



Aaron Brown

Ten Bad Ideas Born of the Financial Disaster

A healthy market needs poiaritiy, not uniformity

Once upon a time there was a risk taker. Whenever she saw a game in progress, she watched for a few minutes, then jumped in. She didn't know all the rules, and certainly hadn't formulated an optimal strategy, but she was always willing to bet on herself. She trusted her quick wits to make up for lack of experience, and further trusted that if she lost, the experience gained would more than compensate for the stake lost. Once she sat down to play, she planned for success; she did not start cautiously.

Her brother was a risk avoider. He walked right past the game on his way to school. He studied and learned. He didn't notice a game unless it grew too large to ignore. If that happened, he was sometimes willing to take part. First, he studied the rule book carefully, and also books of strategy. He practiced extensively before playing for real, and he started small. Only when he had a statistically demonstrable edge did he move up to meaningful stakes. Once he did, however, he was very fond of



exponential growth.

Both of these siblings have reasonable attitudes toward risk. The risk taker seeks out risk and by embracing volatility, she defeats it. She bets so often that randomness averages out. But there is a price for eliminating volatility. She

must follow three iron rules:

1. Since she will earn her long-term expected value, that had better be positive. She must have an edge in everything she does.

2. Diversification only works if there is low correlation among bets. She cannot do anything to induce dependence. She must fight superstition, habit, conventional ways of thought, relying on experts – even too much thought about each bet.

3. She can never bet so much that if she loses, she cannot bet again. With her life strategy of many bets, if she bets it all, even infrequently, she will likely be ruined.

Her brother does not worry about expected value; it's only an abstraction for someone taking a few big bets. He cares about the likely outcomes, he doesn't bet enough to explore the tails. Dependence among risks is similarly not important to him, it only dominates risk after many bets. He can risk losing everything, both because he doesn't do it very often and because he can face a life without betting. Her brother has one rule instead of three

– only take necessary, compensated, calculated risks.

You might think there is a continuum of attitudes from risk taker to risk avoider. But that's not true – intermediate strategies fail. Splitting the difference is like putting your entire portfolio

in one stock. You either avoid risk as much as possible by sticking to safe investments or you open yourself up to all investment risks to get maximum diversification.

There is a better intermediate strategy: buy a diversified risk portfolio, but only with a small portion of your assets. This also fails, however, for two reasons. The first was demonstrated by John Kelly. If you're going to take a risk, there is an optimal amount. People who take less always do worse, meaning that they're not really taking less risk. The second is that taking every risk that comes your way in life requires skills and attitudes that are expensive to acquire, even in childhood, and fatal to acquire at adult stakes. If you make that investment, it's sensible to get maximum benefit and, more importantly, it's intolerable to play it safe. If you don't make that investment, you cannot handle even diluted risk; your attitudes will sabotage any hope of either success or peace of mind.

The world needs both kinds of people. Risk takers innovate. Risk avoiders consolidate the gains of innovation for long-term benefit. Risk takers build a reserve of alternatives ready to step in when the conventional wisdom fails. Risk avoiders make the continual improvements in between. Risk takers lead cavalry charges, risk avoiders handle the logistics so that the cavalry has the equipment it needs to charge. Risk takers invent; risk avoiders apply for patents, work out the design, manufacturing, and distribution, and sell the product. Risk takers are good at managing risk; risk avoiders are good at managing people.

Our risk taker's early adulthood is not well documented. There are rumors of companies founded, a mercenary adventure, some patents, and a stint in jail. What we do know is that she ended up on Wall Street in the early 1980s. Before that, there was no call for risk takers on Wall Street. Financial firms tried to earn fees and spreads. Investment banks were private partnerships with little capital to risk, and the risk decisions of commercial banks and institutional investors were dictated by law, not calculation. But our risk taker arrived as things were changing. She and her fellow travelers took over the Street and fomented one scandal or disaster after another, and also catalyzed the greatest wealth

creation event in the history of the world.

We know much more about her brother's career: the top university and graduate school, the doctorate, the prestigious government appointment followed by the lucrative consulting practice, the well-reviewed books. By the mid-1990s, Wall Street started looking attractive. The risk takers had generated profits that built huge institutions, and those institutions had tapped public capital markets. Deregulation and innovation coupled with this capital base made them more powerful than governments. At the same time, there was clearly need for some adult supervision. Regulators and the public were incensed at the constant turmoil and scandals; public shareholders wanted top managers who could slash costs and deliver steady exponential growth. Bond salesmen and investment bankers, who had been eclipsed by the wild traders, were far more acceptable than risk takers, and they needed help from people with degrees, credentials, connections, and resumes unblemished by failures.

In her decade and a half on the Street, our risk taker tried many ideas. She failed often, but she failed fast, so her few successes outweighed her failures. She started new ideas in good size, and ran them at a constant risk level. When they turned around, as they invariably did, she took losses, but they were small compared to the gains. Nevertheless, some of the failures led to disasters, but they were idiosyncratic, confined to one trading desk or one firm.

When her brother took an executive position at a bank, he had no interest in failure. He looked for businesses with consistent records of profit. They had to have been around long enough for there to be academic experts and books; the legal issues and regulatory treatment must have been resolved. He needed someone with years of experience in the business to run it, and he needed buy-in from the board, regulators, shareholders, and journalists.

When he found such a business, he knew how to make it better. He could cut costs, streamlining the organization as described in his best-practice books. He could bring in consultants and academic experts to optimize things. Most importantly, he could make it grow exponentially, delivering the steady quarter-over-year-ago-quarter earnings that made the firm's P/E ratio go up.

There were three problems with this strategy. First, he liked the same businesses as every other risk avoider. Second, many institutions piling in and growing exponentially killed the business by overcrowding. Good financial ideas have a limited life anyway and none can tolerate infinite growth. Finally, when things did collapse, he took losses on a position that was far larger than the positions on which he had earned profit.

But our risk avoider is never caught with only one line of defense. When he loses money, he can demonstrate conclusively that he did everything right. Everyone with credibility agrees with him, because everyone with credibility did or supported the same thing. Any risk takers who disagree are obviously disqualified by lack of credentials (or even neckties) and records of serial failure. If it's not the risk taker's fault, it must be someone else's fault, so the hunt is on for a villain while the risk avoider negotiates his bailout.

The past 20 years have witnessed an accelerating trend to chase the risk takers away from Wall Street. It takes a risk taker to innovate, and it takes a risk taker to close down a business that has been profitable for years, but no longer has a positive expected value. It takes a risk taker to go against the crowd, to avoid the trade everyone says is a sure thing, and make the trade everyone says is guaranteed to lose. So, we are increasingly seeing firms all fail together, holding similar positions; and we are increasingly seeing the government investigating success and subsidizing failure.

You might try to take comfort from the fact this is only going back to the system in place until 30 years ago, when Wall Street was run by risk avoiders and the government thought its job was to keep the firms from either failing or making too much money. But the system the risk avoiders ran at that time was small and simple. The one they are usurping today is big and complicated – it is absolutely not something to be trusted to risk avoiders. It takes a well-functioning team of risk avoiders and risk takers to run a modern financial institution, people who understand and respect each other.

Don't make the mistake of thinking risk avoiders are stupid, even the ones who think they don't need risk takers in top management positions. If they take over, they will make pru-



dent, sensible decisions that will eliminate scandals and disasters. Earnings will grow steadily, return on equity will be healthy, and risk measures will show moderate, controlled risk. This should increase the time until the next financial crisis.

But a financial crisis will come. And when it does, every firm will be doing the same thing, and every firm will be doing it in excessive size. If you thought the last crisis was bad, ask yourself how we would have done without some differing opinions. What if David Einhorn had not alerted the world to Lehman's overleverage a year before it failed? What if JPMorgan had not cut back severely on the structured credit business it created, and had therefore held too much super senior CDOs to help rescue Bear Stearns? What if John Paulson and Goldman Sachs hadn't shorted subprime, both providing a signal that may have limited other overbetting and giving them financial strength at a key time?

The emigration of risk takers from Wall Street began in the mid-1990s. Some of the reason was distaste for the regulations and organizational changes brought by the risk avoiders. Another factor was opportunities in start-up companies and hedge funds. As this happened, the disasters got bigger, and each one seemed to involve more firms. When Drexel failed in 1989 or Salomon Brothers got caught in the 1991 treasury scandal, they were just single firms. Kidder Peabody blew up in 1994, along with half a dozen smaller firms, and a few other banks had near misses. In the 1997 emerging markets crisis and 1998 Long-Term Capital Management failure, it seemed as if every firm was positioned the same way, and that the entire financial system was at risk. In the Nasdive of 2000 and the spate of scandals that followed, it seemed as if almost everyone was letting investment bankers dictate research reports, was abusing soft dollars, was helping Enron hide the truth, was encouraging mutual fund timing, was marking to model using unreliable models; all scandals were group scandals. In the current financial crisis, every major regulated financial institution in the world either failed or would have failed without massive and unprecedented government support. I think that support tested the

limits of both political willingness and economic clout. If any more risk takers leave Wall Street, I can't see how the financial system will survive the next disaster. In the words of Tom Lehrer, "We'll all go together when we go."

Unfortunately, instead of looking for ways to encourage diversity and innovation in finance, most changes and proposed changes add to uniformity. Here are ten bad ideas that could combine to make the next financial disaster the last financial disaster, and not in a good way.

1. Increased capital ratios

Forcing financial institutions to hold more capital seems like a no-brainer; after all, the more capital, the smaller the chance of failure. Right?

Not right. More capital delays failure, it doesn't prevent it. It means you lose more when you lose, not that you never lose. We need risk takers who fail often and fail fast. We're going to get risk avoiders who fail rarely and slowly – and devastatingly.

That's not to say capital ratios should be cut. There is an optimal amount to hold. A firm needs enough to fund lots of new initiatives generously enough that they can all plan for success. Most of them will fail, and firms will experience runs of bad luck. A firm also needs capital for its ongoing businesses, as they will all fail some day, generating sizeable losses.

Excessive capital allows firms to ignore losses, letting them grow to systemic size. Excessive capital frees a firm from posting mark-to-market collateral, a problem with AIG and the monoline insurers. Excessive capital in the form of an inferred government guarantee allowed FNMA and FHLMC's problems to balloon. Excessive capital removes the discipline of having to go to market after losses, so there is no independent analysis. Excessive capital encourages martingale strategies of doubling up after losses. All these things prevent many small disasters, and replace them with one gigantic disaster.

Capital should be dynamic. A firm should not try to have enough money to pay for any conceivable series of losses. Instead, it should have enough capital to be healthy enough to raise more after each loss. That means that after each win, it should repay capital to investors. That's a

healthy cycle of capital that keeps companies on track.

2. Compensation limits

There is no doubt that people on Wall Street, and US nonfinancial public-company executives as well, are overpaid. I'm all for eliminating legal and regulatory obstacles to shareholders asserting power. But compensation limit proposals are not about directing more of the profit of the business to shareholders, they're about cutting off the right tail of individual compensation distributions. That obviously hurts risk takers far more than risk avoiders.

That's not the bad news. The dangerous new idea is pay for performance – future performance. Using conditional deferred compensation, clawbacks, or other means, firms are going to be required to condition pay on future events. There is strong empirical evidence, both from the current crisis and from systematic studies, that this has exactly the opposite of the intended effect.

The reason is obvious. Suppose I create some kind of an index of the performance of your business, the performance of the firm, and the performance of the financial system and tell you that you won't get paid for this year's performance unless this index is above some level five years from today. Your first reaction is going to be to act as if the index will be above the level, since if it isn't, it doesn't matter what you do. Everyone assuming that everything will be good is precisely what we're trying to prevent.

Your second reaction is the one reformers are counting on: you will try to keep the index up. How do you do that? By buying it of course, that's how you push a price up. So, you'll be making all your bets that the index will go up – once again, precisely what we're trying to avoid.

There is a third reaction from the deepest thinkers, one that might work in the intended direction. It's easier to explain if we make the index something like oil. Suppose I told you that your pay was conditional on oil being above \$100 per barrel five years from now. A smart person would sell oil, not buy it. Selling it pushes the price down, so people do not conserve or invest in exploration or alternative energy sources. Then, just before the five-year point, you switch

to buying. The increased demand from low prices for five years, subsidized by your short, will add to your long position to force the price of oil up much higher than it would have been without your manipulation. If you instead buy oil today, you set up the opposite dynamic and hurt your chances of a high price in five years.

If this subtle third effect outweighs the two obvious effects, you might get some people to bet against themselves, their firms, and the financial system. This would provide some hedge, so if things get bad, these people would have profits to help the firm to survive. But firms and oil don't work in the same way. Betting against oil pushes down the price, which makes people buy more oil. Betting against a department or a firm or an industry pushes down the price, which increases the cost of capital, which puts them out of business. And it's not just economic incentives at work here; no organization can prosper by encouraging its members to bet against it.

If you're going to play this game, it makes far more sense to pay people only if the firm fails. That will encourage people to think of all the things that could hurt the firm, and bet on them happening. That's priceless information to management, and if the firm does get into trouble, a welcome source of profits. This is a negative feedback system that keeps a firm stable, rather than a positive feedback system that pushes a firm to extremes.

3. Too big to fail

This one is almost too obvious to include. However, it comes in two opposite versions. The first is the idea that governments should designate (possibly in secret, a ludicrous qualification) firms that are too big to fail and support them in any crisis (possible in exchange for some kind of insurance fee). This is setting everything up to fail together.

The second idea is that some firms are too big to exist, and should be broken up so that each component can fail without excessive damage to the financial system. At first glance, this seems better. More, smaller firms that are allowed to fail are congenial homes for risk takers, and that environment encourages diversity of ideas.

One problem is that you limit the scope for innovation this way, and also the speed at which

it can spread. If you break things up vertically, so each firm is in only one line of business, you lose ideas that cross established boundaries. If you break things up horizontally, so no firm can be too big in any one business, you put a ceiling on the gains from a new idea. You also box up people's careers, losing the synergies that come from rotation among different businesses.

Another problem is that you make things more the same. When two businesses are owned

by the same parent, you get a disadvantage; failure in one can drag down the other, and an advantage, internal support, and unrestricted information flow can save a business that might otherwise fail. Some mergers increase risk, some mergers decrease risk. A variety of organizational structures means that there's more chance that some will survive.

4. Exchanges and clearinghouses replacing OTC trading

Public exchanges came through the recent disaster with flying colors. The stock market saw record volatility and trading volume, and worked seamlessly. In contrast, many OTC markets froze, contributing to the liquidity crisis.

But those of us old enough to remember 1987 remember the public exchanges near collapse while the OTC market allowed liquid trading. The obvious lesson is that it's good to have two robust systems of exchange. In good times, it adds to efficiency to direct each transaction to the appropriate place. In bad times, it increases the probability that at least one will function.

An even more unfortunate aspect of the anti-OTC movement is that it is not trying to accomplish its goals by improving public markets or clearinghouses. Instead, we have regulations and

pressure making OTC trading less efficient, in hopes that it will force trades to clearinghouses.

Risk avoiders love clearinghouses and like to say that no clearinghouse has ever failed. While that may be true (I have never seen a systematic study), it's highly misleading. When an OTC counterparty fails, it goes bankrupt, which can generate follow-on losses at its counterparties, which could lead to more bankruptcies. When a clearinghouse gets in trouble, it changes the rules to

inflict bankruptcy on its counterparties directly. The Paris Bourse in sugar, the Chicago Mercantile Exchange in onions and later silver (the Hunt brothers), the London Metal Exchange (LME) in tin twice (ITC) and later copper (Sumitomo), the NYMEX in oil (*Metallgesellschaft*); the clearinghouse doesn't go broke, the customers do. For one example, in October 1985, the International Tin Council defaulted on enough long tin contracts at the LME to wipe out the clearinghouse. Instead of declaring bankruptcy, the LME suspended trading for six months, after which it forced settlement of tin contracts at a nonmarket price that left it solvent.

To a risk avoider, this seems like a victory. No bankruptcy, no systemic collapse. The victim is usually vilified as a market manipulator. But to a risk taker, these actions pose threats to both liquidity and stability, just as much as OTC failures. Risk takers value the right to choose their poison: credit counterparty risk or exchange games. The clearinghouse solution usually limits the short-term problem at the cost of eroding long-term faith in markets.

The same mindset leads to having limits on price movements. Risk avoiders don't like volatility, they think it causes illiquidity. By artificially suppressing volatility, they believe they can keep

Encourage people to think of all the things that could hurt the firm, and bet on them happening. That's priceless information to management

markets liquid. For the same reason, they like to impose circuit breakers and other trading limits like uptick rules on equity markets. Risk takers think it's illiquidity that causes volatility, and that restrictions on trading cause illiquidity. They want to be able to trade any time they can find a willing counterparty. Forcing all trades to go through one type of institution, and placing restrictions on price and volume, makes the financial system less diverse. It dampens volatility in the short run, and sets things up for the catastrophe in the long run.

5. Anticyclical capital rules

Ever since capital rules were put into place in the 1980s, people have been complaining that they are procyclical. In good times, capital is cheap and plentiful, so banks lend too much, overstimulating the economy and creating bubbles. Then, when things turn bad, capital is expensive and scarce, so banks cut back too much and exacerbate the recession. That is the reason regulators resisted capital rules for such a long time. It's politically unacceptable to cut capital requirements when people are nervous about their banks, but also unappealing to exaggerate the business cycle.

The argument that won out over that is that banks should be forced to raise more capital in bad times. The cost of that is so high that smart banks will carry more capital in good times as a reserve. Not-so-smart banks will overextend themselves and get bought up cheap. Soon the smart banks won't have to match foolish competitors and the banking system will act as a useful buffer on the business cycle.

Unfortunately, banks weren't forced to raise capital in bad times – regulators just looked the other way when true economic capital declined. Therefore, banks learned not to carry extra capital in good times, and capital rules were procyclical. Basel II attempted to get around that with science, requiring forward-looking estimates for capital computations, meaning that in good times you restricted lending by looking forward to the inevitable bad times, and that during bad times you could be more liberal, looking forward to the good times that always seem to return. However, for the same reasons, regulators failed to enforce capital raising; they agreed to practical implementations

of capital rules that were backward looking.

Today, we find the same reluctance. Regulators would like banks to have more capital, but don't want to force them to raise too much for fear of making them fail. When good times return, regulators promise to set higher capital levels. That's a bad idea, as I discussed in (1). The way to get banks to hold the proper amount of capital is to shut them down when their true economic capital, based on forward-looking analysis, is too low. Then, you don't have to make anticyclical adjustments – banks will figure out the cheapest way to be properly capitalized throughout the cycle. Or they won't, and someone smarter will take them over or take their places.

6. Systemic risk regulator

A lot of people object to this idea because they think the person will be ineffective. I have the opposite fear. Any systemic risk regulator will demand some kind of reports, and will make rules about acceptable and unacceptable responses. For example, she's likely to specify some stress scenarios and require financial institutions to compute both their total P&L in each scenario, and also their payables and receivables to other financial institutions.

However good the scenarios are, and I think they would be pretty good, they're going to create *de facto* risk limits that are the same for everyone. A change that reduces risk but makes the report look worse will be discouraged in favor of profitable activities that appear to reduce risk; and everyone will see the risks in the same way. There will be pressure from employees, shareholders, consultants, boards, and journalists not to get too far below the limit of allowed risk, just as banks today don't like to report regulatory capital ratios higher than a comfortable amount beyond the minimum. Banks that resist may lose employees and shareholders, and end up sold at a knockdown price to a more aggressive competitor; or the board might force the cautious CEO out in favor of a more optimistic fellow, optimistic on the same wavelength as the systemic risk regulator. Also, the payable/receivable calculations will have to agree among institutions, forcing everyone to use common valuation methodologies. That won't stop firms from using proprietary internal models, but the trouble

of maintaining two sets of books will lead to doing risk management according to the lowest common denominator model.

Another likely rule will be to require model validation according to industry best-practices. That's a hurdle that many innovations will not be able to pass, and a significant added expense to innovation. The models that do pass will be more alike than they are different. In this and a hundred other ways, a systemic risk regulator will breed uniformity.

7. Bailouts

Okay, everybody who didn't get one, hates bailouts. Obviously, they create moral hazard and leave the people who bet wrong in charge. But I have another objection. In 1930, Americans had a choice between post office savings accounts guaranteed by the government, and bank accounts guaranteed only by the bank. When the government created deposit insurance, instead of two options, people had only one. In the 1970s, a lot of people decided that interest rates on bank accounts (limited by federal law) were too low, so they moved to uninsured money market funds created to get around the rules. They knew the choice: higher interest and better customer service in exchange for no guarantee. When the government bailed out money market fund shareholders, once again two options declined to one.

Bailouts carry regulation with them, to protect the public's money. If everyone gets bailed out, everyone gets regulated. Instead of the choice between regulated mutual funds and less heavily regulated hedge funds, there is only one kind of commingled investment vehicle allowed. Instead of government backing being an option the consumer can weigh versus the cost, government backing becomes mandatory, and the cost becomes a tax.

It's difficult to limit bailouts once you start. Of course, you don't bail out the failing institution, you bail out its creditors. So, if you want to protect commercial banks, you have to bail out the entities they do business with. Bailing out those entities might require bailing out the entities they do business with. This can lead to the government guaranteeing everything, which means that nothing fails until everything fails.

8. Limits on trading innovation

Here's another way that the risk avoiders are putting all their eggs in one basket. The last 20 years have seen an explosion of innovation in trading that improved liquidity by orders of magnitude. This creates more apparent volatility, and prices move up and down much faster, but it reduces the chance of a catastrophic crash.

Now, there is a long history of exchanges cheating customers in large and small ways, so if you believe in any kind of government regulation, exchanges are a reasonable place for it. My

under asset prices after the disaster. So, who could possibly think it's a good idea to restrict or eliminate them? People who value unanimity over being right – that is, risk avoiders.

If you outlaw pessimism, only optimists trade. If only optimists trade, you get bubbles. When bubbles pop, everyone is in them by law, so everyone is broke. That's bad. It's also bad that only people who agree with management follow the stock; the opposition sells and no longer cares what happens. With short sellers, if people get too optimistic about something, it doesn't have to translate

because that's where I expect the attack." Risk managers say, "Build the wall all around the town because if you leave any gap, that's where the attack will be." The point of risk management is to prepare for whatever you think might happen, not to guess what will happen. And you have to remember that the thing that does happen will be different from anything you prepared for; the hope is that the discipline of preparing for foreseeable problems will help you with whatever really does happen.

Risk managers are not trying to prevent failure. We love failure, as long as it's fast. We know that failure is the price of innovation, and that innovation is necessary for survival. Preventing failure means ensuring total failure.

Quantitative risk models are essential to this process. They don't tell you things you don't know, they keep systematic track of what you do know. Financial institutions are highly complex, and you need good quantitative models to understand them. The fact that they don't also magically predict the future and save you from all dangers is a poor reason to throw them away.

That concludes my list of bad ideas that sprang from this crisis. I'm sure there are many more – ones I overlooked or whose potential for mischief escaped me. Moreover, I'm sure lots of new ones will occur to people.

With luck, this will all blow over and risk takers on Wall Street will get off the Endangered Species list. If not, we can look forward to a longer-than-usual period until the next disaster, maybe as long as seven to ten years. But after that, all bets are off, because not enough bets are on.

CDS buyers and short sellers were right... So, who could possibly think it's a good idea to restrict or eliminate them? People who value unanimity over being right – that is, risk avoiders

objection is not to the government looking at flash orders, dark pools, and high frequency trading, but to the attitude that anything new is bad and anything old is good; and to the mindset that there is one right way to trade; and to the idea that less trading is better. The extreme interference would be a transaction tax.

The biggest danger is that the regulators will discourage people from rushing to market with every small scrap of information they come across. The actual and proposed trading rules attempt to reward long-term buy-and-hold investors at the expense of speculators. That means you have to hoard information until you get enough for a macro trade. That would erode the informational efficiency of markets, with dire consequences.

9. CDS and short selling restrictions

CDS buyers and short sellers were right. They provided a valuable early warning and kept money out of the hands of people betting stupidly, into their own smarter hands, to deploy to put a floor

into real economic damage. Short sellers can provide a virtual asset, preventing real capital from being wasted. Instead of a bad economic decision resulting in a real destruction of value, you have money going from one place to another, with no deadweight loss. Of course, if the short sellers are wrong, capital allocation is less efficient, but you generally get a better decision by letting both sides back their judgment than by keeping negative views away from the table. Moreover, even if the short sellers are wrong, you get diversity of outcome, which means that at least some people have money, and the economy can go on. The losers may have to go to work for the winners, but there are jobs. When there are no winners, there are no jobs.

10. Discarding quantitative risk models

The usual charge is that quantitative risk models failed to predict or prevent the crisis. This is deeply uninformed. People who predict are the enemies of risk managers. They're the people who say, "Build the wall on the north side of town,