January 1982): 951–956. In this essay, however, I approach the null (and what it means to “own the null”) from the opposite direction—that is, viewing the prevailing null as punching bag rather than fortress. With respect to market failure and government failure, I would characterize the prevailing null hypotheses not as difficult or impossible to reject but rather as intentionally easy to reject because they were implicitly framed as absolutes. The implicit null against which the market failure school did battle—that markets are perfect—proved relatively easy to reject; indeed, any exception (say, to Pareto optimality) would justify rejection. Similarly, the implicit null that the government failure school has attacked—that government is perfect—is rather easy to reject for much the same reason. Although neither is a well-formed null from a statistical standpoint, both ended up facilitating successful and long-standing research efforts. In both cases, moreover, repeated “rejection of the null” vaguely left the impression that the object of study (that is, markets or government) was *very far* from perfect, when in fact such an interpretation would be nearly impossible to confirm or disconfirm empirically.

Market Failure

Although the first relevant use of the term “market failure” dates to 1958, when Francis Bator published “The Anatomy of Market Failure” in *The Quarterly Journal of Economics*, the broader notion that private market activity might not always maximize social welfare goes back considerably further. Perhaps the earliest expression of the externality concept should be credited to Henry Sidgwick, who observed in *The Principles of Political Economy* (1887) that individual and social utility could potentially diverge. A generation later, another British economist, Arthur Cecil Pigou, developed the idea further, first in *Wealth and Welfare* (1912) and subsequently in *The Economics of Welfare* (1920, 1932). Indeed, because Pigou was the first to suggest that a well-targeted tax could be used to internalize an externality, such an instrument is still known among economists as a Pigouvian tax.¹⁰

Market failure theory continued to develop over the course of the twentieth century. In addition to externalities and public goods, economists identified and formalized numerous other potential sources of market failure, including asymmetric information (especially adverse selection and moral hazard) and imperfect competition (such as monopoly, oligopoly, and monopsony).¹¹

Across nearly all of this work on market failure was the underlying idea that good public policy could remedy market deficiencies and thus improve on market outcomes, enhancing efficiency and, in turn, overall social welfare. At about the same time that Pigou was conceiving of his internalizing tax in Britain, reform-minded economists in America were claiming that social insurance could be used to minimize industrial hazards (such as workplace accidents and even unemployment) by internalizing the cost on employers. As John Commons explained in 1919 regarding newly enacted workers’ compensation laws (which required employers to compensate the victims of workplace accidents), “We tax [the employer’s] accidents, and he puts his best abilities in to

10. Francis M. Bator, “The Anatomy of Market Failure,” *The Quarterly Journal of Economics* 72 (3) (August 1958): 351–379; Henry Sidgwick, *The Principles of Political Economy* (London: Macmillan, 1887); Arthur Cecil Pigou, *Wealth and Welfare* (London: Macmillan, 1912); Arthur Cecil Pigou, *The Economics of Welfare*, 4th ed. (London: Macmillan, 1932).

11. In addition to Pigou’s writings on externalities, some of the classic texts on market failure include Paul A. Samuelson, “The Pure Theory of Public Expenditure,” *The Review of Economics and Statistics* 36 (4) (November 1954): 387–389; William J. Baumol, “On Taxation and the Control of Externalities,” *American Economic Review* 62 (3) (June 1972): 307–322; George A. Akerlof, “The Market for Lemons: Quality, Uncertainty, and the Market Mechanism,” *The Quarterly Journal of Economics* 84 (3) (August 1970): 488–500; Michael Spence, “Job Market Signaling,” *The Quarterly Journal of Economics* 87 (3) (August 1973): 355–374; Michael Rothschild and Joseph Stiglitz, “Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information,” *The Quarterly Journal of Economics* 95 (4) (November 1976): 629–649; Mark V. Pauly, “The Economics of Moral Hazard: Comment,” Part 1, *American Economic Review* 58 (3) (June 1968): 531–537; Joan Robinson, *The Economics of Imperfect Competition* (London: Macmillan, 1933); Michael Spence, “Product Selection, Fixed Costs, and Monopolistic Competition,” *Review of Economic Studies* 43 (2) (1976): 217–235.

get rid of them.”¹² Pigou himself endorsed a tax on gasoline that covered the cost of wear and tear on the roads, and even the playwright George Bernard Shaw suggested in 1904 that the “drink trade” be “debited with what it costs in disablement, inefficiency, illness, and crime.”¹³ Beyond Pigouvian taxes, the identification of market failures has been used to justify a wide range of economic policies. These policies include, among many other examples, public spending on education, national defense, and public parks (to support classic public goods); environmental regulation (to limit environmental externalities, such as pollution); and compulsory insurance, such as Medicare (to address the problem of adverse selection in private insurance markets). In fact, market failure theory is among the most powerful intellectual rationales—some would say, *the* most powerful rationale—for government intervention in the marketplace.

Government Failure

The problem, of course, is that there is no guarantee that government (and the political system that drives it) has the capacity to identify and fix market failures in anything close to an optimal manner. Beginning as early as the late 1940s, various strands of research began raising significant questions about the integrity and rationality of democratic decision-making, about the legitimacy and efficacy of majoritarian politics, about the attentiveness and knowledge-base of voters, and about the public mindedness of lawmakers and civil servants. Methodologically, what nearly all these strands of research had in common was the application of basic tools of economic analysis to the study of politics and public decision-making.

Just two years after Duncan Black’s landmark 1948 paper in the *Journal of Political Economy* introduced the median voter hypothesis, Kenneth Arrow published in the same journal a statement of his impossibility theorem, which proved that there exists no system of voting that can reflect ranked voter preferences while meeting even basic rationality criteria (such as the requirement that if every voter prefers A to B, the electoral outcome will always favor A over B, regardless of the existence of alternative choice C). Seven years later, in 1957, Anthony Downs’s *An Economic Theory of Democracy* pointed to the so-called rational ignorance of voters. James Buchanan and Gordon Tullock followed in 1962 with *The Calculus of Consent*, which offered a profound economic analysis of collective decision-making, including a strong critique of majoritarianism. Rounding out the foundational texts of public choice theory, Mancur Olson published *The Logic of Collective Action* in 1965, highlighting

12. Cited in David A. Moss, *Socializing Security: Progressive-Era Economists and the Origins of American Social Policy* (Cambridge, Mass.: Harvard University Press, 1996), 65.

13. Ibid. On Shaw’s suggestion regarding alcohol (which was posed more as something to imagine than as a true policy recommendation), see [George] Bernard Shaw, *The Common Sense of Municipal Trading* (Westminster: Archibald Constable and Co., Ltd., 1904), 19.

in particular the power of special interests to exploit opportunities involving concentrated benefits and diffuse costs.¹⁴

Meanwhile, a closely related body of thought, which also tended to venerate the market, was beginning to take shape at the University of Chicago. In “The Problem of Social Cost,” published in *The Journal of Law & Economics* in 1960, Ronald Coase (who was then at the University of Virginia but would soon move to Chicago) showed that externalities could be eliminated through trade in the absence of transaction costs. After apparently being the first to label Coase’s contribution the “Coase Theorem,” George Stigler launched a bold new approach to the study of regulation with his 1971 paper, “A Theory of Economic Regulation.” Stigler’s paper formalized the notion of regulatory capture (which grew out of rent-seeking on the part of both interest groups and regulators) and inaugurated what would ultimately become known as the Economic Theory of Regulation. Milton Friedman, meanwhile, had published *Capitalism and Freedom* in 1962, arguing that to best guarantee political freedom, private economic activity should be left to the market and insulated from government intervention. Government involvement in economic matters, he maintained, not only violated freedom through coercion but also generally spawned severe unintended consequences.¹⁵

By the mid- to late 1970s, the study of government failure, in all its various forms, had come to rival—and, in terms of novelty and energy, perhaps had even overtaken—the study of market failure in the social sciences. Indeed, Charles Wolf’s synthesis, “A Theory of Nonmarket Failure,” published in *The Journal of Law & Economics* in 1979, reflected the field’s coming of age.¹⁶ “The principal rationale for public policy intervention,” Wolf wrote, “lies in the inadequacies of market outcomes. Yet this rationale is really only a necessary, not a sufficient, condition for policy formulation. Policy formulation properly requires that the realized inadequacies of market outcomes be compared with the potential inadequacies of nonmarket efforts to ameliorate them.”¹⁷ Ironically, as Wolf points out in a footnote, one of the earliest articu-

14. See Duncan Black, “On the Rationale of Group Decision Making,” *Journal of Political Economy* 56 (1) (February 1948): 23–34; Kenneth J. Arrow, “A Difficulty in the Concept of Social Welfare,” *Journal of Political Economy* 58 (4) (August 1950): 328–346; Anthony Downs, *An Economic Theory of Democracy* (New York: Harper & Row, 1957); James Buchanan and Gordon Tullock, *The Calculus of Consent: Logical Foundations of Constitutional Democracy* (Ann Arbor: University of Michigan Press, 1962); Mancur Olson, Jr., *The Logic of Collective Action: Public Goods and the Theory of Groups* (Cambridge, Mass.: Harvard University Press, 1965).

15. Ronald H. Coase, “The Problem of Social Cost,” *The Journal of Law & Economics* 3 (October 1960): 1–44; George Stigler, “The Theory of Economic Regulation,” *Bell Journal of Economics and Management Science* 2 (1) (Spring 1971): 3–21; Milton Friedman, *Capitalism and Freedom* (Chicago: University of Chicago Press, 1962). On Stigler’s use of the term “Coase Theorem,” see, for example, Richard A. Posner, “Nobel Laureate: Ronald Coase and Methodology,” *Journal of Economic Perspectives* 7 (4) (Autumn 1993): 200.

16. Charles Wolf, Jr., “A Theory of Nonmarket Failure: Framework for Implementation Analysis,” *The Journal of Law & Economics* 22 (1) (April 1979): 107–139.

17. *Ibid.*, 107.

lations of this insight about the potential for government failure belongs to Henry Sidgwick, who was also perhaps the earliest contributor to the theory of market failure. “It does not follow,” Sidgwick wrote in his 1887 *Principles of Political Economy*, “that whenever *laissez faire* falls short government interference is expedient; since the inevitable drawbacks of the latter may, in any particular case, be worse than the shortcomings of private enterprise.”¹⁸

A Distorted Picture of Government?

Certainly, the study of governmental failure has advanced our understanding of both the logic and limits of government involvement in the economy, including government efforts to remedy market failure. But just as the study of market failure in isolation may produce a distorted picture of government’s capacity to solve problems, so too may an excessively narrow focus on government failure produce an exaggerated picture of government’s incapacity to do almost anything constructive at all.

As studies of government dysfunction and democratic deficiency have piled up over the past several decades, cataloguing countless theories and examples of capture, rent-seeking, and voter deficiencies, consumers of this literature could be forgiven for concluding that democratic governance can do nothing right. It would be as if health researchers studied nothing but medical failure, including medical accidents, negligence, and fraud. Even if each individual study were entirely accurate, the sum total of this work would be dangerously misleading, conveying the mistaken impression that one should never go to the doctor or the hospital. Unfortunately, the same may be true of social science research on government failure. When carried to an extreme, it may leave the mistaken impression that we should never turn to the government to help address societal problems.

Such an impression is difficult to reconcile with practical experience. While no one would say that government regulation is perfect, who among us would prefer to live without many of the key regulatory agencies, such as the FDA, the EPA, the Federal Reserve, the FDIC, the FAA, or the NTSB?¹⁹ Naturally, each of these agencies falters from time to time and could be improved in countless ways; but what proportion of Americans would seriously say that the nation would be better off if they were dismantled altogether? To take just one example, imagine how it would feel getting on an airplane if there were no FAA or NTSB, and the responsibility for air safety were left entirely to the airlines themselves.

The bottom line is that government failure is likely far from absolute. Most of us probably appreciate that government regulators inspect our meat, check the safety and efficacy of our prescription drugs, and vigorously search

18. Quoted in *ibid.*, 107 n.1.

19. The initials stand for the Food and Drug Administration (FDA), the Environmental Protection Agency (EPA), the Federal Deposit Insurance Corporation (FDIC), the Federal Aviation Administration (FAA), and the National Transportation Safety Board (NTSB).

for threats to the safety of our major modes of transportation. And yet, in the social sciences—and especially in economics and related fields—the appeal of continuing to bludgeon the government-is-perfect null remains remarkably strong, as does the influence of the resulting research.

While a good understanding of government failure is essential, it now seems that the original effort to correct the excessively rosy view of government associated with market failure theory has itself ended in overcorrection and distortion. In the face of the financial crisis of 2007 to 2009, the earlier drive to deregulate the financial markets, which was so profoundly influenced by the weight of academic opinion and the study of government failure, appears to stand as “Exhibit A” of just such an overcorrection and its tragic real-world consequences.²⁰

THE CASE FOR REVERSING THE NULL, ONCE AGAIN

Today, in the wake of the most perilous financial crisis since 1933, there have been widespread calls for new regulation. I myself have put forward a proposal for identifying and regulating the most systemically dangerous financial institutions—those large and interconnected firms commonly characterized as “too big to fail.”²¹ A basic premise of my proposal is that New Deal financial regulatory reform worked, paving the way for a highly dynamic financial system that remained virtually crisis-free for a half-century. The essential strategy of those New Deal reforms was to aggressively regulate the greatest systemic threats of the time (especially those associated with commercial banking) while exercising a relatively lighter touch elsewhere. In this way, the regulatory reforms helped ensure both stability *and* innovation in the financial system.

20. To be sure, academic ideas about government failure (and market efficiency) are not the only—nor even necessarily the primary—drivers of deregulatory sentiment in American politics. Suspicion about the state has always played a large (and often very constructive) role in American life from the earliest days of the republic; and there have always been plenty of special interests lobbying aggressively to limit or dismantle regulation. What academics have brought to the table is the legitimacy of expert opinion. If Citigroup and a handful of other large financial firms had stood alone in the late 1990s in calling for the repeal of Glass-Steagall restrictions on universal banking, many lawmakers may well have dismissed their appeals as empty expressions of self-interest with little bearing on the public interest. But when the banks’ case was vigorously supported by many of the leading scholars in the country, from all of the most prestigious academic institutions, the argument naturally became far more difficult to dismiss. Confirming the existence of a remarkably broad academic consensus on this issue (and related ones) at the time of repeal, Charles Calomiris wrote in 2000 that “[n]o prominent banking historians or economists have defended unit (single-office) banking or the historical restrictions on bank activities in underwriting or insurance.” He wrote further of a “remarkable degree of agreement among banking scholars—supported by an extensive body of research—that historic limitations on U.S. banks’ locations and activities are inefficient. Furthermore, that literature not only argues that historical restrictions on banks are currently inefficient, but also that they were undesirable at the time of their passage”; Charles W. Calomiris, *U.S. Bank Deregulation in Historical Perspective* (Cambridge: Cambridge University Press, 2000), xi–xii.

21. See, especially, Moss, “An Ounce of Prevention.”

Unfortunately, somewhere along the way, many observers (including many academics) began to take that stability for granted. Financial crises were now just a distant memory, and the link between their disappearance and the rise of New Deal regulation was largely forgotten. From there, it became all too easy to view financial regulation as a costly exercise with few, if any, benefits. Many existing regulations were soon weakened or removed, and still more troubling, policy-makers often refrained from introducing new regulations even as new systemic threats began to take shape.

One of the main goals of financial regulation going forward, therefore, must be to update our financial regulatory system to address these new systemic threats—especially the systemically dangerous financial institutions that played such a large role in driving the crisis.

Policy proposals like this one, however, will not be sufficient by themselves. If the post-crisis push for better regulation is to succeed over the long term, I believe it must become rooted in a new generation of research on the role of government. Our predecessors have taught us a great deal about market failure and government failure. Now the goal must be to figure out when government works best and why: that is, what distinguishes success from failure.

Take the problem of regulatory capture, for example. George Stigler and his successors modeled the phenomenon and highlighted numerous cases in which special interests appear to have captured regulators (and legislators). This represents a very important contribution. The question now is what comes next. Unless one believes that capture is absolute and immutable, affecting all policy-makers equally in all contexts, the next logical step would be to try to identify cases in which capture was relatively mild or nonexistent, and then to use the variance across cases to generate testable hypotheses about why some public policies, agencies, and officials are more vulnerable to capture than others.²² If we could gain a better understanding of what accounts for high versus low vulnerability, it might become possible to design public policies and regulatory structures with a relatively high degree of immunity to capture.

Such an approach would imply the need for a new null hypothesis in the study of government. If market failure theory grew out of a markets-are-perfect null, and the exploration of government failure grew out of a government-is-perfect null, then perhaps what is required now is a government-always-fails null. This would push researchers to examine whether (as some students of government failure seem to believe) government always fails and to look hard for cases of success to reject the null. The goal would not be simply to create a catalog of government successes, but ultimately to identify, with as much precision as possible, the essential conditions that separate success from failure.

22. For a first cut at this strategy, see David A. Moss and Mary Oey, “The Paranoid Style in the Study of American Politics,” in *Government and Markets: Toward a New Theory of Regulation*, ed. Edward J. Balleisen and David A. Moss (Cambridge: Cambridge University Press, 2010). See also David A. Moss and Jonathan B. Lackow, “Rethinking the Role of History in Law & Economics: The Case of the Federal Radio Commission in 1927,” working paper no. 09-008 (Harvard Business School, August 2008).

Fortunately, some scholars have already begun moving in this direction. Dan Carpenter’s work on market-constituting regulation and Steven Croley’s on regulatory rule-making in the public interest are valuable cases in point.²³ But much more is needed. To complement the rich work on government failure that has emerged over the past several decades, we need a similarly broad-based effort exploring what works in government, and why. It is time, in short, to reverse the null once again.

REGULATION, DEREGULATION, AND THE POWER OF IDEAS

The financial crisis of 2007 to 2009 exposed severe weaknesses in American financial regulation and, in turn, in our *ideas* about financial regulation and the role of government more broadly.

With regard to the regulation itself, we had no meaningful mechanism for monitoring and controlling new forms of systemic risk. Massive financial firms—the failure of any one of which could pose grave danger to the financial system—were allowed to take extraordinary risks during the boom years, with leverage ratios rising into the stratosphere. There was also far too little protection of the consumer borrower; and a number of particularly strategic players in the financial system (especially credit rating agencies) operated with virtually no oversight whatsoever. Some say the problem was deregulation itself, which dismantled critical protections. In my own work, I have placed greater emphasis on a *deregulatory mindset* that inhibited the development of new regulation—or the modernization of existing regulation—in response to changing financial conditions. Either way, it seems clear that our regulatory system failed us.

Looking forward, it is imperative that our policy-makers devise and implement effective systemic regulation. I have suggested particularly vigorous regulation of the most systemically dangerous financial firms, with the dual goal of making them safer and encouraging them to slim down.

But as we think about regulatory reform—including both enactment and implementation—it is important to diagnose correctly the causes not only of the financial crisis itself but also of the regulatory failure that paved the way for both the bubble and the subsequent crash. Ironically, part of the explanation for the latter may relate to the growing focus within the academy on government failure, which helped convince policy-makers that regulation was generally counterproductive. The influence of the leading scholars in the field—concentrated especially at Chicago and Virginia—appears to have been quite large. It was no coincidence, for example, that President Reagan chose as his

23. See, for example, Daniel Carpenter, “Confidence Games: How Does Regulation Constitute Markets,” in *Government and Markets*, ed. Balleisen and Moss; Steven P. Croley, *Regulation and Public Interests: The Possibility of Good Regulation Government* (Princeton, N.J.: Princeton University Press, 2008).

lead official on deregulation Christopher DeMuth, who had studied under both George Stigler and Milton Friedman at the University of Chicago. Not long after Stigler won the 1982 Nobel Prize in Economics, DeMuth characterized him as “the intellectual godfather of what we’re trying to do in the regulatory area.”²⁴

In the specific domain of financial deregulation, general academic work on government failure combined with two additional influences, particularly in the 1990s and early 2000s, to help shape the worldview of numerous lawmakers and regulators. These influences were (1) a growing faith in the near-perfect efficiency of financial markets (the product of another successful field of academic research that was taken, perhaps, to an unreasonable extreme) and (2) a fading memory of the many crises that had punctuated American history before the adoption of New Deal financial regulation from 1933 to 1940. In tandem with these factors, the relentless academic focus on failure in the study of government, especially within the discipline of economics, may have fostered a distorted picture in which public policy could almost never be expected to serve the public interest.

Finally, then, if we are to introduce, implement, and *sustain* effective regulation—in the financial sector and elsewhere—we will need a new generation of academic research exploring the essential questions of when government works and why. Naturally, the question of what constitutes success within the policy arena will remain controversial. But at least it is a question that takes us in the right direction.

SUMMARY

After more than a quarter-century since George Stigler’s Nobel Prize (and just short of a quarter-century since James Buchanan’s), the field of public choice, with its intense focus on government failure, has emerged as perhaps the closest we have to an orthodoxy in political economy. Certainly, the discipline succeeded in changing the prevailing null hypothesis in the study of government from “markets are perfect” to “government is perfect,” leading throngs of researchers to search for signs of government failure in an effort to reject the government-is-perfect null. This work taught us a great deal about the potential limits of public policy. But just as early market failure theory may have left the mistaken impression that government could fix any market failure, the study of government failure may have left the equally mistaken impression that government can do nothing right.

24. Quoted in Felicity Barringer, “I Knew Him When: Recent Developments on the Regulatory Front,” *The Washington Post*, October 25, 1982. On Christopher DeMuth, see also Edward Cowan, “What’s New in Deregulation: The Man Who Will Direct Phase 2,” *The New York Times*, October 10, 1982.

If so, then it may be time to reverse the prevailing null hypothesis once again, adopting the most extreme conclusion of the government failure school—that government always fails—as the new null. From there, the goal would be to try to reject this new null, and most important, to try to identify conditions separating government success from failure. Although such a shift in academic focus could take root only gradually, it could eventually mark a vital complement to the new and more assertive regulatory policies that appear to be emerging in response to the crisis. Without an underlying change in ideas, new regulatory approaches will almost inevitably atrophy over time, leaving us in the same exposed position that got us into trouble in the lead-up to the recent crisis. Looking ahead, we can—and must—do better.

CHAPTER 5

Questioning Deregulation as a Cause of the Crisis

Simon M. Lorne

Recent scholarship on the history of financial regulation—including David Moss’s thoughtful, provocative, and useful paper in this volume—suggests that the period of relative financial stability from approximately 1933 to 1980 was a golden age of regulation. The corollary, of course, is that we now need to resurrect the regulatory policies of that era. I think that analysis, which is based solely on the low number of bank failures during the era—either in absolute numbers or in assets as a percentage of GDP—ignores too much of the universe.

Although the period in question was not one of general stagnation, there certainly were stretches of less-than-robust growth between 1933 and 1980. Given that the first decade was not a moment in economic history that anyone would like to repeat; that mobilization for World War II distorted the 1940s; and that pent-up demand and the early impact of the baby boom were driving factors in the 1950s, economists should be hard-pressed to draw generalizable conclusions. Moreover, it was a period of little, if any, financial innovation; what innovation there was took place outside of the world of financial regulation—as in, for example, the initial formation of hedge funds, attributed to sociologist and financial journalist Alfred Winslow Jones in the late 1940s. In short, I am not inclined to accept, at least without more convincing evidence, that the 1933–1980 period was, in fact, a golden age of bank regulation.

I would also note that an extended period in which there are few or no bank failures could give rise to at least three analytical hypotheses other than the one on which David Moss rests his case. First, the low failure rate might simply be the result of little or no business activity. Substantially reduced business activity necessarily makes bank failures unlikely, so that one can deduce little from the observation. Nor should it necessarily lead one to believe that effective regulation caused the dearth of failures. As Moss observes, the best way to eliminate automobile accidents is to reduce the speed limit to zero and ensure that the law is enforced. But there are (almost certainly unacceptable) social costs associated with such an approach.

From a different perspective, and even more troublesome, it might be that an absence of bank activity (and hence an absence of bank failures) was the cause, not the result, of an absence of business activity. To the extent that bank regulation was responsible for a low level of bank activity, perhaps we should damn it as the cause of relative economic stagnation, rather than praise it.

Finally, of course, there is a measurement problem. We can ascertain an economic activity level of X and a bank failure rate of Y —with Y being close to zero in this case—but we cannot determine what a bank failure rate of $Y + Z$ would imply for the level of economic activity. I rather suspect that we should *affirmatively embrace* some level of bank failure as a necessary accompaniment to a robust economy. To the extent one can reduce failures *without sacrificing the level of economic activity*, so much the better. But as with most such measures, we should be wary of trying to eliminate failures entirely, and we should recognize that attempting to do so entails costs. We do not, of course, need to accept the level of failures that characterized 1929 to 1930 or 2008 to 2009; it may well be, however, that we should desire a greater rate of failure than that we experienced in the period from 1933 to 1980.

In much of the current literature, there seems to be a consensus (albeit one that I shall challenge) that deregulation was a root cause of the financial crisis of the last two years. Moss's claim is more subtle: he argues not that too much deregulation was adopted, but that the prevalence of an antigovernment mindset led to a failure to regulate. We should look not at the regulations that were repealed, he suggests, but at the regulations that might otherwise have been adopted and were not. That hypothesis, of course, is largely untestable.

In my view, only three significant elements of actual deregulation were at all relevant to the 2008–2009 crisis. The first was the adoption of the Gramm-Leach-Bliley Act and the repudiation of the Glass-Steagall Act. (I should note that I have always thought that the repudiation of Glass-Steagall was ill-advised. I also believe that the separation of investment and commercial banking that Glass-Steagall mandated—which in many ways is what Chairman of the Economic Recovery Advisory Board Paul Volcker is currently urging, with his suggestion to deny trading authority to banks—was and remains sensible.) However, while passing Gramm-Leach-Bliley may have been a bad idea, it was not a root cause of the crisis, except insofar as it allowed the universal banks to be bigger and necessarily more interconnected, and, therefore, more easily deemed too big or too interconnected to fail.

The second instance of deregulation (at least it is typically viewed as such) was the decision by the Securities and Exchange Commission (SEC) to allow the five largest brokerage firms, the Consolidated Supervised Entities (CSE)—Goldman Sachs, Morgan Stanley, Merrill Lynch, Lehman Brothers, and Bear Stearns—to be governed by Basel II standards rather than by the SEC's standard net capital rules. The condition for this allowance was that the firms vol-

untarily submitted to the CSE regulatory regime, which was itself based on Basel II but administered by the SEC. Too much has been made of this move. It was not—as some have argued—an inherently weak “voluntary” submission to regulation. The SEC retained all the authority over those firms any regulator could want. Moreover, if the broker-dealer subsidiaries of the firms had remained under traditional net capital standards, there would have been very little, if any, difference in outcome. The problem was that the SEC had only a handful of people to oversee the regime across all five institutions—far too few to administer a Basel II regime. By comparison, many times that number were embedded within Fed-regulated institutions. Furthermore, it came to light that the SEC was not any better than the Fed at administering the standards. After all, it is not as though Fed regulation distinguished itself during the crisis.

The third arguably relevant area of deregulation was the congressional legislation that denied the SEC and the Commodity Futures Trading Commission (CFTC) regulatory authority over certain derivatives. This issue is usually discussed in the context of credit default swaps and the fall of AIG. True, the legislation was specifically deregulatory—one of the few examples, in fact. However, if credit default swap (CDS) transactions had been subject to full regulation as securities, the broader outcome would have been the same. Under SEC regulation, all the CDS contracts written by AIG would have been considered “private placements” and thereby exempt from SEC registration and review. Moreover, they all were written in London, beyond SEC jurisdiction. Centralized clearing might well have been helpful, although not without its own issues: indeed, the centralized clearing agency becomes a single point of failure and is inherently too big—or better said, too interconnected—to fail. In any event, a lack of SEC and CFTC jurisdiction over CDS transactions was never an element in any failure of regulation that might be identified as a cause of the financial collapse.

In short, the deregulatory mindset—congressional acceptance of the Chicago School—was not nearly as pervasive as recent analyses might lead one to believe. Even less, I think, was deregulation (or a deregulatory mindset) a cause of the crisis. Put differently, I do not believe the academic writings were nearly as influential in the political sphere as Moss and others suggest, nor do I think that branches of academic writings were as uniformly accepted as those critics propose. Here, I offer an analogy: we have a tendency in this country to elect presidents based on one candidate’s earning 51 or 52 percent of the vote to the opponent’s 49 or 48 percent. Inexplicably, we then act as though the victor has received some sort of overwhelming public mandate. I think Moss and others do much the same when they perceive a ruling economic ideology. It may be—and, indeed, quite possibly is—accurate to say that the Keynesians held sway and then the Chicago School held sway. But the two sides were always fairly evenly balanced; the opposing view was never very far from the scene.

I cannot help but note that the one area of the financial system that did *not* contribute to the crisis was hedge funds, which are commonly described as an unregulated segment of the market. Hedge funds did not fail in any large numbers during the years of the crisis and clearly were a negligible factor as a cause of the crisis. In my view, that was because lenders would not allow hedge funds to acquire the amount of leverage that was common in the large, regulated institutions, and those high levels of leverage were an essential ingredient of the failures. This experience could easily, and fairly, be described as one in which the unregulated markets worked far more effectively than the regulated markets. It could also be seen as an example of moral hazard played out—that is, in the unwarranted reliance on the regulatory structure. After Long-Term Capital Management’s failure and bailout in 1999, lenders were generally aware that lightly regulated hedge funds posed a significant credit risk and did not permit them to take on a great deal of leverage. By contrast, in the presumably well-regulated financial institutions, leverage was allowed to reach significant heights simply *because* lenders trusted in the efficacy of regulation.

* * *

At bottom, I believe the crisis should properly be seen neither as a market failure *nor* a regulatory failure, but as a failure of *people* in both private institutions and regulatory agencies. At the level of the firm, people were charged with recognizing risk; they simply failed to do so or, equally offensive, they failed adequately to do anything about it. In some instances, it was risk-cognition failure. In others, it was willful blindness. At the regulatory level, actively involved regulators, primarily the Fed, simply failed to realize what was happening. I am reminded of Citigroup CEO Charles O. Prince’s statement: “If the music’s playing, we have to dance.” *People* made the unwise decision to dance.

After an incident occurs, it is easy to conduct a forensic examination and identify the points, and often the causes, of failure. Over time, we will reach that stage with respect to the recent crisis. As for firms that did not fail, it is much more difficult to ascertain which factors were critically important to their not failing, and which, although necessarily a drag on productivity, did not much add to the ultimately beneficial result. I liken such an endeavor to Leo Tolstoy’s opening of *Anna Karenina*, roughly translated as: “All happy families are alike; each unhappy family is unhappy in its own way.”

I cannot quarrel with David Moss’s historical data—there were fewer bank failures in the 1933 to 1980 period than in the post-2007 period. I can, however, question whether that fact is evidence of an unadulterated good in the earlier period, and I can also question what lessons should be drawn from it. The body politic will no doubt respond in the manner that Moss recommends; whether that will improve the public weal over time will probably never be known.

CHAPTER 6

The Media and the Financial Crisis: Was It All *Our* Fault?

Justin Fox

We have just been through the worst financial crisis in seventy years, in the midst of a media transformation of a magnitude not seen since . . . take your pick:

- a) the advent of radio and TV;
- b) the advent of the telegraph; or
- c) the advent of the newspaper.

The pairing of financial craziness and media innovation has a long history. The famous precursor of modern financial bubbles—the tulip-bulb-futures mania in the Netherlands in the 1630s—came on the heels of the founding of the first Dutch newspapers. Communications breakthroughs from the telegraph through the Internet have played a part in numerous manias and panics since.

But the evolution of the media and their role in the recent crisis is more complicated. It is a tale in which technological innovation, imploding business models, and intellectual fashion are all intertwined. And it is a story of two different journalistic genres: the public-interest variety that the profession prides itself on but that has lost its main source of funding (and that never focused much on the economy anyway), and the financial reporting that remains a solid business proposition but tends to echo the very flaws of the financial and economic system that we might want it to expose.

The first and most obvious element to this story is innovation. Opening the Internet to public use in the 1990s enabled an explosion of new ways to create and transmit information and entertainment (more on that in a moment). However, the most immediate result has been an epic challenge to the business models of traditional media companies.

Among the hardest hit have been the metropolitan daily newspapers, some of which had over the past half-century become monopoly providers of printed information—not just news but classified ads, supermarket circulars, movie listings, sports scores, and so on—for their circulation areas. That monopoly status brought staggeringly large profits.

At some newspapers (*The Miami Herald* and *The Boston Globe*, for example), part of that gusher of money was diverted to subsidize public-interest journalism, by which I mean investigative reporting and editorial crusades aimed more at doing good (and winning prizes) than making money or even luring readers. Newspapers were by far the leading source of such journalism. At the local and regional levels they were often the only source.

Then, a decade ago, the metro dailies' monopoly began to unravel as the likes of Craigslist, ESPN.com, and even newspapers' own websites pulled readers away from the money-spinning print product. The profit had been in the full package—not so much in what readers paid to get it (subscription fees usually did not cover the cost of printing and distribution) but in what advertisers were willing to pay to reach those readers. As readers began to access what they needed cafeteria-style on the Web, and advertisers followed, newspaper profits began a dramatic fall. A side effect of this implosion—which is far from over—is that public-interest journalism has lost its main sugar daddy.

That is an alarming development for many reasons, and the search for new funding models to support public-interest journalism should be a national priority. But it is not clear that it had much impact on the trajectory of the financial crisis, for the simple reason that the public-interest journalism done by newspapers only occasionally focused on economic matters and almost never on the financial sector. Of the ninety-four Pulitzer Prizes for public-service and investigative reporting awarded since 1918 (a fair proxy for public-interest journalism), only five can reasonably be described as honoring economic reporting.

This lack of interest in economic or financial matters had not always been the rule. The pioneers of American investigative journalism, the muckrakers of the early twentieth century, focused almost exclusively on the misdeeds and power of business. After the advent of big government in the 1930s, though, public officials became the main target of reporters' zeal. In some ways it was similar to the academic null hypothesis that David Moss describes elsewhere in this volume: government had become the biggest player on the field, so it was the obvious target of investigation. There were also ideological factors at work. Newspaper owners tended to be right-leaning small businessmen with a suspicion of government, and while most of the journalists they hired leaned left, both groups could agree that corrupt politicians were a valid target of investigative zeal. Finally, and most important—especially as newspapers drifted from local ownership into the hands of a few big national chains—newspapers owed their profits to advertising, not circulation revenue. That meant tough reporting on the business community (a.k.a. the advertisers) generally was not a wise choice. Running a negative story about one car dealer was okay; writing a negative story about car dealers as a group, however, was economic suicide.

The early muckrakers wrote for national magazines that were just beginning to build mass readerships. Once advertisers followed, the magazines be-

came far less interested in such work.¹ It is *possible* that new, nonadvertising forms of funding for investigative journalism could bring back old-style muck-raking economic journalism; but we do not know that yet.

There is, however, an entire branch of journalism devoted to covering business and financial markets. It, too, has been going through a shake-up over the past decade thanks to both the direct effects of the Internet boom and the indirect distortions caused by the dot-com boom and bust. (Business publications and broadcasters were spectacularly and unsustainably profitable from about 1997 through 2000, leading to a pretty harsh hangover afterward.) Still, there is vastly more business and financial journalism being produced today than twenty years ago. There seems to be no danger that it will shrivel up and die, largely because readers have proved willing to pay for it (at least a little).

But the market-driven nature of financial journalism means that its practitioners find it hard to go against the flow. The best way to understand this predicament is probably through the models that economists use to describe why smart, against-the-flow investment managers find it so hard to take on financial bubbles. It is exactly when markets are most off-kilter that professional investors betting on a return to sanity come under the most pressure from their investors and lenders.² As a result, those in the investment business have found that it is far safer to fail conventionally than to succeed unconventionally, as investor and economist John Maynard Keynes put it in 1936.³

The pressures are not quite so great in journalism. A writer can rail against prevailing market wisdom for decades on end, as Alan Abelson has done in the pages of *Barron's* since the 1980s, and remain gainfully employed. The business media as a whole, however, will never defy market sentiment for long. It just isn't good business. Now, after the crash, financial reporters are in a tough and skeptical mood—because consumers of financial information are in the same mood. But when good times return, it is unlikely that more than a small minority of financial journalists will be interested in vigorously challenging the status quo. And again, they probably *shouldn't* be, because it wouldn't serve their customers.

The same goes for professors at business schools, which are very market-driven institutions, and to a lesser extent for non-business-school academic economists. Philosophy professors, historians, sociologists, and cultural critics of other sorts are a different matter, and it was easy enough to find members of these groups railing against the supremacy of the market in the 1990s and early 2000s.⁴ But what financial reporter is going to listen to *them*?

1. See Alexander Dyck, David Moss, and Luigi Zingales, "Media Versus Special Interests," NBER Working Paper No. 14360 (National Bureau of Economic Research, September 2008).

2. The seminal paper on this topic is Andrei Shleifer and Robert Vishny, "The Limits of Arbitrage," *Journal of Finance* (March 1997).

3. John Maynard Keynes, *The General Theory of Employment, Interest and Money* (London: MacMillan, 1936), 141.

4. For example, Robert Brenner, *The Boom and the Bubble: The U.S. in the World Economy* (London: Verso, 2002); and Doug Henwood, *Wall Street: How It Works and for Whom* (London: Verso, 1997).

In the years leading up to the financial crisis that began in 2007, the financial media did publish and broadcast numerous warnings about potential problems, especially those involving the overheated housing market. Yet there was no concerted effort to warn that the entire financial system might be about to come crashing down. How could there have been, when the vast majority of *experts*—at business schools, at the Federal Reserve, on Wall Street—did not think a crash was on the way?

The nonfinancial media played a different role, with cable TV in particular doing all it could to spread the housing contagion. Just think of HGTV and its shows *Designed to Sell* and *My House Is Worth What?* or the endless advertising from the likes of mortgage lender Ditech and no-money-down guru Carleton Sheets.

The dramatically lower entry barriers for publishing online allowed some academic experts and market veterans with non-consensus views to share their opinions and knowledge, although for the most part the Cassandras of the blogosphere did not attract large audiences until after things had obviously begun to go wrong.

Once that happened, starting in mid-2007 but especially after January 2008, the financial media were fixated on the story, but in most cases with very little understanding of how everything fit together. That is partly because most financial reporters and editors are stock-market obsessed and do not really understand debt markets—and this was a debt-market crisis. It is also because it is hard to shift gears from good times to trouble. But mainly it was that the interconnections between mortgage loans in Phoenix, banks in Germany, good times in Iceland, and big bonuses on Wall Street were not adequately understood by anyone.

During the full-on panic of Fall 2008, the increasingly real-time nature of news reporting may have added to the distrust and desperation. Coverage was breathless, incomplete, and error-filled. Cutbacks at established news organizations probably exacerbated this problem. But the panic did end. Markets partly recovered. What's more, hoping that news coverage will become *less* real-time in the future seems like a pipe dream.

So where does that leave us? Partly with a realization that we can never rely on the media to prevent financial crises, but also with a few hopeful thoughts. Business journalism is not going away. *The Wall Street Journal* and *Financial Times* remain viable enterprises, and *The New York Times* keeps expanding its business coverage. CNBC is a profit machine. Public radio has become an important source of economic news with *Marketplace* and *Planet Money*. Several online business-news start-ups have survived and appear to be thriving. Thomson Reuters and Bloomberg, two companies that make big profits selling data to investors, have been investing much of that money in journalism, and are showing an increasing willingness to subsidize investigative reporting.

Also, for the next decade or two at least, business journalism's ranks will be filled with grizzled veterans of the 2007–2008 crisis who might exercise a moderating influence on the financial sector's tendency toward bubbles.

Finally, it is *possible* that new forms of media will allow room for more diversity of opinion and approach—a diversity that is the opposite of the group-think that brings on financial crises. This hope may be a pipe dream, too: in the political sphere, for example, blogs have tended to segment themselves and their audiences by ideology.⁵ But it is my experience that in the economics and financial blogosphere, as well as on Twitter, people with differing viewpoints about financial markets still engage each other on a fairly regular basis. Their online battles may save us yet.

5. For example, Eric Lawrence, John Sides, and Henry Farrell, “Self-Segregation or Deliberation? Blog Readership, Participation, and Polarization in American Politics,” *Perspectives on Politics* 8 (1) (2010).

CHAPTER 7

Have We Forgotten the True Purpose of the Press?

Jeff Madrick

What is the business media about? What is it for? Is its purpose to serve the investment banks and the Fortune 500—business in general—or is its purpose to serve a public of some kind? Is it an investing public, only a business public, that it should serve, or is its purpose to be a watchdog for all?

I have a long history in business journalism. Times changed considerably during the 1970s, as did interest in business news. To take but one example, *Money* magazine, for which I worked, launched in the early part of that decade. Or another, *The New York Times*, which up to that point did not have a regular financial section, began to include one at some point in the 1970s.

I believe, however romantic it may sound, that the press has a very special place in America and that its role here is different from its role in other democracies around the world because we have a somewhat different history. We did not have a class-based fight for democracy in America, and we do not today have natural warring factions along class lines that determine our political outcomes. Europe had a class-based revolution on its way to democracy and still thinks and operates politically in those terms. The two classes tend to check and balance each other. We do not have similar checks in the United States, and so I look at the press in America as having the role of watchdog over democracy and over the accrual of power—not just economic power, but government power, educational power, and so forth. Is the business media good at meeting these objectives? I don't think so.

By and large, the business media goes with the flow; it supports current conventional wisdom, which all too often reflects the current power structure. When the prevailing power structure once believed in the uses of government and acknowledged that markets often (yet not always) fail, the press largely backed that notion. When it shifted to an anti-government attitude and a sense that unfettered markets are almost always efficient, the press for the most part shifted with it.

The defense of reporters is always that they are only as good as their sources. People were not knocking down the doors in 2003, 2004, and 2005 to tell reporters about the risk of securitization and mortgage-backed securities. To be fair, I think some people were knocking on the doors about the subprime excesses, but few in the press heard the knocks. I think most people now agree that we misrated As, AAs, and AAAs. They were paying far higher interest rates than plain vanilla corporate bond AAAs.

Most on Wall Street were looking the other way as well. But not all. Some were raising red flags, but Wall Street firms are now very media savvy. In the 1970s, one extremely charming Southern woman handled all of Morgan Stanley's public relations; I think she had one assistant. But in 2000, when a young former banker at *Fortune* magazine uncovered the truth about Enron—with the help of research from a short seller—Enron came beating down the doors of *Fortune* editors. If the reports I read were correct, Enron went right to the managing editor or editor of *Fortune* to try to get it stopped. To the editors' credit, they did not stop the story. So there were victories.

One of the most telling signs of the press acquiescence was a *New York Times* editorial on the day in 1998 when Travelers and Citicorp announced their planned merger: "In one stroke, [they] will have temporarily demolished the increasingly unnecessary walls built during the Depression. . . . The fact is that Citigroup threatens no one because it would not dominate banking, securities, insurance or any other financial market." But the editorial, rather prescient it turns out, went on: "A collapse in the company's securities and insurance operations could drag down its commercial bank. But that will happen only if Federal regulators fall sound asleep."¹

Can we know when a crisis is coming? No. But that is not the issue. It is not a matter of knowing that there is a crisis; it is a matter of questioning extremes. Why price earnings multiples, on average, are 45 for a sector in 1999, for example, when it is very hard to imagine that earnings growth could be high enough to justify the price with the GDP growing at 3 or 4 percent a year. Earnings growth cannot outpace GDP growth by a wide margin indefinitely. That is the kind of information that could be reported. One does not have to make a full analysis of the nature of the crisis.

And there were Wall Street warnings well beforehand about the credit crisis of 2008 and 2009. There was the Bank for International Settlements warning about the consequences of debt and securitization. Lewis Ranieri, the creator of the private mortgage-backed security, warned about it all in mid-2006. Deutsche Bank went short on the market in 2006. There were books that were extremely good. Frank Partnoy, for example, wrote a book called *Infectious Greed: How Deceit and Risk Corrupted the Financial Markets* (2003) that looks quite prescient and received little attention in the mainstream press.

1. "A Monster Merger," *The New York Times*, April 8, 1998.

It is not a matter of the press's having to be a guru. That's not what is required. Rather, it is about taking a hard look at how decisions are made on Wall Street, what the real motivating factors are. Is an \$18 million bonus really justified? Are these people really taking risk? If they are taking risk, why are they losing so rarely? Risk is about losing as well as winning. There are lots of questions that could be asked without having to make some kind of crystal ball judgment about whether something has gone too far.

So when can the business media be good? Only after the fact? After the crash? One of the sad trends of the 1990s was when the use of securities research as a sales tool to get underwriting business became institutionalized. These companies circulated internal memos that talked about compensating securities analysts who were supposed to be independent. The compensation was formally based on the amount of underwriting business that was gotten. I do not believe the media made enough of this in the 1990s, even as it became almost absurdly obvious during the IPO craze that began with Netscape in 1995. The media came down on high tech when the bubble burst, but not sufficiently before then. It is one of many such examples.

CNBC, I believe, had a real role in creating the speculative bubble of the late 1990s. I remember hearing interviews with money managers who spoke as if they had some historical perspective, offering advice such as, "Now, I don't want any of you to buy this stock unless you hold it for the long-term, at least five years." Economist Jeremy Siegel's landmark study, *Stocks for the Long Run* (1994), came out only a few years before that, so maybe it had some influence. Siegel suggested that, more so than formerly recognized, stocks were less risky if held over time. But five years was certainly not the long run—not even close.

In addition to being a watchdog, we must all remember, the press is a money-making operation. It has to appeal to an audience and win readership and viewers. In the 1990s, if you looked at ad pages in *Business Week*, *Forbes*, *Fortune*, *Wired* magazine, and countless imitators of *Wired*, you would see that Internet and related advertising was enormous. "We never saw an industrial revolution like this," said one magazine after another. Usually circumspect and skeptical economists were also caught up in the enthusiasm. They were affected partly by the fact that people love to read upbeat, optimistic fairy tale stories.

I think coverage of the recent crisis has been good for the most part, but that is partly because the bad news is out there and the present accepted norm is to criticize practices on Wall Street. Again, after the fact. In such moments, modern business journalism often rises to the occasion and goes after the truth—and serves the public. The media can do its job in these times, going against the flow and not simply serving as conduits for ideas that are currently popular.

There are lots of writers and reporters with economics degrees; there are lots of people who have come from business backgrounds. Business reporting has become more sophisticated in recent years. Part of the problem, however, is that the audience or readership is not as sophisticated. Imagine if a sports reporter had to define what a bunt is in baseball each time that he wrote about it. That is what business reporting is often about.

I tried to do the best I was able to when I was a TV reporter for NBC. When you are in the trenches and you see what people want to read and what they want to watch, and what moves ratings, it becomes more obvious how hard it is to get people to pay attention to serious stories. It takes enormous effort and some money to do it as well. The reason fires and police actions dominate local TV is because they are the lowest cost-per-minute stories that can capture reasonable attention—that is, ratings. To report such a story, all one has to do is show up. To put together an economic story, and make it watchable, requires a serious expenditure: lots of tape, lots of analysis, lots of shooting.

We have a serious problem compounded now by free Internet information, which is going to undermine print, and which is clearly the main issue that people at *The New York Times* and similar outlets worry about. As *Times* columnist Frank Rich wrote, “Opinions . . . are cheap. Reporting the news can be expensive.”² The Internet is about opinion.

Skepticism should define the business media. It does not. Credulousness does. Following the pack does. Who will be the watchdog? I fear that once the current environment passes, the media will simply fall in line again. Who will protect the people then?

2. Frank Rich, “The American Press on Suicide Watch,” *The New York Times*, May 9, 2009.

CHAPTER 8

Why Trade has Survived the Crisis

Jagdish N. Bhagwati

The current crisis is twofold: it affects Wall Street and Main Street—that is, both *finance* and the *real economy*. It has also been accompanied by a sharp decline in trade. The reasons for this decline—manifested not only in absolute trade volumes but also in the decline of trade to national income (GNP)—involve factors other than protectionism, which has been held at bay in several ways.

Given that the ratio of trade to GNP rose strikingly in the decades of growing incomes prior to the crisis, one might expect that it would decrease during a recession in which incomes and consumer demand are on the decline. There are two reasons that explain this reverse phenomenon. First, product components increasingly are outsourced to other parts of the world and then assembled in one place. Thus, even if the value of the final product changes little, the trade in components needed to manufacture that product will rise.

Second, a statistical complication can impact such components trade. Exports are measured by their *gross value*, that is, the price at which a product is sold. But GNP is a measure of *value added*. For instance, imagine that a car is sent to several countries to have different features added in each. The main body and engine of the car might be produced in the United States, before it is exported to Germany to have leather seats installed, then sent to Poland for windshield wipers, and so on. The value of the U.S. body and engine will be counted as an export value by each country that supplied a part or feature. But the value added is counted only once; GNP does not count the same item multiple times. Hence, statistically, the ratio of trade (gross value) will rise relative to GNP (value added in different countries).

These factors are in part a function of how globalization has changed the structure of the world economy. But there are two additional trends that have undermined trade volumes since the onset of the crisis. First, falling incomes (the Main Street side of the crisis) have caused trade to decline as people buy

fewer imports. Second, on Wall Street, the financial crisis means that the working capital necessary to finance trade is unavailable. The latter phenomenon has been studied in Japan, where firms have close alliances, or *keiretsu* relationships, with banks. My colleague, economist David Weinstein, has studied this phenomenon for Japanese exporters and estimates that as much as 30 percent of decline in Japanese exports may be attributed to the collapse of banks, and hence the lack of working capital for trade.

It appears that the outbreak of protectionism is not at the heart of the trade collapse during the crisis. Rather, the three I's—*ideas*, *institutions*, and *interests*—have combined to keep protectionism in check.

Ideas. No policy-maker today believes that a recession should be addressed by raising trade barriers. A country can impose barriers to divert world demand to its own goods; however, other countries can do the same with their own tariffs. The result, then, would be to burden the world with trade barriers without addressing the real problem: the insufficiency of world demand. Thus, increasing world demand is the correct Keynesian answer.

Notably, tariffs were not raised significantly during the East Asian financial crisis, and G20 leaders have also continually argued (with a few lapses) against protectionism.

Institutions. Whereas trade barriers spread during the 1930s after the United States passed the Smoot-Hawley Tariff Act in 1930, the architects of the postwar world economy built roadblocks to such a freewheeling spread of tariff barriers in the General Agreement on Tariffs and Trade of 1947. Although successive changes have strengthened these anti-protectionist disciplines, the task remains unfinished.

Interests. The world economy is more interdependent than ever before. In many firms, jobs and profits depend on foreign markets. Thus, when companies that compete with imports want protection, they are countervailed by firms that fear retaliation. When steel and construction sectors advanced Buy America provisions, firms such as General Electric, Caterpillar, and Boeing rushed to Washington to point out that this would be a “penny wise, pound foolish” move.

Consequently, protectionism has been held at bay. This reality does not mean that we can be complacent. We could get hit from the side, as when impatience with global imbalances leads otherwise sane economists, such as Paul Krugman and Martin Wolf, to endorse trade retaliation against China! Or when outsourcing is decried because it is convenient to do so, as in the 2010 Senate race, when California Senator Barbara Boxer accused opponent Carly Fiorina, the former CEO of Hewlett-Packard, of outsourcing thirty thousand jobs. What Boxer failed to mention is that if those jobs had not been outsourced, Hewlett-Packard would have become uncompetitive and would have lost perhaps one hundred thousand jobs instead. In the fight against protectionism, we must remain vigilant.

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Challenges to Business and Society in the Twenty-First Century: The Way Forward

An American Academy Conference held in collaboration with the New York University Pollack Center for Law & Business on November 30 to December 1, 2009, at the New York University School of Law

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