Ten Years After: Identifying the Deadliest Sin of the Financial Crisis

By Robert Pickel

We are now ten years past the start of the global financial crisis of the first decade of this century, depending on what one considers the starting point. The *Financial Times* recently began a series of articles on the financial crisis and its aftermath,[1] using as the starting point BNP Paribas's decision in early August 2007 to suspend redemptions in several funds because subprime assets in those funds could not be accurately priced. That's as reasonable a starting point as any.[2]

Over the coming months we will see coverage of the ten-year anniversary of various milestones in the financial crisis. There will be much discussion of significant events such as the rescue of Bear Stearns, the bankruptcy of Lehman Brothers and the bail-out of AIG. There will also, no doubt, be a continuation of the debates over what caused the financial crisis, what we learned from it, and whether the financial system is safer now than it was then. As for causes, some will point to housing policy and subprime lending, others will point to deregulation, still others will point to securitization, derivatives, or shadow banking.[3]

But what if the root cause of the financial crisis was not abstract policies or complex products, but instead simple human failing? Failing by many and on a grand scale, to be sure, but failing nevertheless.

I first contemplated the role of human failing in the financial crisis when I was asked to speak to a group of members of Opus Dei, the Catholic organization, about my perspective on the financial crisis. Given my audience, I adopted as the theme for my remarks the concept of the seven deadly sins, which have their roots in Christian teaching. I subsequently delivered talks on the theme of the deadliest sin of the financial crisis on two occasions in The Netherlands in 2016.[4]

In this article, I first provide some brief background on the seven deadly sins (lust, envy, gluttony, sloth, pride, greed, and wrath)[5] and related virtues. Some readers may not need or might prefer to skip that section. After that, I share my views on what I believe was the deadliest sin of the financial crisis. I then consider whether and how the many regulatory reforms that have been enacted post-crisis may protect the financial system by protecting us from our weaker selves.

Sins and Virtues

The seven deadly sins have their origin in Christian religion and provide a categorization of vices.[6] The seven deadly sins, with definitions,[7] are:

- **Lust:** strong sexual desire;
- **Envy:** a feeling of resentment or regretful desire for another person's qualities, better fortune or success;
- **Gluttony:** the habit or practice of eating too much;
- **Sloth:** the desire to avoid all activity or exertion; laziness; indolence;
- **Pride:** an unjustified assumption of superiority; arrogance;
- **Greed:** selfish desire in general, for example, for money; and
- **Wrath:** violent anger; resentment or indignation.

The sins involve fundamental human needs, traits, or desires (procreation, human interaction, sustenance, rest, self-worth, providing for one's and one's family's well-being, and self-discipline). The sin can be seen as a distortion of the need, trait or desire through excess or obsession.

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For each sin there is a corresponding virtue to which human beings can aspire. The virtues, with their corresponding sins, are the following:

• Chastity	Lust
• Kindness	Envy
• Temperance	Gluttony
• Diligence	Sloth
• Humility	Pride
• Charity/Generosity	Greed
• Patience	Wrath

Over the centuries one or more of the seven deadly sins have provided the theme for works of art, literature, music, and even popular culture. Works by Dante and Chaucer include themes involving the seven deadly sins. Artwork by Pieter Bruegel the Elder and Hieronymous Bosch[8] have provided visual renderings of the seven deadly sins. In the 20th century Kurt Weill and Bertolt Brecht composed an opera on the theme of the seven deadly sins, and in the movie "Se7en" the deadly sins provide the motives for a serial killer. In an odd twist, the popular 1960's sitcom "Gilligan's Island" is purported to have a thematic link to the seven deadly sins.[9]

With that as background, let's consider what role the seven deadly sins may have played in the financial crisis.

The Seven Deadly Sins and the Financial Crisis

In considering the deadliest sin of the financial crisis, we will first go through a process of elimination of several less likely candidates, and then focus on the most likely candidates.

First Round of Elimination: Lust, Gluttony, Wrath, and Envy

The excesses and peccadilloes of Wall Street are fodder for many depictions of life in the world of high finance. Sex, drugs, expensive meals, ferocious personalities, back stabbing, all these have been portrayed in movies and described in books and magazine articles. The book and movie *The Wolf of Wall Street* rolls most of these excesses up into a grotesque portrayal of one hedge fund and, by extension, a depiction of the vices of modern finance.

I will not attempt to suggest that these depictions are inaccurate, though they are usually exaggerated for dramatic effect. The point for consideration here is whether the deadly sins that these excesses represent—lust, gluttony, wrath, and envy—were major contributors to the financial crisis. The enrichment that many enjoyed in the run-up to the financial crisis may have financed these excesses, and one of the other three sins (*e.g.*, pride or greed) may lie behind these excesses, but whatever those excesses may have been, I don't believe that these four sins were major or direct contributors to the financial crisis.

Which leaves us with sloth, pride, and greed, each of which played a role in the financial crisis, but only one of which was, in my view, the deadliest sin.

Pride: It Goeth Before the Fall

Taking the definition of pride set forth previously ("an unjustified assumption of superiority; arrogance"), one could identify any number of individuals or groups of individuals whose pride might have contributed to the financial crisis.

"Master of the universe" is a phrase used to describe many of the outsized personalities on Wall Street. Tom Wolfe coined the phrase in his book, *Bonfire of the Vanities*, described as "a drama about ambition, racism, social class, politics, and greed in 1980's New York City."[10] The *Urban Dictionary* captures what is today the generally accepted meaning of the term "master of the universe" as the "self-proclaimed title of anybody who works on Wall Street and believes their trading/market making/whatever makes them feel like God."[11] In the original Christian origins of the seven deadly sins, pridefully equating oneself with God was the greatest sin of all.

Pride can blind a person to many things, leaving the person open to failure. "Pride goeth before the fall" comes from the Book of Proverbs, but a modern depiction of the downfall of the prideful person can be found in the book *Fooled by Randomness* by Nicholas Taleb. Taleb's basic question, with a particular focus on traders on Wall Street, is, "Are people really smart or just lucky?" No spoiler alert is needed to reveal that Taleb's conclusion (summarized in the title to his book) is that people proudly think they are smart and they are the authors of their successes, but in reality they are just blind to the underlying randomness that is a feature of life, particularly life in the financial markets.

The cockiness of some individuals in the financial world is summed up by the following quote from Joseph Cassano, the person at AIG Financial Products responsible for the massive buildup in AIG's portfolio of credit default swaps.

> It is hard for us, without being flippant, to even see a scenario within any kind of realm of reason that would see us losing one dollar in any of those transactions.[12]

What Cassano did not anticipate in his braggadocio was the liquidity crunch that would come when the value of the swaps fell precipitously due to the drop in value of the mortgage securities underlying the swaps. Liquidity crunches are often the reason for the downfall of financial firms in a crisis. In the hands of vehicles set up by the Federal Reserve Bank of New York, the value of the AIG credit default swaps turned around as the crisis subsided, but the liquidity crunch had already taken its toll on AIG.[13]

When one considers the many actors in the financial world—banks, homeowners, investors, hedge funds, asset managers, regulators, and others—one can identify many who were proud of what they had achieved. Perhaps in the run-up to the financial crisis some of them, in their pride, were blind to the risks that they were taking on or to the possibility of a downturn in the housing market. Thus, pride was no doubt a contributing factor to the financial crisis, but in my view it was not the deadliest sin.

Greed: The Popular Choice

Greed, like beauty, is in the eye of the beholder. It is unusual for people to think of themselves as greedy, but greed is often identified in others. This is not surprising given the previous definition ("selfish desire in general, for example, for money"). No one likes to think of themselves as selfish and greedy. The greed narrative of the financial crisis is one that has taken hold and, because someone else is always fingered as the greedy one, that should not be a surprise.

In poll results published by the Pew Research Center just a month after the Lehman bankruptcy, the greed narrative was already firmly fixed. Pew reported that "Americans place the blame for the current problems with financial institutions and markets squarely on people [presumably people other than poll respondents] who took on too much debt and banks that made risky loans."[14] In response to the question of whether financial leaders are greedier than they had been in the past, 60 percent said those leaders were greedier, with 37 percent saying they were as greedy. Less greedy was not an option.

Yet, how were things any different than in previous crises? One does not need to be a full-on Gordon Gekko "Greed is good" disciple to recognize that, in many ways, what the financial system did in the financial crisis was what it always does: Connect those who have money with those who need money. The more technical term is intermediation.

People wanted to own homes, whether as a home, as an investment, or as speculation, and borrowed to achieve that goal, leveraging themselves to supercharge their expected profit. Investors wanted higher returns, and the instruments Wall Street created held out the prospect of higher returns in return for greater risk. Collateralized debt obligations enabled Wall Street to create a pipeline for investors to tailor their risk and return to the level they wanted.

Once Wall Street has identified a group with a source of money, on the one hand, and a group with a need for money, on the other hand, it can be incredibly creative and efficient at packing the pipeline to connect those groups. Of course, banks make money from lending to borrowers and charging fees to investors, and when the pursuit of those earnings causes them to lose sight of providing services to their customers, as occurred in the financial crisis, that can be a problem. But the response to that problem should not undermine the intermediation role that banks play in the ordinary course of business.[15]

The question of greed in financial markets is reminiscent of discussions that have occurred over the years about speculation in financial markets. Whenever prices (typically oil and gas prices) spike, politicians and pundits are quick to excoriate speculators and blame them for high prices. But speculation and, hence, speculators are essential to markets, because they are willing to buy when there are few buyers and sell when there are few sellers. When this is pointed out, at least some of the excoriators amend their attack to say that what they object to is *excessive* speculation. But it is hard to define the point at which "good" speculation trips over into excessive, or "bad," speculation.

And so it is with greed. A capitalist economy is built on people acting in their self-interest, however each person may define that. At what point does pursuit of self-interest become excessive, or greedy? It is hard to say, though there will always be some who will be more than happy to point out the greed of others. The reality is that the pursuit of self-interest—greed, good or bad, like it or not—is in many ways a feature of the system, not a bug.

In looking back at the financial crisis, no doubt one can point to many greedy individuals and classes of individuals. Sure, throw bankers on the pyre. But what about people who borrowed beyond their means to buy homes? One can have some sympathy for those who did so to live the American Dream, but what about those, like the stripper in Michael Lewis's "The Big Short,"[16] who bought multiple homes on borrowed money in the hopes of flipping them for profit? What about investors willing to chase higher returns on new instruments without a full understanding of the risks? Yes, greed existed, but how different was that from the greed that exists in some way in every financial crisis?

The bottom line is that, even though greed may have been present, and we may wish to deplore it, I do not see greed as the deadliest sin of the financial crisis.

Which leaves us with sloth.

Sloth: Boring But Deadliest

Rarely are books written or movies made about lazy, inattentive bankers, borrowers, or investors. Masters of the universe and wolves of Wall Street are often portrayed as lustful, envious, gluttonous, proud, greedy, and wrathful, but slothful is not a big draw at the box office. Yet, here we are: Sloth, in my opinion, was the deadliest sin of the financial crisis. Why?

Sloth in the Crisis

Part of the answer to why sloth was the deadliest sin lies in the virtue that stands in contrast to the sin. For sloth, the countervailing virtue is diligence, defined as industriousness or, alternatively, as careful and persistent work or effort. Lawyers and businessmen are familiar with the concept of "due diligence," the effort required to review and understand the terms of a transaction and the required disclosures related to it. As will be discussed in greater detail later, more attention to diligence would certainly have tempered some of the excesses that occurred in the run-up to the financial crisis.

If it can be said that there are heroes in the book and movie, *The Big Short*, it is the individuals who did the due diligence on the mortgages that stood behind collateralized debt obligations CDOs. Michael Burry, the physician turned investor who was one of those heroes, faced incredible pressure to abandon his strategy of shorting the market, which he was doing by purchasing credit default swaps. He fought that pressure and was proven right, but he was flying in the face of the prevailing view, a view that discouraged diligence and encouraged the easy way out, just going along for the ride.

Two other phenomena—"easy money" and unintended consequences—factor into my view that sloth was the greatest sin of the financial crisis.

The years before the financial crisis were a period of easy access to credit, particularly residential mortgages, and newly created investments offered the prospect of enhanced returns. Access to credit fueled the rise in housing prices. The mortgages this lending generated were packaged into securities that were structured in ways to enable higher returns with increasing risks that were often not well understood. As demand for those investments increased, Wall Street created synthetic instruments that replicated the returns of non-synthetic securities.

With all this access to "easy money," where was the incentive to do the hard work to really understand what level of debt you could take on, what your tolerance for risk was or the cash flows under complex synthetic securities, let alone to consider what a downturn in the housing market would mean for all of this? A harder look would have most likely meant missing out on opportunities in the short term even though it may have protected you in the long term.

As for unintended consequences, these are outcomes that are other than those intended by a particular policy or action. Generally speaking, unintended consequences are not foreseen; otherwise the policy could be adapted to address the potential outcome. However, in some cases unintended consequences are foreseeable, assuming sufficient analysis is applied to the implications of an action or policy.

It is a legitimate question whether the policy to encourage home ownership might have benefited from a greater consideration of the incentives the policy created for individuals to take on greater debt. What many saw as a laudable goal of increasing home ownership drove a system of easy credit and an infrastructure that included entities (Fannie Mae and Freddie Mac) and investments (mortgage-backed securities) that in many people's view contributed to the financial crisis.

Lack of diligence, easy money, and insufficient consideration of unintended consequences created a climate in which sloth could fester, proving to be the deadliest sin of the financial crisis.

The Role of Intent

If one accepts my view that sloth was the deadliest sin of the financial crisis, how exactly did it play out, given the many participants—banks, borrowers, investors, mortgage brokers, regulators, others—in the financial world?

Before we consider specifics, let's touch on liability. There has been a desire to hold people accountable for the financial crisis and a frustration that few people have gone to jail for their perceived misdeeds. Some may take my views on human failing and the deadliest sin as releasing people from legal responsibility. If everyone is responsible doesn't that really mean that no one is responsible?

That is not my intent. When people have committed fraud or some illegal action, they should be held legally accountable. Bernie Madoff sits in jail for the frauds he committed on people who trusted him. The financial crisis exposed him for the fraud he was. He was, to use Warren Buffett's characterization, exposed as swimming naked when the tide went out. Madoff intended to commit fraud and is suffering the consequences.

The notion of intent is important when prosecutors consider whether to indict an individual for crimes that person allegedly committed. Slothful individuals rarely intend to do anything, lacking the industriousness necessary to perpetrate and maintain a fraud. Though I have no personal experience, I imagine it takes a lot of work to construct a lie and then assiduously maintain it year after year, as Madoff did.

I suspect that prosecutors found it more difficult to prove that others who are portrayed as villains of the financial crisis had the requisite intent to commit a crime. Dick Fuld appears at the top of many people's list of villains for overseeing the rise and demise of Lehman Brothers, leading to the worst period of the financial crisis. It appears to me that the two things that Fuld was "guilty" of, however, were believing in his company (in which he had invested much of his savings) and believing that, in the end, the federal government would step in and save Lehman, as they had done earlier in 2008 with Bear Stearns. With hindsight we can say he was wrong in both beliefs, but it is hard to say that he intended that Lehman and its shareholders (including himself) would suffer the fate that they did.

The Hall of Sloth

Who, then, belongs in the Hall of Sloth and why? Here are some possible candidates:

- **Bankers:** Credit crises are typically characterized by a lowering of credit standards and that was true in the global financial crisis. One can debate where to place the blame: government policies encouraging homeownership by less creditworthy individuals or the so-called "originate to distribute" model, where banks lent without due regard for credit, in order to fill the pipeline for mortgage-backed securities they were selling to investors. What can't be debated is that the credit standards of banks, the diligence that is the bedrock of any lending institution, were lowered.
- **Borrowers:** Whether borrowers were not mindful of their capacity to take on debt or whether they were encouraged by banks and mortgage brokers to take on debt they could not afford, borrowers leveraged themselves to the hilt. Housing prices that seemingly would rise forever blinded borrowers to the catastrophic effect on their well-being that would be caused by a major downturn in the housing market.
- **Investors:** Higher investment returns are always alluring, but they always come with higher risk.

That risk-return trade-off is forgotten time and time again as market bubbles expand. In a sense, investors in the run-up to the global financial crisis were no different from investors in other crises. Only the names and nature of the investments were different. These investments carried with them the ratings of one or more rating agencies, which for many investors was sufficient endorsement for them to invest, regardless of the risk. That gamble proved misguided.

- **Rating Agencies:** The major rating agencies have been in the crosshairs of many commentators about the financial crisis for their role in highly rating the securities that proved to be the most toxic. Did they perform due diligence on the deals they rated? Did they rely too much on information from the structurers of the securities in determining their rating? Did their models work accurately and did they take into account sufficient information from highly volatile past periods? One agency identified flaws in their model that led to some financial products being given ratings as much as four levels higher than warranted.[17]
- **Mortgage Brokers:** One might take the view that mortgage brokers did their job too well, if the number of mortgages issued were the only measure of success. But that success was achieved by aggressively pushing borrowing, with little regard for the circumstances of the borrower's situation. The drive to close deal after deal left little room for any effort to understand the borrower and the capacity to take on debt.
- **Politicians:** Perhaps more than for others, politicians' sloth was manifest in the lack of effort to appreciate the unintended consequences of their policies. The goal of homeownership or deregulation was the singular focus of some policymakers, with little effort to appreciate how the policies that supported those goals could distort the housing market and the securities markets. The quote of former Rep. Barney Frank (D-Mass.), former chairman of the House Banking Committee, regarding pushing Fannie and Freddie more in the direction of supporting subsidized housing captures that disregard for unintended consequences:[18]

  > I do think I do not want the same kind of focus on safety and soundness that we have in OCC [Office of the Comptroller of the Currency] and OTS [Office of Thrift Supervision]. I want to roll the dice a little bit more in this situation towards subsidized housing. . . .

  No one intends for the roll of the dice to come up craps, but it happens.
- **Regulators:** Simply put, where were they? Shouldn't they have foreseen what would happen and taken steps to prevent it? In fairness, it is hard to suggest that regulators should have seen the magnitude of the crisis when virtually no one else did. But could more work have been done to understand the implications of government policies and the risk inherent in an expanding housing bubble that was feeding a securitization process in which risk was not always fully appreciated. In the extreme, did some type of regulatory capture, the phenomenon in which the lines blur between regulator and regulated, occur? Were regulators too reliant on their regulated entities for risk and market information?
- **ISDA:** It would not be right to cast stones without some introspection on my part, given my leadership role at the International Swaps and Derivatives Association (ISDA). At ISDA, we pointed to the ever-growing volume of derivatives as clear and convincing evidence of their utility and popularity. Yet much of that volume was capable of being reduced through tear-ups of offsetting trades. That was occurring through commercial efforts, and ISDA was supportive of those efforts, but likely more could have been done.

  A separate process to address issues in the derivatives business had begun in 2005 with the industry working with global regulators, led by the Federal Reserve Bank of New York.[19] The focus of those efforts was initially credit derivatives, but expanded to other product areas. The initiative had made progress in the standardization of processes and establishment of trade information repositories, but efforts were still ongoing at the time of the financial crisis. It is impossible to say whether things might have turned out differently if the industry and regulators had worked harder or had started sooner.

Regulatory Reforms: Encouraging Our Better Selves?

If one looks at the financial crisis through the prism of the deadly sins, then it is logical to consider whether the many regulatory reforms that have been enacted since the crisis address those sins. Additionally, we should consider whether the reforms themselves create incentives that may lead to failings that could spawn the next crisis.

Before we consider these reforms, it is important to keep in mind that all the pieces of the global economy—markets, institutions, regulators, policymakers, legal systems, and technology—are ultimately composed of human beings and the decisions they make. So it would be impossible to develop policies that are totally devoid of a human component, whether in their creation or enforcement, and thus it is impossible to completely eliminate the potential for human failing. Nevertheless, one goal of policy reforms should be to construct systems that reduce the risk of human failings and provide mechanisms to address those failings when they occur with the goal of minimizing their effects.

With that caveat, let's consider whether regulatory reforms address sloth, my vote for deadliest sin, as well as the runners up, greed and pride.

Forced Discipline as a Virtue

Traditionally, the wrath of God and the fear of eternal damnation were thought to be sufficient motivation for a person to forsake sloth and pursue the virtue of diligence. Today we have regulators and courts. Many of the post-crisis regulatory reforms are best seen as an effort by policymakers and regulators to force discipline on market participants, based on the view that those participants cannot themselves be trusted to apply that discipline, in other words to be diligent. The following examples are illustrative:

- **Capital Requirements.** A key goal of regulatory reforms is to increase the level of bank capital so that banks can ride out future downturns without the need to resort to public support. The various components of the capital requirements force banks to make decisions that build and protect their capital base, forcing a greater discipline on their decision-making process. Riskier transactions or counterparties will either be avoided or pricing will be modified to compensate for the higher capital charge.
- **Volcker Rule.** Various jurisdictions have introduced requirements that banks that have the benefit of government protections must not engage in proprietary trading. The Volcker Rule is the U.S. formulation of that requirement. This is another means of forcing discipline on banks, in this case through prohibiting certain activity.
- **Business Conduct.** Among the many U.S. reforms affecting derivatives are business conduct rules. These rules impose many requirements on derivative dealers in how they manage their business and interact with their clients. Pre-crisis, these fundamental business decisions were left to dealers to determine individually or through a collective, industry process such as those run by ISDA. Post-crisis the theme is again one of forced discipline, with the regulators detailing those requirements with much less discretion on the part of swap dealers.
- **Clearing.** The most consequential reform affecting derivatives is to require that a large swath of derivative transactions be cleared through a central counterparty. Although the justification for this change typically focuses on moving the derivatives business from one based on bilateral credit risk to one based on centralized credit risk, this shift can also be seen as aimed at forcing discipline on market participants by limiting their options. For the vast majority of derivatives, no longer will the two parties be permitted to decide whether they are comfortable dealing with each other on a bilateral basis, exposing themselves to each other's credit. Instead, those trades will be submitted to a central counterparty, eliminating the need to focus on bilateral credit exposure.

There are no doubt other examples of post-crisis regulatory reforms that can be seen as efforts to force discipline on market participants and processes. Considering forced discipline as a proxy for the virtue of diligence, these reforms appear to reduce the risk that sloth would again prove to be the deadliest sin of some future financial crisis.

There was, however, another prong to my consideration of sloth as the deadliest sin of the last financial crisis, specifically the law of unintended consequences. Here, the jury is still out as we have not had sufficient experience with these new laws and regulations to determine whether the reforms will work as anticipated.

Clearing is one area that has attracted a lot of attention as to whether the wholesale shift of many derivatives to a clearing house delivers on the promise of a safer system or merely shifts default risk to new "too big to fail" institutions.[20] Since the enactment of these reforms, fervent policy debates have taken place about this shift, with a focus on the level of capital of clearing houses, who bears the losses in a clearing house and the extent of a government backstop for these institutions. These issues did not receive the scrutiny they deserved in the rush to promote clearing, but the fact that they are being discussed now, after their enactment, at least holds out the potential for a full vetting of consequences before the next crisis.

Greed: Ever-present Everywhere

I feel safe in making one prediction about the next financial crisis, whenever it occurs. In the heat of the crisis there will be assertions that one or more individuals or entities were greedy. I cannot say who those individuals or entities will be, and I cannot say what the means of their greed will be, but I am certain that these assertions will be made.

This should not be surprising given my earlier discussion of greed as an unavoidable feature of a capitalist system that is built on people acting in their self-interest. And given that it is always someone else who is greedy, I am confident that assertions of greed will be a feature of the next crisis.

Pride: Who's Proud Now?

One manifestation of pride that was evident in the run-up to the financial crisis was the "Fooled by Randomness" syndrome typified by Wall Street's "masters of the universe." Some observers pointed out that at the time of the crisis, many of the traders at banks and other institutions had not experienced a major market downturn. The Asian currency crisis and Long Term Capital Management were ten years in the past and many of the traders had been hired since then. This lack of experience of a major downturn fed into the "fooled by randomness" mindset identified by Taleb. These younger traders were convinced of their intellectual superiority, ignoring that their success might just be a matter of luck. Newer instruments, such as CDOs and credit default swaps, did not exist or were in their nascent stages at the time of the earlier crises so there was not a sufficient track record for these instruments.

A natural response to unawareness of history is to make sure that the history of downturns and volatility is not forgotten. The principal way this is done, for both internal risk management purposes and for regulatory compliance, is through backtesting. A number of regulatory reforms identify backtesting as the means of addressing this tendency to forget or to be insufficiently aware of history. Forgetfulness is another human failing and so building backtesting requirements into capital rules, clearing requirements and internal risk models fills in the parts of history that are too readily forgotten.

Backtesting previously existed, so it is not strictly a post-crisis development, but regulatory reforms have increased its importance, and it has been positioned to provide incentives for cleared derivatives. Backtesting can serve as a check on the pride and the forgetfulness of traders, providing a constant reminder that any period of euphoria will not go on forever.[21] The bubble eventually bursts.

A New Source of Pride?

Rahm Emanuel, who is currently the mayor of Chicago and in 2009 was chief of staff for President Barack Obama, was famously quoted as saying, "You never want a serious crisis to go to waste." That quote could very well serve as the motivating force behind the regulatory reforms enacted in response to the financial crisis. The seriousness of the financial crisis gave virtually free-rein to the reforms that were enacted, at many levels of government and at great levels of detail.

Let me stipulate upfront that many of those reforms were beneficial. More capital in banks is a good thing, though the precise level of capital and how risks are measured have been a point of contention. Developments such as clearing and electronic execution have utility and can be encouraged, though one can question whether mandates to clear and execute electronically are necessary. Each reform has consequences for financial and economic activity, in some ways beneficial, but in other ways adverse. Policymakers must weigh those trade-offs, and it is understandable that in the aftermath of the crisis they erred on the side of safety.

On the other hand, it was also the case that by portraying the financial crisis as solely, or at least principally, the result of private sector failures, policymakers were able to take up the cause of reform without any need to acknowledge the role of past policy failures in the financial crisis. The only policies that were acceptable to repudiate were policies of deregulation of banking, of derivatives, and of capital—repudiation that made political sense in the post-crisis pursuit of greater regulation.

And policymakers are certainly proud of what they have constructed. The regular reports of the Financial Stability Board to the leaders of the Group of 20 nations tout the successes achieved in ending too big to fail, increasing capital in the banking system, and generally making the world a safer place. A great deal of thinking and effort has gone into these reforms, and I think many people would accept the trade-off of safety in return for some degree of slower growth in the financial system than existed pre-crisis.

But specific policies that serve as pillars of the reform have not been tested, certainly not in a period of high volatility such as occurred in 2008 or even in 1997–98. Consider a few specifics:

- **Too Big to Fail:** If there was nothing else that regulatory reforms were meant to achieve, it was to put an end to bailing out the banks. President Obama, upon signing the Dodd-Frank Act in July 2010, emphasized that the legislation put an end to banks being considered too big to fail:[22]

  > Finally, because of this law, the American people will never again be asked to foot the bill for Wall Street's mistakes. There will be no more taxpayer-funded bailouts. Period. If a large financial institution should ever fail, this reform gives us the ability to wind it down without endangering the broader economy. And there will be new rules to make clear that no firm is somehow protected because it is "too big to fail," so that we don't have another AIG.

  Increased bank capital and new bank resolution rules are among the ways that Dodd-Frank and similar legislation in other jurisdictions were intended to preclude the need to bail out banks in the future. Yet some jurisdictions have not gone so far as to completely rule out bail-outs and, even in the United States, the new rules have not been battle-tested in a real-life crisis. Furthermore, with the greater role of clearing houses in the financial system, many fear that these will be the too big to fail institutions in a future crisis, and Dodd-Frank has granted them access to the Fed borrowing window.
- **Clearing:** Mandated clearing of standardized derivatives is another pillar of reform aimed at creating a safer system. Under this approach, the hub-and-spoke clearing model is considered to be more resilient than the interconnected network of derivatives dealers and customers that predominated in the pre-crisis period.[23] Clearing can be an effective way of managing risk, and it has proven successful in the futures business.

  Even for OTC derivatives, clearing was used for a large number of interest rate swaps between major dealers, and the closing out of Lehman's cleared trades went smoothly.[24] Where clearing fell short prior to the crisis was expanding the class of parties that could use clearing, particularly to the buy-side, and creating effective mechanisms to clear other products, such as credit default swaps. Work was underway to achieve those goals, but the efforts had not reached fruition at the time of the crisis. Regulatory reforms that mandated clearing were built on the premise that unless parties were forced to clear, they would generally choose not to clear, but I believe that was a false premise. In any event the differing capital levels and margin requirements for cleared vs. non-cleared derivatives could have provided sufficient incentive to encourage clearing without the need for a mandate. But there was a great reliance, one might say pride, in clearing being the solution.
- **Resolution Stays:** Time is always a valuable commodity in responding to a crisis, whether it be a house fire or a financial crisis. A prompt response to a financial crisis can shore up the system and allow markets to return to some state of normalcy. Yet, given the pace of today's global financial markets, time always seems too short.

  But what if there was a way to buy some extra time to deal with a failing institution? Wouldn't extra time increase the likelihood of achieving a better result?

  This desire for extra time is the motivation behind efforts over the years to institute stays on the rights of derivative counterparties to terminate their derivative master agreements upon insolvency proceedings being instituted against a financial institution counterparty. The experience over the years is that these stays have been effective. The general approach by the Federal Deposit Insurance Corporation (FDIC) in the United States is to work over a weekend to put in place a new bank to succeed to the assets and liabilities (including the derivatives book) of the insolvent bank.

The FDIC's success has encouraged greater reliance on these stays as a means of preventing a run on the assets of an insolvent institution. This is understandable, though two caveats are worth noting. First, the FDIC experience has been with smaller institutions, not an institution with a derivatives book the size of Lehman Brothers. Second, the stays that the FDIC has administered are pursuant to its statutory powers, not a result of anything in the contractual relationships between the failing institution and its counterparties.

This second point is critical as policymakers, realizing that it will be impossible in the near term to achieve a comprehensive global stay across jurisdictions, have instead coerced institutions into amending their contracts to include these stays. With regulated institutions, that pressure has been brought to bear through the regulatory and supervisory processes. For institutions not subject to regulation, such as buy-side firms, the coercion is indirect, with efforts to restrict banks from trading with institutions who have not agreed to amend their contracts to include the stay. Some buy-side firms, asset management firms in particular, believe that they are being forced to give up contractual rights and fear that agreeing to do so could leave them open to claims that they are not acting properly in their fiduciary capacity.

If regulators truly believe that stays are an important tool to have available to them in a crisis, they should proceed with deliberate speed to enact statutory changes in all major jurisdictions to achieve a comprehensive solution that does not force parties into a difficult position.

- **Data:** There is perhaps no area in which regulators have greater faith in their powers than as it relates to data. As a result there are several reforms that focus on data.

  Derivatives are an area in which a greater amount of data is being generated and provided to regulators. One or both parties to a non-cleared derivative are required to report details of the trade to a trade information warehouse. The expectation is that this information will be used by regulators to identify where derivatives risk is building up in the system.

  As all too often occurs with data and technology, however, there has been a lack of standardization and, in the case of derivatives, a proliferation of trade information warehouses. Thus, the promise of capturing this information in a meaningful way, which has its roots in efforts that were underway pre-crisis, has fallen short of its potential.

  Then there is the creation in the United States through the Dodd-Frank Act of the Office of Financial Research (OFR). The OFR is a testament to the belief that, if regulators just had enough of the right data, they would be able to head off the next financial crisis. The OFR is a resource to the Financial Stability Oversight Council, an interagency group headed by the Secretary of Treasury charged with ensuring financial stability, and is itself a creature of Dodd-Frank. The OFR says on its Web site that "Our job is to shine a light in the dark corners of the financial system to see where risks are going, assess how much of a threat they might pose, and provide policymakers with financial analysis, information, and evaluation of policy tools to mitigate them."[25] They are financial risk detectives armed with data and computers.

  An alternative route to creating the OFR might have been to enhance the ability of front-line market and prudential regulators to identify risk in the markets and institutions they are responsible for and to encourage information-sharing among those regulators. Policy-makers, in their wisdom and in their faith in data, decided that a new bureaucracy focused on standardizing, collecting, and analyzing data was the better route to go. In a time when some of those front-line regulators, such as the Commodity Futures Trading Commission, face significant budget constraints, the level of funding and staffing the OFR enjoys is difficult to justify. But such is the pride that is felt in the ability to use data to identify the next financial crisis.

Current efforts to make changes to post-crisis reforms have been met with forceful defenses of those reforms.[26] Although there may be an acknowledgement that some changes could be made, that is typically coupled with firm resolve to resist any fundamental changes, often couched in terms of not returning to pre-crisis policies. It often boils down to a simple dichotomy: Pre-crisis policies and practices were bad, post-crisis policies and practices are good. The next crisis will prove whether that dichotomy is accurate or not.

Conclusion

The seven deadly sins are merely one way to look at the failings that led to the financial crisis and to assess the effectiveness of the reforms that were enacted in response. The reality is that it is difficult for any one analysis to fully explain the crisis or the response.

My hope is that by focusing readers on the role of human failing we will be better armed to anticipate and respond to future crises. Those failings are not just of individuals but of groups of individuals such as policymakers, bankers, investors, homeowners, and others. If, as I assert, the sins of sloth, greed, and pride were factors in the last crisis, perhaps one way to avoid the next crisis is for everyone who plays a role in the financial markets to be more diligent, generous, and humble. One can always hope.

Notes

1. The *Financial Times* series can be found at *https://www.ft.com/creditcrisis* (last accessed on Oct. 23, 2017; subscription required).
2. An article titled "The 27 scariest moments of the financial crisis" by Elena Holodny provides a comprehensive list of milestones from 2007-09, including the August 2007 BNP Paribas decision, *http://www.businessinsider.com/financial-crisis-scariest-moments-2017-9/#banks-would-continue-to-report-losses-fight-regulation-efforts-and-eventually-stomach-higher-capital-requirements-29* (last accessed on Oct. 24, 2017).
3. The Financial Crisis Investigation Commission considered causes of the financial crisis in great detail. Its report is available at *https://fcic.law.stanford.edu/report* (last accessed on Oct. 24, 2017).
4. One of the talks was given at the law school at the University of Leiden, the other to the fellows at NIAS. A summary of my Leiden lecture is available at *https://www.universiteitleiden.nl/en/news/2016/05/former-ceo-isda-robert-pickel-elaborated-on-the-deadliest-sin-of-the-financial-crisis* (last accessed on Oct. 24, 2017).
5. If one uses the synonym avarice for greed, a mnemonic for remembering the seven deadly sins is LEGSPAW. Avarice is sometimes the name used in listings of the seven deadly sins, but greed has more resonance in the context of the global financial crisis.
6. My discussion of the seven deadly sins draws on the description on Wikipedia, *https://en.wikipedia.org/wiki/Seven_deadly_sins* (last accessed on Oct. 24, 2017). A site dedicated to the seven deadly sins, including history and scholarly resources, is available at *http://www.deadlysins.com/* (last accessed on Oct. 24, 2017).
7. The definitions are from *Chambers Dictionary Online*, *http://chambers.co.uk/* (last accessed on Oct. 24, 2017).
8. 2016, the year of my lectures in The Netherlands, was also the 500th anniversary of the death of Bosch. The anniversary was marked with a retrospective of his work at the Nordbrabants Museum in the town 's-Hertogenbosch (den Bosch), in or near which Bosch was born and lived. One work that was not in the retrospective was his piece titled "The Seven Deadly Sins and The Four Last Things." That painting was included in a separate retrospective later in 2016 at the Prado in Madrid, Spain, which has eight Bosch works in its collection, including his most famous piece, "The Garden of Earthly Delights," which also depicts some sinful scenes. "The Seven Deadly Sins and The Four Last Things," listed in the Prado collection as the "Table of the Seven Deadly Sins," can be seen online at *https://www.museodelprado.es/en/the-collection/art-work/table-of-the-seven-deadly-sins/3fc0a84e-d77d-4217-b960-8a34b8873b70?searchid=bf9795c9-0401-3fa2-d1c2-fe7bf1b057bc* (last accessed on Oct. 24, 2017).
9. This theory is addressed in an article in *Cracked* magazine, perhaps the first time that magazine has been referenced in this publication. It is listed as the number one bizarre origin of seven pop culture franchises. "The 7 Most WTF Origins of Iconic Pop Culture Franchises," by Jacopo della Quercia, *http://www.cracked.com/article_18585_the-7-most-wtf-origins-iconic-pop-culture-franchises.html* (last accessed on Oct. 24, 2017).
10. *https://en.wikipedia.org/wiki/The_Bonfire_of_the_Vanities* (last accessed on Oct. 24, 2017).
11. *http://www.urbandictionary.com/define.php?term=Master+of+the+Universe* (last accessed on Oct. 24, 2017).
12. From the article "Behind Insurer's Crisis, Blind Eye to a Web of Risk," by Gretchen Morgenson, *The New York Times*, available at *http://www.nytimes.com/2008/09/28/business/28melt.html?pagewanted=all&_r=0* (last accessed on Oct. 24, 2017).
13. A description and chronology of the Federal Reserve Bank of New York's efforts in connection with AIG can be found at *https://www.newyorkfed.org/markets/maidenlane.html* (last accessed on Oct. 24, 2017).
14. *http://www.people-press.org/2008/10/15/section-2-causes-and-consequences-of-the-financial-crisis/* (last accessed on Oct. 24, 2017).
15. Market developments and innovation are already challenging banks' intermediation role. The term for this is disintermediation. Hedge funds are lending directly to companies. Crowdfunding sites, such as Kickstarter, and social finance sites, such as Kiva, are connecting investors directly with companies and individuals who are seeking funding for their ideas and needs. Distributed ledger technology will also likely lead to greater disintermediation.
16. A friend of one of the individuals Lewis chronicles in his book reportedly came back from a night on the town in Las Vegas to report that "he'd met a stripper with five separate home equity loans," Lewis, *The Big Short*, p. 153. This visit to a stripper is depicted in the movie version of the book.
17. Sam Jones, Gillian Tett and Paul J. Davies, "Moody's error gave top ratings to debt products," *Financial Times,* May 20, 2008, *https://www.ft.com/content/0c82561a-2697-11dd-9c95-000077b07658* (last accessed on Oct. 24, 2017; subscription required).
18. House Financial Services Committee hearing, Sept. 25, 2003.
19. Information about global regulator efforts relating to OTC derivatives can be found at *https://www.newyorkfed.org/*

financial-services-and-infrastructure/financial-market-infrastructure-and-reform/over-the-counter-derivatives. The industry commitments that were the focus of these efforts before the crisis were typically acknowledged in periodic press releases commencing in 2005. The last such press release prior to Lehman's bankruptcy was issued on July 31, 2008, and is available at *https://www.newyorkfed.org/newsevents/news/markets/2008/an080731.* (Both these links were last accessed on Oct. 24, 2017).

20. Professor Craig Pirrong of the University of Houston has been particularly vocal in the debate on the role that clearing houses should play in the derivatives business. In 2011, Pirrong authored a study for ISDA titled "The Economics of Central Clearing: Theory and Practice" that provides an excellent overview of clearing. The paper is available at *http://www2.isda.org/attachment/MzE0NA==/ISDAdiscussion_CCP_Pirrong.pdf* (last accessed on Oct. 24, 2017). Pirrong has also written many times about clearing on his blog, Streetwise Professor, *www.streetwiseprofessor.com* (last accessed on Oct. 24, 2017). Clearing is among the categories listed on his blog and the full list of clearing-related posts can be accessed by clicking on that link.

21. A recent trend toward something called "juniorization" on Wall Street has echoes of the pre-crisis phenomenon of inexperienced traders and, hence, may be a trend worth keeping an eye on. The trend is discussed in "Wall Street is gripped by a trend called 'juniorization,' and it is freaking some people out," by Matt Turner, *http://www.businessinsider.com/juniorization-is-helping-wall-street-cut-costs-2016-3* (last accessed on Oct. 24, 2017).

22. *http://www.marketwatch.com/story/text-of-obama-remarks-on-dodd-frank-2010-07-21* (last accessed on Oct. 24, 2017).

23. Pirrong has a pictorial depiction of these two models in his blog post titled "Seeing the OTC Derivatives Markets (and the Financial Markets) Like a State," *http://streetwiseprofessor.com/?p=10456* (last accessed on Oct. 24, 2017).

24. The process of closing out Lehman's positions on the SwapClear clearing platform following Lehman's default is described on SwapClear's Web site at *http://www.swapclear.com/why/case-studies.html* (last accessed on Oct. 24, 2017), including a link to a *Financial News* article describing what occurred.

25. *https://www.financialresearch.gov/about/* (last accessed on Oct. 24, 2017).

26. Fed Chairman Janet Yellen made the defense of reforms a centerpiece of her annual address at the 2017 Jackson Hole conference hosted by the Federal Reserve Bank of Kansas City. Her speech can be found at *https://www.federalreserve.gov/newsevents/speech/files/yellen20170825a.pdf*. Bank of England Governor and Financial Stability Board Chair Mark Carney has made similar defenses. *See, e.g., http://www.fsb.org/wp-content/uploads/What-a-Difference-a-Decade-Makes.pdf* and *http://www.fsb.org/wp-content/uploads/BdF-Financial-Stability-Review.pdf.* All links were last accessed on Oct. 24, 2017.