

Grant's Spring Investment Conference
David Einhorn, "Private Profits and Socialized Risk"
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A few weeks ago the financial world was presented with the imminent failure of a publicly traded entity called Carlyle Capital Corporation. You see, it had leveraged itself more than thirty to one. The press scoffed about what kind of insanity this was. Who in their right mind would take on such leverage?

The fact was that the Carlyle portfolio consisted of government agency securities. Historically, after treasuries these have been among the safest securities around. Carlyle's strategy was to take relatively safe securities that generate small returns and through the magic of leverage create medium returns. Given the historical safety of the instruments, Carlyle and its lenders judged thirty times leverage to be appropriate. One could look at the backward-looking volatility and come to the same conclusion. Of course, the world changed, and the models didn't work. Carlyle's investors lost most of their investment and the world, with normal 20-20 hindsight, has learned that investment companies with thirty times leverage are not safe.

It didn't take long for investors to realize that the big investment banks sport similar leverage. In fact, the banks count things such as preferred stock and subordinated debt as equity for calculating leverage ratios. If those are excluded, the leverage to common equity is even higher than thirty times.

And I'll tell you a little secret: These levered balance sheets hold some things that are dicier than government agency securities. They hold inventories of common stocks and bonds. They also have various loans that they hope to securitize. They have pieces of structured finance transactions. They have derivative exposures of staggering notional amounts and related counter-party risk. They have real estate. They have private equity. The investment banks claim that they are in the "moving" business rather than the "storage" business, but the very nature of some of the holdings suggests that this is not true. And they hold this stuff on tremendously levered balance sheets.

The first question to ask is, how did this happen? The answer is that the investment banks out maneuvered the watchdogs, as I will explain in detail in a moment. As a result, with no one watching, the managements of the investment banks did exactly what they were incentivized to do: maximize employee compensation. Investment banks pay out 50% of revenues as compensation. So, more leverage means more revenues, which means more compensation. In good times, once they pay out the compensation, overhead and taxes, only a fraction of the incremental revenues fall to the bottom line for shareholders. Shareholders get just enough so that the returns on equity are decent. Considering the franchise value, the non-risk fee generating capabilities of the banks, and the levered investment result, in the good times the returns on equity should not be decent, they should be extraordinary. But they are not, because so much of the revenue goes to compensation. The banks have also done a wonderful job at public relations. Everyone knows about the 20% incentive fees in the hedge fund and private equity

industry. Nobody talks about the investment banks' 50% structures, which have no high-water mark and actually are exceeded in difficult times in order to retain talent.

The second question is how do the investment banks justify such thin capitalization ratios? And the answer is, in part, by relying on flawed risk models, most notably Value-at-Risk or "VaR." Value-at-Risk is an interesting concept. The idea is to tell how much a portfolio stands to make or lose 95% of the days or 99% of the days or what have you. Of course, if you are a risk manager, you should not be particularly concerned how much is at risk 95 or 99% of the time. You don't need to have a lot of advanced math to know that the answer will always be a manageable amount that will not jeopardize the bank. A risk manager's job is to worry about whether the bank is putting itself at risk in the unusual times or in statistical terms, in the tails of distribution. Yet, Value-at-Risk ignores what happens in the tails. It specifically cuts them off. A 99% Value-at-Risk calculation does not evaluate what happens in the last one percent. This, in my view, makes VaR relatively useless as a risk management tool and potentially catastrophic when its use creates a false sense of security among senior managers and watchdogs. This is like an air bag that works all the time, except when you have a car accident.

By ignoring the tails, Value-at-Risk creates an incentive to take excessive but remote risks. Consider an investment in a coin-flip. If you bet \$100 on tails at even money, your Value-at-Risk to a 99% threshold is \$100, as you will lose that amount 50% of the time, which obviously is within the threshold. In this case the VaR will equal the maximum loss.

Compare that to a bet where you offer 127 to 1 odds on \$100 that heads won't come up seven times in a row. You will win more than 99.2% of the time, which exceeds the 99% threshold. As a result, your 99% Value-at-Risk is zero even though you are exposed to a possible \$12,700 loss. In other words, an investment bank wouldn't have to put up any capital to make this bet. The math whizzes will say it is more complicated than that, but this is the basic idea.

Now we understand why investment banks held enormous portfolios of "super-senior triple A-rated" whatever. These securities had very small returns. However, the risk models said they had trivial Value-at-Risk, because the possibility of credit loss was calculated to be beyond the Value-at-Risk threshold. This meant that holding them required only a trivial amount of capital. A small return over a trivial amount of capital can generate an almost infinite revenue-to-equity ratio. Value-at-Risk driven risk management encouraged accepting a lot of bets that amounted to accepting the risk that heads wouldn't come up seven times in a row.

In the current crisis, it has turned out that the unlucky outcome was far more likely than the back-tested models predicted. What is worse, the various supposedly remote risks that required trivial capital are highly correlated – you don't just lose on one bad bet in this environment, you lose on many of them for the same reason. This is why in recent periods the investment banks had quarterly write-downs that were many times the firm-wide modeled Value-at-Risk.

Which brings us to the third question, what were the watchdogs doing? Let's start with the credit rating agencies. They have a special spot in our markets. They can review non-public information and opine on the creditworthiness of the investment banks. The market and the regulators assume that the rating agencies take their responsibility to stay on top things seriously. When the credit crisis broke last summer, one of the major agencies held a public conference call to discuss the health of the investment banks.

The gist of the rating agency perspective was "Don't Worry." The investment banks have excellent risk controls and they hedge their exposures. The initial reaction to the credit crisis basically amounted to "everyone is hedged." A few weeks later, when Merrill Lynch announced a big loss, that story changed. But initially, the word was that everyone was hedged. Securitization had spread the risk around the world and most of the risk was probably in Asia, Europe, Dubai or at the bottom of the East river. The banks were in the "moving" business not the "storage" business, so this was no big issue. I wondered whether anyone saying this had actually looked at the balance sheets.

Of course, this raised the question of how did everyone hedge and who were the counter-parties holding the bag? I pressed star-1 and asked the rating agency analyst how everyone hedged the massive apparent credit risks on the balance sheets. The rating agency analyst responded that the rating agency had observed enormous trading volumes on the MERC in recent days.

The MERC offers products that enable one to hedge interest rate risk, not credit risk. I called the rating analyst back to discuss this in greater depth. At first he told me that you could hedge anything on the MERC. When I asked how to hedge credit risk there, he was less familiar. I came to suspect that the rating agency analyst viewed his role as one to restore confidence in the system, which the rating agency call did do for a while, rather than to analyze risk.

I later had an opportunity to meet a recently retired senior executive at one of the large rating agencies. I asked him how his agency went about evaluating the credit worthiness of the investment banks. By then Merrill had acknowledged large losses, so I asked him what the rating team found when it went to examine Merrill's portfolio in detail.

He answered by asking me to refocus on what I meant by "team." He told me that the group covering the investment banks was only three or four people and they have to cover all of the banks. So they have no team to send to Merrill for a thorough portfolio review. He explained that the agency doesn't even try to look at the actual portfolio because it changes so frequently that there would be no way to keep up.

I asked how the rating agencies monitored the balance sheets so that when an investment bank adds an asset, the agency assesses a capital charge to ensure that the bank doesn't exceed the risk for the rating. He answered that they don't and added that the rating agencies don't even have these types of models for the investment banks.

I asked what they do look at. He told me they look mostly at the public information, basic balance sheet ratios, pretax margin, and the volatility of pretax margin. They also speak with management and review management risk reports. Of course, they monitor Value-at-Risk.

I was shocked by this and I think that most market participants would be surprised, as well. While the rating agencies don't actually say what work they do, I believe the market assumes that they take advantage of their exemption from Regulation FD to examine a wide range of non-public material. A few months ago I made a speech where I said that rating agencies should lose the exemption to Regulation FD so that people would not over rely on their opinions.

The market perceives the rating agencies to be doing much more than they actually do. The agencies themselves don't directly misinform the market, but they don't disabuse the market of misperceptions - often spread by the rated entities - that the agencies do more than they actually do. This creates a false sense of security and in times of stress this actually makes the problems worse. Had the credit rating agencies been doing a reasonable job of disciplining the investment banks - who unfortunately happen to bring the rating agencies lots of other business - then the banks may have been prevented from taking excess risk and the current crisis might have been averted.

The rating agencies remind me of the department of motor vehicles in that they are understaffed and don't pay enough to attract the best and the brightest. The DMV is scary, but it is just for mundane things like drivers licenses. Scary does not begin to describe the feeling of learning that there are only three or four hard working people at a major rating agency judging the creditworthiness of all the investment banks and they don't even have their own model.

The second watchdog to talk about is the SEC. In 2004, the SEC instituted a rule titled, "Alternative Net Capital Requirements for Broker-Dealers That Are Part Consolidated Supervised Entities." In hindsight, as you will see, an alternative name for the rule might have been the "Bear Stearns Future Insolvency Act of 2004."

The purpose of the new rule was to reduce regulatory costs for broker-dealers by allowing large broker-dealers to use their own risk management practices for regulatory purposes. According to the SEC website, very large broker-dealers had the opportunity to volunteer for additional oversight and confidential disclosure to the SEC and, in exchange, would be permitted to qualify for "the alternative capital computation method."

While the SEC did not say that the alternative capital computation method would increase or decrease the capital requirements, the rule says that "deductions for market and credit risk will probably be lower under the alternative method." Obviously, since this appears to be the carrot offered to accept additional supervision, and I believe that all of the largest broker-dealers have elected to participate, I think it is reasonable to speculate that the rule enabled brokers to lower their capital requirements.

Under this new method, the broker-dealer can use “mathematical modeling methods already used to manage their own business risk, including value-at-risk (VaR) models and scenario analysis for regulatory purposes.” It seems that – the SEC allowed the industry to adopt Value-at-Risk as a principal method of calculating regulatory capital. Unfortunately, it gets worse.

In the new rule the SEC also said, “We are amending the definition of tentative net capital to include securities for which there is no ready market...This modification is necessary because, as discussed below, we eliminated the requirement that a security have a ready market to qualify for capital treatment using VaR models.” Without the modification, the no ready market securities would have been subject to a 100% deduction for capital purposes.

Is it any wonder that over the last few years the industry has increased its holdings of no ready market securities? In the rule itself, the SEC conceded, “inclusion in net capital of unsecured receivables and securities that do not have a ready market under the current net capital rule will reduce the liquidity standards...”

These adjustments reduced the amount of required capital to engage in increasingly risky activities. The SEC estimated at the time the rule was proposed that the broker-dealers taking advantage of the alternative capital computation would realize an average reduction in capital deductions of approximately 40%. From my reading, the final rule appears to have come out even weaker, suggesting that the capital deductions may have been reduced even further.

Obviously, since the rule was implemented, the broker-dealers have modified their balance sheets to take advantage of the new rules. They have added lots of exposure to low-return bonds with credit risk perceived to be beyond the Value-at-Risk threshold, and they have added more no ready market securities – including whole loans, junior pieces of structured credit instruments, private equity and real estate.

If this wasn't enough, the 2004 rule also changed what counts as capital: “In response to comments received, the Commission has expanded the definition of allowable capital...to include hybrid capital instruments and certain deferred tax assets.” The rule also permits the inclusion of subordinated debt in allowable capital. The SEC permitted this because “it has many of the *characteristics* of capital.” I find this one particularly amazing; apparently it doesn't actually have to be capital. For everyone else except the broker-dealers, subordinated debt is leverage. The commission considered but stopped short of allowing the broker-dealers to count all long-term debt as capital.

In reading through the rules and the SEC's response to comment letters, it seems that the SEC made concession after concession to the large broker-dealers. I won't bore everyone by describing how the rule eased the calculations of counter-party risk, maximum potential exposures and margin lending or how the rule permitted broker-dealers to assign their own credit ratings to unrated counter-parties.

My impression of this is that the large broker-dealers convinced the regulators that the dealers could better measure and monitor their own risks and with fancy math could show that the dealers could support more risk with less capital. I suspect the SEC took the point of view that these were all large, well-capitalized institutions, with smart sophisticated risk-managers that had no incentive to try to fail and gave the industry the benefit of the doubt.

In the cost-benefit analysis of the rule, on the benefit side the SEC estimated the “value” to the industry by taking advantage of lower capital charges to earn additional returns. In the “cost” part of the analysis the SEC carefully analyzed the number of hours and related expense of the monitoring and documentation requirements and IT costs. It did not discuss the cost to society of increasing the probability that a large broker-dealer could go bust.

I don’t know what the effect of the new rules was on Bear Stearns. The information the broker-dealers provide the SEC to show their compliance with these regulatory capital requirements is confidential. It would be interesting to know how adequately capitalized Bear and other large broker-dealers would have been under the rules as they existed before 2004.

In response to this possible regulatory failure, Christopher Cox, the SEC Chairman, said last week that this current voluntary program of SEC supervision should be made permanent and mandatory. Reuters reported that Cox said that the current value of the SEC supervisory program “can never be doubted again.”

Rather than looking at its own rules which permitted increased leverage, lower liquidity, greater concentrations of credit risk and holdings of no ready market securities, the SEC is conducting an investigation to see if any short-sellers caused the demise of Bear by spreading rumors.

Of course, Bear didn’t fall because of market rumors. It fell because it was too levered and had too many illiquid assets of questionable value and at the same time depended on short-term funding. With the benefits of the reduced capital requirements and reliance on flawed Value-at-Risk analysis, Bear – like the other investment banks – increased its risk profile over the last few years.

While Value-at-Risk might make sense to the quants, it has led to risk taking beyond common sense. If Bear’s only business was to have \$29 billion of illiquid, hard-to-mark assets, supported by its entire \$10.5 billion of tangible common equity, in my view, that by itself would be an aggressive investment strategy. However, as of November 2007, that sliver of equity was also needed to support an additional \$366 billion of other assets on Bear’s balance sheet.

When Bear’s customers looked at the balance sheet and also noticed the increased cost of buying credit protection on Bear, they had to ask themselves whether they were being compensated for the credit risk and counter-party risk in doing business with Bear.

Many decided that they weren't and did the prudent thing to protect their own capital and curtailed their exposure. Bear suffered a classic "run on the bank".

When I came up with the title for this discussion, it was before Bear Stearns failed. I was going to point out that we were developing a system of very large, highly levered, under-capitalized, financial institutions including the investment banks, some of the large money center banks, the insurance companies with large derivatives books and the GSEs. I planned to speculate that regulators believe all of these are too big to fail and would bail them out, if necessary. The owners, employees and creditors of these institutions are rewarded when they succeed, but it is all of us, the taxpayers, who are left on the hook if they fail. This is called private profits and socialized risk. Heads, I win. Tails, you lose. It is a reverse-Robin Hood system.

In any case, with the actual failure and subsequent bail-out of Bear Stearns – and regardless of what our leaders told Congress last week, it is a bail-out under any definition – I am shifting the subject of this talk from a potential bailout to the real live thing.

Some would say that it wasn't a bail-out, because the shareholders, including the risk-taking employees, lost most of their money, so they were properly punished and the system is intact. However, the problem is that we don't have an equity bubble. In fact, the equity markets seem to be functioning fine with a good number of excellent companies at reasonable valuations. What we do have is a credit bubble and the Bear Stearns bailout has reinforced the excessive risk taking and leverage in that arena.

Specifically, the bailout preserved the counter-party system. The government appears to have determined that the collapse of a single significant player in the derivatives market would cause so much risk to the entire system that it could not be permitted to happen. In effect, the government appears to have guaranteed virtually the entire counter-party system.

The message is that if you are dealing with a major player – anyone in the "too big to fail" group – you don't have to worry about that player's creditworthiness. In effect, your risk is with the U.S. Treasury. The government does not want customers of the next Bear Stearns to have to evaluate its creditworthiness, find it lacking and determine that exposure needs to be curtailed, creating a run on another bank.

The next question is whether the bail-out was a good idea. It really comes down to Coke vs. water. If you are thirsty you have choices. Coke tastes better and provides an immediate sugar rush and caffeinated stimulus, while quenching thirst. Water also quenches thirst, but it isn't as stimulating. It purifies your body. It doesn't make you fat and is much better for your long-term health.

One of the things I have observed is that American financial markets have a very low pain threshold. Last fall with the S&P 500 only a few percent off its all time high prices after a multi-year bull market, certain TV commentators and market players were having daily tantrums demanding that the FED give them the financial equivalent of

Coke. Other parts of the world endure much greater swings in equity values without demanding relief from central planners.

The FED responded by providing liquidity and lower rates. Even so, the crisis deepened. So, now they have introduced the Big Gulp, also known as the Bear Stearns bailout, and an alphabet soup of extraordinary measures to support the current system. If that doesn't turn the markets, they are threatening the financial equivalent of having the water utilities substitute Coke for water throughout the system.

Last week Mr. Bernanke told Congress that he hopes that Bear Stearns is a one-time thing. In the short-term, it might be. If market participants accept as an article of faith that the FED will bail them out, it reinforces risk-taking without the need for credit analysis. As night follows day, it is certain that in the absence of tremendous government regulation, this bailout will lead to a new and potentially bigger round of excessive risk-taking. If Mr. Bernanke is unlucky, the pay-back may come later in this cycle. If he is lucky it will come in the next cycle.

Since the government is now on the line for the losses, there is a strong public interest in increased supervision which should result in dramatically higher capital requirements for the major players. Additionally, regulators should consider dismantling the counter-party system so that the market can survive the failure of a big player. One step could be to require the posting of all derivative trades, clearing them through a central system and regulating margin requirements.

In discussing what I wanted to talk about, Jim said that investors want CUSIPs – actual things to invest in. So how are we playing this? First off, we have been adding to our long exposure in high quality companies with low valuations that have little, if any, financial leverage. The leading examples in our portfolio are Microsoft and Target and a variety of foreign cyclical companies trading at prices that more than discount the likelihood that the world is headed for a serious downturn. My favorite names are Arkema and Vicat in France, Lanxess in Germany, Nyrstar in Belgium and Honam Petrochemical in Korea.

On the short side we remain short credit sensitive financials, though not as short as we were a couple months ago. It is hard for me to see how the rating agencies survive this debacle with their franchises intact. When the authorities get beyond the “keeping the fingers in the dike” part of the crisis and shift to figuring out what we need to do to prevent the next crisis, reducing the role of the rating agencies has to be toward the top of the list. Every day that MBIA credit default swaps trade at four digit spreads and the rating agencies insist its insurance subsidiary is AAA undermines rating agency franchise values. Greenlight is short the rating agencies and MBIA.

And finally, I'll offer a few words about Lehman Brothers, another stock which Greenlight is short. Lehman's management is charismatic and has almost cult-like status. Lehman management gets tremendously favorable press for everything from handling the 1998 crisis to supposedly hedging in this crisis to not playing bridge while the franchise implodes.

From a balance sheet and business mix perspective, Lehman is not that materially different from Bear Stearns. Lehman entered the crisis with a huge reliance on US fixed income, particularly mortgage origination and securitization. Lehman is different from Bear in that it has greater exposure to commercial real estate and its asset management franchise did not blow-up. Incidentally, neither Bear nor Lehman had enormous on balance sheet exposure to CDOs.

At the end of November, Lehman had Level 3 assets and total assets of about 2.4 times and forty times its tangible common equity, respectively. Even so, at the end of January Lehman increased its dividend and authorized the repurchase of 19% of its shares. In the quarter ended in February, Lehman spent over \$750 million on share repurchases, while growing assets by another \$90 billion. I estimate Lehman's ratio of assets to tangible common equity to have reached forty-four times.

There is good reason to question Lehman's fair value calculations. It has been particularly aggressive in transferring mortgage assets into Level 3. Last year, Lehman reported its Level 3 assets actually had \$400 million of realized and unrealized gains. Lehman has more than 20% of its tangible common equity tied up in the debt and equity of a single private equity transaction – Archstone-Smith, a REIT purchased at a high price at the end of the cycle. Lehman does not provide disclosure about its valuation, though most of the comparable company trading prices have fallen 20-30% since the deal was announced. The high leverage in the privatized Archstone-Smith would suggest the need for a multibillion dollar write-down.

Lehman has additional large exposures to Alt-A mortgages, CMBS and below investment grade corporate debt. Our analysis of market transactions and how debt indices performed in the February quarter would suggest Lehman could have taken many billions more in write-downs than it did. Lehman has large exposure to commercial real estate. Lehman has potential legal liability for selling auction rate securities to risk averse investors as near cash equivalents. Lehman does not provide enough transparency for us to even hazard a guess as to how they have accounted for these items. Lehman responds to requests for improved transparency begrudgingly. I suspect that greater transparency on these valuations would not inspire market confidence.

Instead of addressing questions about its accounting and valuations, Lehman wants to shift the debate to where it is on stronger ground. It wants the market to focus on its liquidity. However, in my opinion the proper debate should be about the asset values, future earning capabilities and capital sufficiency.

Last week Lehman raised \$4 billion of new capital from investors thereby spreading the eventual problems over a larger capital pool. Given the crisis, the regulators seem willing to turn a blind-eye toward efforts to raise capital before recognizing large losses – this holds for a number of other troubled financial institutions. The problem with 44 times leverage is that if your assets fall by only a percent, you lose almost half the equity. Suddenly, 44 times leverage becomes 80 times leverage and confidence is lost. It is more practical to raise the new equity before showing the loss. Hopefully, the new investors understand what they are buying into, even though there

probably isn't much discussion of this dynamic in the offering memos. Some of the Sovereign Wealth Funds that made these types of investment last year have come to regret them.

Lehman wants to concentrate on long investors. Lehman went to great lengths to tell the market that it sold all of its recent convert issue to long-only investors. Putting aside the fact that some of the clearing firms have told us that this wasn't entirely true, companies that fight short sellers in this manner have poor records. The same goes for companies that publicly ask the SEC to investigate short selling, as Lehman has done. There is good academic research to support my view on this point.

As I have studied Lehman for each of the last three quarters, I have seen the company take smaller write-downs than one might expect. Each time, Lehman reported a modest profit and slightly exceeded analyst estimates that each time had been reduced just before the public announcement of the results. That Lehman has not reported a loss smells of performance smoothing.

Given that Lehman hasn't reported a loss to date, there is little reason to expect that it will any time soon. Even so, I believe that the outlook for Lehman's stock is dim. Any deferred losses will likely create an earnings headwind going forward. As a result, in any forthcoming recovery, Lehman might under-earn compared to peers that have been more aggressive in recognizing losses.

Further, I do expect the authorities to require the broker-dealers to de-lever. In my judgment a back-of-the-envelope calculation of prudent reform would require 50-100% capital for no ready market investments, 8-12% capital for what the investment banks call "net assets," 2% capital for the other assets on the balance sheet and an additional charge that I don't know how to quantify for derivative exposures and contingent commitments. Only tangible equity, not subordinated debt should count as capital. On that basis, assuming that Level 3 assets are a good proxy for no ready market investments, assigning no charge for the derivative exposure or contingent commitments, and assuming its asset valuations are fairly stated, based on the November balance sheet, Lehman would need \$55-\$89 billion of tangible equity, which would be a 3-5 fold increase.

So what do I expect to happen? I just finished a book on Allied Capital and the lack of proper and effective regulatory oversight. Based on my book and the current regulatory environment, the pessimistic side of me says that regulators will probably decide to send me a subpoena and send Lehman a Coke.