COMMENTARY

A Report of TIFF EDUCATION FOUNDATION

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A NEW CONTRIBUTOR

This *Commentary* has been penned by a new contributor, David Warsh. Mr. Warsh is a Boston-based journalist and author, well-known for his columns in The Boston Globe, which appeared from 1983 to 2002. Currently, he is editor of EconomicPrincipals.com (EP), an independent, reader-supported version of the column that appeared in the Globe's Sunday Business section. The online weekly's business model is similar to that of public broadcasting; its stance remains that of its newspaper predecessor/forebear — to keep track of what's going on in economics through the device of weekly profiles/snapshots of various movers and shakers (hence the pun) and to offer occasional commentary on political economy.

Mr. Warsh is the author of several books, his most recent being *Knowledge and the Wealth of Nations: A Story of Economic Discovery* (Norton, 2006). A graduate of Harvard College (in Social Studies), he formerly reported on business for *The Wall Street Journal* and *Forbe*s, and from Saigon for *Pacific Stars and Stripes* and *Newsweek*. He is a two-time recipient of UCLA's Gerald Loeb Award for financial writing and has been the J.P Morgan Fellow at the American Academy in Berlin.

He writes, "I was surprised at the windup that seemed necessary in order to begin writing for TIFF readers. I set out to describe the rise of the shadow banking system and the place of endowment managers in it. 'The Next Best Thing' is what popped out. The exercise had to do with reorienting horizons, my own and others. I hope readers will understand why I reprise the story of one of the great financial journalists of the twentieth century in order to introduce one of the major figures of the present day."

ABOUT TIFF

Mission. In 1991, a network of foundations founded a cooperative-style investment organization whose structure and eligibility criteria have evolved over time but whose core mission has not. Known colloquially as TIFF, this organization seeks to improve the investment returns of endowed charities by making available to them a series of multi-manager investment vehicles plus resources aimed at enhancing fiduciaries' knowledge of investing.

Means. The organization comprises three regulated entities at present: a tax-exempt private operating foundation whose d/b/a (TIFF Education Foundation) is more descriptive of its focus on education than its formal legal name (The Investment Fund for Foundations); TIFF Investment Program (TIP), a regulated mutual fund family; and TIFF Advisory Services (TAS), a taxable non-stock corporation and regulated investment advisor to TIP that administers as well many other investment vehicles bearing the TIFF name.

Inquiries. For more information, please call TIFF at 610-684-8000 or visit www.tiffeducationfoundation.org.

Peter Bernstein died last year, not long after the acute phase of the economic crisis ended. He was America's premier financial journalist, still energetic and sharp at 90, writing every couple of weeks until he broke his hip. For nearly sixty years, Bernstein had tracked the vast changes in the financial system better than anyone else under the sun. At the very moment when his angle of vision would have been most helpful, it went dark.

As a young man, Bernstein had aspired to be an economist. He graduated from Harvard College in 1940, spent the next two years in the research office of the Federal Reserve Bank of New York, then joined the Office of Strategic Services as an Army Air Corps captain. After the war, he taught for five years at Williams College and worked briefly as a credit analyst in a bank. Then, in 1951, his father died unexpectedly, and despite a reluctance to become "a social worker to the rich," he returned to manage the family's investment-counseling business.

Bernstein yearned for narrative, for analysis and explanation: since kindergarten he had been best friends with Robert Heilbroner, whose *The Worldly Philosophers* was just taking off in the early 1950s as Bernstein settled into the more prosaic tasks of life as an investment counselor. He found consolation in a monthly market letter for clients whose money he managed – "the Release," as it was known around his home. (Some of the best of these commentaries, collected in *Economist on Wall Street*, were republished in 2008, along with two books he wrote during the 1960s, *The Price of Prosperity* and *A Primer on Money, Banking and Gold*.)

The family business, Bernstein-Macaulay, was acquired in 1967 by Carter, Berlind & Weill Inc., a little brokerage firm, whose principal, Sandy Weill, would continue his shopping spree until finally he had create the giant Citicorp. Bernstein left in 1972 in order to do what he had always wanted: to read and write. He was 53. His wife of 25 years had died; he had remarried. He set up shop as a consultant to portfolio managers and continued to write in the Release about market conditions. (The price of an annual subscription price reached $1,200 in the year before he died.) In addition to the Release, he began to edit *The Journal of Portfolio Management*.

Bernstein had been among the early backers of *Institutional Investor*, a magazine that first appeared in 1967, aimed at professional money mangers. This was the boost phase of the ebullient period that John Brooks later described in *The Go-Go Years*. Individual investors were flooding into financial markets – mutual funds had doubled their holdings and doubled again – but institutional investors, mostly banks and pension funds of all sorts, put households in the shade. *II* became a smash hit in the early 1970s as advertisers flocked to a new demographic cohort. Bernstein started *The Journal of Portfolio Management* under its wing as a means of tracking the wave of innovations in theory and practice, collectively known as "modern portfolio theory," which was emanating mostly from universities, otherwise reported mainly in the technical *Financial Analysts Journal*.

When Bernstein began managing money professionally, in 1951, he had little to go on but folklore, rules of thumb, a well-worn copy of Benjamin Graham's *The Intelligent Investor*, and the war stories told by his elders (most of them hyper-cautious veterans of the Great Depression). Investment objectives were simple: diversification beyond a select circle of blue chips and gilts was considered dangerous; risk was seldom mentioned; client meetings were held on an annual basis, usually over dinner; anything other than buy-and-hold was likely to be considered churning; and it was bad manners to compare performance. Bernstein was unusual for his curiosity, at first alert, then increasingly attentive to the vast changes taking place about him in the fledgling university-based discipline known as finance.

The 1974 market swoon and subsequent recession greatly accelerated the adoption of the new ideas. Stocks fell 40 percent and bond yields 35 percent in the worst bear market since 1929. The simple idealized world of a "Nifty

Fifty" growth stocks had been overwhelmed by sheer size of the investment pool. As inflation soared and commodity prices gyrated, one new idea after another infiltrated Wall Street. Often it was not an easy sell. The late Paul Samuelson told the story of the treasurer who managed Harvard University's endowment with two unvarying rules: 1. Never consult the economics department; 2. Never consult the business school. The treasurer did not last.

Burton Malkiel had published *A Random Walk Down Wall Street* in 1973 and initiated a generation into the mysteries of the proposition that individuals could do as well, or even better, than most professionals by buying an index fund of the market itself instead of trying to pick winners and losers. (About to appear in its tenth edition, *Random Walk* remains a wonderful guide to everything from insurance to income taxes.)

But it was Bernstein's *Capital Ideas: The Improbable Origins of Modern Wall Street*, when it appeared in 1992, that told the story of how and why the swoon had happened the way it did – starting with the story of the revolutionary distinction between risk and return in Harry Markowitz's 1955 dissertation at the University of Chicago and the reluctant reception of it. ("Harry, I don't see anything wrong with the math here…," Milton Friedman told him, "But we can't give you a Ph.D. in economics for a dissertation that's not economics. It's not math, it's not economics, it's not even business administration." The paper did, however, spawn a giant industry, and ultimately win a Nobel award in economics.)

The efficient-market hypothesis, the Modigliani-Miller theorem, the capital-asset pricing model, the Black-Scholes options-pricing model, the rise of options and futures markets were all explained and humanized – including the disasters of "portfolio insurance" in 1987. It turned out there had been as much technical change in finance as in computers and telecommunications or medicine, and Bernstein was on top of it all. He supplied narrative, of both markets and of the far-reaching technological change affecting markets.

Since then, the investment business has grown exponentially and fragmented further. *II* spawned *Alpha* magazine, in 2003, to cover the hedge fund industry. Sebastian Mallaby's *More Money Than God: Hedge Funds and the Making of a New Elite* introduced readers to a brave new world of active practitioners much as *Capital Ideas* introduced a series of new ideas nearly twenty years before. In 2007, Bernstein updated his earlier study with *Capital Ideas Evolving*, concerned mainly with the riposte by behavioral economics to the conceit of perfect markets. Between times, he did pretty much what he wanted, publishing at intervals *Against the Gods: The Remarkable Story of Risk* (1996); *The Power of Gold: The History of an Obsession* (2000); *The Wedding of the Waters: The Erie Canal and the Making of a Great Nation* (2005). He prepared new editions of his three books of the '60s and wrote a new introduction to *The Great Contraction*, explaining how little attention he had paid when the original by Milton Friedman and Anna Jacobson Schwartz had appeared in 1963. Eventually his legs grew tired, but he kept writing the Release.

It goes (practically) without saying that none of the new theoretical tools can be depended upon to serve as an autopilot. David Swensen, manager of Yale University's endowment, an especially thoughtful apostle of much of the change, says each is only a starting point, hardly the last word. The point, however, is that until Bernstein wrote them up in *Capital Ideas*, the new thinking was accessible mainly to those whose spouse or children had entered the business or who had taken the time out to become a Chartered Financial Analyst. It was Bernstein who recognized that theory and practice had become inextricably linked and who set the standard for curiosity and openness about the new methods, along with a determination to link them to prior practice. That is to say, it was he who recognized what would constitute an explanation of the new practices, and who set one forth before the well-educated public, first through the *Journal of Portfolio Management*, then through *Capital Ideas*. Osmosis did the rest. Today, you can't begin to understand endowment management practices if you don't know something about the universe that he described. But now he's gone.

Where, then, to turn for an authoritative, disinterested, reader-friendly narrative of the recent crisis?

The next best thing today to Bernstein may be a 58-year-old Yale economist and economic historian named Gary Gorton. Certainly his *Slapped By the Invisible Hand: The Panic of 2007*, which appeared last spring, is the most cogent analysis to appear so far about what happened between the first tremors in subprime securities and the moment eighteen months later when things came crashing down.

Much has been made of Raghuram Rajan, of the Booth School of Business at the University of Chicago, who, as chief economist of the International Monetary Fund, warned in 2005 that misaligned managerial incentives in the financial sector were making the world riskier. *The Financial Times* named as Best Business Book of 2010 his *Fault Lines: How Hidden Fractures Still Threaten the World Economy*, an essay about inequality as a source of economic instability.

But it was Gorton who hit the bull's-eye. Federal Reserve Board Chairman Ben Bernanke, asked by a member of the Congressional commission investigating the crisis about the most important and unappreciated work, cited Gorton's writings, "where he is pretty clear to identify the analogies between what happened to the shadow banking system and classic bank runs – 19th century-style bank runs."

Gorton was among the handful of economists to whom the Federal Reserve System turned to explain the crisis in real time, at two high-level conferences, each sponsored by one of its regional banks – the first in August 2008, on the eve of the crisis, at the annual symposium of central bankers at Jackson Hole, Wyoming; the second, six months later, after the worst had passed, on the south Georgia resort of Jekyll Island (where blueprints for the Fed had been drawn a century before). The result is a record of what top authorities knew, or in a better world should have known, as they went into that terrible autumn.

At Jackson Hole, Gorton explained that the August panic of the year before had not been a classic run on the banks, in that the traditional banking system was not involved, as it had been in, say, 1907. Instead, he said, "we've known for a long time that the banking system was metamorphosing into an off-balance sheet and derivatives world – the shadow banking system." And it was that August when a group of quantitative hedge funds suddenly found themselves in a strange "no trade zone" in which "no one would trade with you simply because you wanted to trade with them." As it happened, the situation was resolved with no government involvement. A couple of funds went broke and were quickly acquired by others. The outside world barely noticed.

Gorton then went on to explain in considerable detail how a bursting house-price bubble could give rise to a systemic crisis. He led his listeners on an unaccustomed tour of the securitization industry, meaning the process by which previously illiquid loans – not just mortgages but receivables of all sorts, commercial lending, student loans, credit card debt – are pooled, extensively repackaged, and sold into securities markets. He pointed to many features, once strange, that are now familiar to crisis buffs: diagrams of the allocation of interest among tranches of collateralized debt obligations, the unusual properties of ABX indices of subprime mortgage-backed securities, an account of how the run started in such back alleys as asset-backed commercial paper conduits and special investment vehicles. Discussion between Bengt Holmstrom of the Massachusetts Institute of Technology and Gorton identified the key transformation that would turn distress into crisis. Where all assets were formerly considered safe, it would gradually pay insiders to figure out which ones were risky, a caution that spread rapidly until everyone was alarmed about "toxic assets." (The two men continue to collaborate.) Gorton described the problem as resembling a hamburger panic: when even one shipment is recalled because of *E. coli* contamination, everyone stops eating beef of uncertain provenance.

The mood of the Jackson Hole meeting was strange, Gorton reported. Despite "an undercurrent of anxiety," he later wrote, "participants did not act like we were in the middle of a terrible crisis that seemed out of control and not understood." Instead, the dominant narrative remained misaligned incentives, the "originate-to-distribute" story wherein banks originated loans, then off-loaded the risk. Most apparently still hoped for a soft landing. A month later, having fallen 30 percent, financial markets around the world trembled on the brink of depression. By then, however, Fed Chairman Bernanke had flooded the market with liquidity, and the worst of the crisis had passed.

At Jekyll Island the next spring, Gorton elaborated. It was as if a once-familiar plague, long thought to have been eradicated, had returned in new and unfamiliar circumstances and not been recognized until it was too late to avoid great harm. There were no little depositors demanding their savings from retail banks in this panic, as in the movies. Instead, giant firms were running on each other, all-but-anonymously (systematic collection of data on many of the transactions among them as part of the monetary aggregates having been discontinued a few years before, for having become so large and unwieldy), in the labyrinthine complex of financial intermediaries known as the shadow banking system. Convinced that what was happening was impossible, regulators at the Treasury Department and the Fed had been handcuffed for a time. "It is important to get this right," Gorton warned. "We have been through this before."

Gorton was highly qualified to make the call. For one thing, he was an economic historian. His 1983 dissertation at the University of Rochester was a history of nineteenth-century banking panics. (Before taking up economics, he had driven cabs and worked as a union organizer after abandoning his quest for a Chinese literature Ph.D.) Then, too, he had cut his teeth on monetary policy, working for a time in the research department of the Philadelphia Federal Reserve Bank before teaching for 24 years at the Wharton School of the University of Pennsylvania. (He moved to Yale in 2008.) Above all, though, he was an industry insider. For ten years, he consulted extensively to the Financial Products unit of the insurance giant American International Group, building models for the firm in order to evaluate structured credit, credit derivatives, and commodity futures.

When AIG collapsed, Gorton was among those on the receiving end of lawsuits and even death threats. He kept writing throughout and during 2009 put together his two Fed conference papers without editing (except for splitting the Jackson Hole one into two parts), combined those with a third paper he had written in the mid '90s on the rise of the shadow banking industry, added an introduction and an afterword ("A Note to Those Reading This in 2107") and a timeline of developments and sent *Slapped By the Invisible Hand* out into the world, where it has been mostly ignored. (See Steven Landsburg or Eric Falkenstein for early appreciations.)

So here's the story. Banking panics were sufficiently familiar to an earlier generation to have been dramatized by Frank Capra in his film *It's a Wonderful Life* – depositors in the Bailey Savings and Loan become spooked by rumors that reserves are missing and demand their money back. Jimmy Stewart, as George Bailey, explains that they can't all have their money, at least not all at once, because it had been lent out in furtherance of worthy projects around town, mostly construction and mortgage loans. (In similar circumstances in 1930, Henry Ford complained, "It's just as if I put my car in a garage, and when I came to get it, I found somebody else had borrowed it and run it into a tree.") In the movie, the missing deposits turn up in the nick of time, but more often banks hit by rumors would be forced to liquidate assets at fire-sale prices until they went out of business.

Nineteenth-century bankers gradually figured out how to cope. They formed clearing-house associations in the major cities: New York, Boston, Philadelphia, Cleveland, Chicago. These coalitions were originally designed to clear checks drawn on member banks. In a crisis, the clearing-houses learned to circle their wagons and, in essence, function as a single bank, suspending the publication of individual bank accounting and offering only aggregate data instead. After 1857, they issued new private money, at first to one another, then, in later panics, in small denominations directly to depositors who demanded it. Such collective action didn't prevent panics, but it avoided the wholesale liquidation of the banking systems. And after J.P. Morgan more or less single-handedly stemmed the Panic of 1907 at the expense of various outsiders, the Federal Reserve System was established in 1913 to oversee the banking system as a whole.

In the aftermath of the Great Crash of 1929, the mechanism failed. For one reason or another, the Fed failed to supply the liquidity that was expected of it. A third of the commercial banks in the United States closed their doors. Enraged by the sight of depositors standing in line to ask for their deposits – and even longer lines of job-seekers – Congress undertook far-reaching reforms. The Glass-Steagall Act separated commercial banking from more risky investment banking practices on Wall Street and imposed strict regulation on the former, including interest-rate ceilings and no interstate banking. The Federal Deposit Insurance Corporation, created in 1934, promised to cover the losses of any bank that it supervised and regularly inspected. No depositor would lose a dime, up to the lofty sum of $50,000. Ironically, by the time Capra made his film, in 1946, panics had been eliminated, thanks to this deposit insurance. A "quiet period," without a single panic in the commercial banking industry (including the savings and loan crisis), would last nearly 75 years.

But no such insurance was available to big firms with large sums of idle cash. Gorton explains how, instead, they created among themselves over the years a system of borrowing and lending with collateral. A firm with excess cash could "deposit" it with an intermediary, perhaps a money market mutual fund, and take physical custody of high-quality bonds of comparable market value in return, along with the promise of a modest return in interest. The intermediary would in turn lend the money it took in to some other institution, just as if it were a bank. Such a "deposit," now known as a sale and repurchase agreement, or "repo," would be considered a short-term transaction, perhaps no more than overnight, the corporate equivalent of a demand deposit. If the intermediary should for any reason fail to deliver, the depositor would be free to keep the collateral, and business would continue as before. (A no-questions-asked exemption from the usual rules of bankruptcy was an important feature of such transactions.)

Repo achieved the same result as deposit insurance but a system of collateral was cheaper and easier to operate when privately arranged. The rise of repo coincided with the development of securitization, a thirty-year evolution that constitutes, broadly, the rise of the shadow banking system. (There are, of course, many other nooks and crannies.) As nearly everyone knows by now, securitization involves the pooling and sale of traditionally illiquid loans into the securities markets – not just mortgages, but credit card receivables, auto loans and student loans. There the cash flows of the underlying assets are sliced-and-diced by intermediaries and resold to institutional investors as bonds of varying degrees of risk, to earn and serve as collateral in repo transactions. By 2007, this deep and liquid market, a type of privately-created money of ever-greater complexity, had grown to an estimated $13 trillion in the United States alone.

Repo was the lifeblood of the shadow banking system. It all worked fine as long as no one had doubts about the quality of the securitized bonds being offered as collateral. Once depositors in repo banks began to worry that they might have to sell the exotic bonds they received, however, that their value might decline, the panic was on. Instead of "withdrawing" their money, repo depositors demanded ever-higher quantities of collateral bonds in exchange for rolling over their cash. Suddenly nobody wanted to lend for fear of being stuck with "toxic assets." The result was the same as if lines had formed on the sidewalk, except that the process was lightning-fast and largely invisible. (Gorton's paper, "Regulating the Shadow Banking System," prepared for the Brookings Institution in September, can be found at http://www.brookings/edu/economics/bpea.aspx.)

It was this run on the ordinarily highly liquid repo market that transmitted a shock from the housing sector to the broader economy, after Lehman Brothers was allowed to fail, and precipitated the worst recession since World War II. Only the Fed's bold action that autumn as lender of last resort prevented a bad situation from becoming much worse, supplying more than $600 billion of new reserves in exchange for a wide variety of securities held by financial institutions.

Gorton's warning didn't work – or did it? Bernanke, in a speech at Princeton last September, put it this way. "Because the runs on the shadow banking system occurred in a historically unfamiliar context, outside the commercial banking system, both the private sector and the regulators insufficiently anticipated the risk that such runs might occur. However, once the threat became apparent, two centuries of economic thinking on runs and panics were available to inform the diagnosis and the policy response." Certainly the central bank acted aggressively as lender of last resort once the situation was understood. In the fall of 2008, the Fed added $600 billion in new reserves to the private sector, using its balance sheet to lend against a wide variety of assets held by various financial institutions.

Would things have been any different if the nature of the panic had been recognized sooner? Perhaps. Robert Aliber, who has now taken over authorship of the late Charles P. Kindleberger's classic text, *Manias, Panics and Crashes: A History of Financial Crises*, put it this way: "Saving Lehman would have cost US taxpayers $75 billion, plus or minus $25 billion. Lehman's shareholders would have been wiped out, its management banished to northern Siberia. Not saving Lehman will cost the taxpayers more than $2,500 billion" – because of the panic and deep recession that ensued. Was it really that cut-and-dried? Probably not. But different strategies would have produced different results.

Many other top economists are now involved in fashioning models to depict the essentials of what happened the crisis – Markus Brunnermeier, Nobuhiro Kiyotaki and Hyun Song Shin, at Princeton; Arvind Krishnamurthy, at Northwestern; Tobias Adrian, at the Federal Reserve Bank of New York; and John Geanakoplos, at Yale, to mention only the most prominent. The economists of the Bank for International Settlements have been good on the situation throughout. Jeremy Stein, of Harvard, has a lucid essay, "Securitization, Shadow Banking, and Financial Fragility," in the Fall issue of Daedalus. But *Slapped By the Invisible Hand* is the most accessible of the economists' accounts that are beginning to appear. It doesn't have the color of the journalistic reconstructions of events by David Wessel (*In Fed We Trust*), Andrew Ross Sorkin (*Too Big to Fail*), Gregory Zuckerman (*The Greatest Trade Ever*), Michael Lewis (*The Big Short*), Gillian Tett (*Fool's Gold*), Roger Lowenstein (*The End of Wall Street*), or Joe Nocera and Bethany McLean (*All the Devils Are Here*) – all good books.

Slapped might not be as much fun as a night out at *Inside Job*, the Charles Ferguson documentary, but it will remain a durable foundation for understanding the events of 2007-09 and anticipating what comes next. Its explanations gradually will be incorporated in subsequent accounts: not, perhaps, with the report of the Congressional Financial Crisis Inquiry Commission, chaired by Phil Angelides, which has split along party lines, but with a second round of narratives slated to appear beginning in 2012. Because panics are rare, Gorton writes, "we may never have the ability to formally test [models] in the way that is acceptable to academic economists." Scholars in the past described panics with detailed accounts of events, he notes; "perhaps that is the best we can do." Narrative is the next best thing.

TEF Endowment Management Seminar Audio Recordings Available

On November 4, 2010, the TIFF Education Foundation hosted its annual endowment management seminar at the Boston Public Library. If you were unable to attend the event, you can now download audio files of the interviews from TEF's website at: www.tiffeducationfoundation.org/seminars/index/aspx.

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