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The Gaming of Games and the Principle of Principles

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Averting a potential arms race in Mahwah

In 2011, the New York Stock Exchange opened a new outpost in Mahwah, New Jersey, a bucolic township of 25,000 inhabitants about an hour's drive north of Wall Street. One reason for creating the facility was pretty standard. Trading technology infrastructure takes up a lot of space, so moving it from expensive Manhattan to low-cost Mahwah saves money for the exchange. But another reason for the move was more novel. The New York Stock Exchange (NYSE) built the facility big enough to lease out space to third parties that derived new revenue in addition to the cost savings. But who on earth wants to lease space in an NYSE facility in rural New Jersey? Turns out, finding takers was not a problem. In fact, trading firms were very eager for the opportunity. These firms understood that having their server in close proximity to the NYSE's servers created a speed advantage; it meant that trades from their co-located servers would reach the NYSE's servers a few milliseconds faster than trades from servers not in the facility.

It was a nice moneymaker for the NYSE because the rents were steep by rural New Jersey standards. But the NYSE immediately had a challenge: how would it allocate space within the facility? Some server bays were closer to the NYSE server and so had fractional time advantages over those that were farther away. Should the exchange auction off the real estate by location? Should the bay immediately beside the NYSE server cost five times the bay near the back door? Or should it be ten times? Any tiered pricing approach was likely to create an arms race within the building, which would be unseemly. No, the clever folks at the NYSE came up with a better solution. Regardless of where lessees were located within the facility, their servers would be connected to the NYSE servers

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with cables of equal length even if that meant coiling cables inefficient lengths. There would be no arms race within their facility![1]

There is some fractured logic at work here. The NYSE obsessed about making sure that those who paid a special price for preferential placement in the trading queue were all equally advantaged and experienced profound fairness. But the exchange seemed utterly uninterested in a more profound unfairness – the fact that any trader not paying to rent space in the NYSE facility was distinctly disadvantaged.

Why does any of this matter? It matters because of the nature of modern trading. The bustling trading floor of popular imagination is no more. As much as 70 percent of the trading on the NYSE is now high-frequency trading in which a computer makes trading decisions based on miniscule arbitrage opportunities in market prices, and shares are often held for fractions of a second.[2] For this type of trading, getting your order to the front of the trading queue is not the most important thing – it is the only thing.

That is why Spread Networks invested hundreds of millions of dollars to build a fiber-optic link along the shortest route between the NYSE and the Chicago Board of Trade (CBOT). The link cut transmission time to an estimated 13.3 milliseconds. But that is a proverbial slow boat to China compared to the two microwave networks under construction, which promise to cut the time to 8–9 milliseconds because microwave is more direct than a fiber-optic cable.[3]

Why does all of this infrastructure investment make economic sense? If traders using it can get their orders in a millisecond faster than the hoi polloi, they have a proverbial license to print money. Even a small technology advantage can translate into billions of dollars in trading profits.

It is all part of playing our emergent global economic game.

The beauty of the 'Repo 105'

So too was the accounting approach Lehman Brothers used in the lead up to its catastrophic crash and bankruptcy filing on September 15, 2008.[4] Even though Lehman was getting into ever-deeper financial distress, its quarterly financial statements did not look particularly bad. Lehman was able to camouflage its decline by using repurchase agreements, specifically the now-infamous "Repo 105" vehicle. Repo 105 is a legitimate accounting technique that allows a firm to classify a short-term loan as a sale. Lehman used these repurchase agreements extensively. At the end of a quarter, Lehman took out a massive short-term loan (as much $50 billion in the second quarter of 2008), classified it as a sale, and used the loan to pay down its debt. So, its balance sheet looked just fine unless one scrutinized the footnotes very, very carefully.

After the quarterly statements were released, blessed by Lehman's Big Four audit firm and its Magic Circle legal advisor, Lehman repaid the short-term loan and reinflated its long-term debt. The public remained largely unaware of Lehman's precarious financial state and the methods it was using to stay afloat in the short term. This was all perfectly legal – Lehman scrupulously followed the letter of the law regarding Repo 105. Lehman and its advisors were playing the game using all the tools available to them.

The coming of earnings manipulation

Finally, consider the quarterly dance between CEOs and stock analysts. While it may seem that the back-and-forth of earnings guidance and consensus estimates has long been a fixture of our capital markets, it actually has not been around for terribly long. In the 1960s and 1970s, analysts did not matter all that much. Variability between estimates and the challenge of picking between them diminished their perceived value. But by 1983, when Jeff Parker created First Call to aggregate analysts' forecasts into "consensus estimates," analysts were coming of age. The consensus estimate – a single, easily understood and widely disseminated number – had the potential to reduce uncertainty and make investment decisions much easier. No wonder, after Parker sold First Call to information giant Thomson Corporation, the consensus estimate became a central feature of the capital markets.

A decade later CEOs were freed up to provide guidance to the capital markets on upcoming earnings. The Private Securities Litigation Reform Act of 1995 facilitated the making of "forward-looking statements" by CEOs. All a CEO had to do was note that the information was being shared under the Safe Harbor Provision of the Act, which warned investors that the CEO was indeed speculating on what might happen in the future.

Protected by Safe Harbor, CEOs began to spend a lot of their time and energy on providing guidance. And they got really good at it. Before 1995, US publicly traded companies beat their consensus estimates 50 percent of the time, as one should expect given the random nature of economic activities. By 1997, they were able to meet or beat consensus estimates an impressive 70 percent of the time.[5]Such accuracy suggested that CEOs began to use the Safe Harbor Provision and the guidance it allowed to influence or "manage" expectations down to a level they could beat.

Beating guidance became ever more important; regardless of the absolute level of performance, a stock performs better if the company meets or beats analyst earnings expectations.[6] A number of CEOs became quick studies in earnings management, but some were quicker than others. During the heart of Jack Welch's CEO tenure at General Electric (between December 1989 and September 2001), GE met or beat analysts' consensus estimates 46 out of 48 quarters.[7] And Bill Gates did Welch one better. In Microsoft's first 42 quarters after going public, it beat analysts' consensus estimates 41 times – which has a 1 in 100 billion probability of happening randomly.[8]

Endangering the health of the host

Co-located trading servers, Repo 105's, and earnings management are but three examples of gaming the modern capital markets. In each case, the rules of the game were followed. There was no rule that said the NYSE could not rent out space in its facility and hard-wire traders directly to its servers. There were rules about Repo 105 transactions and according to the finest auditors and lawyers on the planet, Lehman was following those rules. And allowing CEOs to make forward-looking statements that cause analysts to adjust their earnings estimates in a way that those CEOs prefer? That too was perfectly legitimate and condoned explicitly by the Safe Harbor Provision in the US law.

So what is the concern then? The fundamental problem is that this kind of gaming threatens the underlying game. It makes the game unfair, unreliable, and unsustainable. And, for all of us, that is deeply dangerous.

The underlying game here is business, and it is a truly important game. Business is the game in which companies supply real and valued products or services to customers. Business is the game that generates value for customers, jobs for employees, and returns for investors. Done well, it creates net wealth and prosperity for society. The functioning of this game is central to the well-being and prosperity (or lack there of) of every country on the planet.

The game is threatened if businesses, aided and abetted by prominent auditors and lawyers, hide mountains of debt from investors by using obscure accounting provisions. It is threatened if stock analysts are manipulated by CEOs using the Safe Harbor Provision and if CEOs spend more time shaping analysts' expectations than running their business.It is threatened by unequal access in which some firms have preferential and tangible speed advantages over others in the zero-sum game of stock trading.

These techniques may be profitable and enjoyable for the gamers – the high-frequency traders, the hedge funds, and the stock-compensated CEOs – but they cannot exist without the underlying game. Yet, as these gamers parasitically feed off the game of business, they seem blissfully unaware that if they destroy the game, then they will destroy themselves too.

This, of course, is not a controversial premise. George Akerlof wrote about the collapse of markets in 1970 in his famous "Market for Lemons" paper[9] for which he won a share of the Nobel Prize in Economics. Akerlof explains that if participants fear there are enough "lemons" lurking undetected in their market, they can and will abandon the market entirely and it will collapse.

However, when I suggest to current capital market players that gaming places the system at risk, they argue that there has always been gaming. They assert that there has always been a race to get an information speed advantage over competitive traders, pointing to the Rothschild family's fabled carrier pigeons. Their pigeons brought back early news of Napoleon's defeat at Waterloo that enabled the Rothschild's to make huge profits by trading before those with whom they were trading knew the outcome of the battle.

True, there always has and always will be gaming. It is part of the cycle of innovation. But there is a huge difference between a situation in which a clever trader generates and takes advantage of proprietary information related to a single event and the systematic use of an advantage by a special group of traders for every single transaction on every single day. And there is a difference between working hard to get proprietary information versus having the same information as everyone else but being able to use it more quickly on a consistent basis.

The same folks argue that there have always been incidents of aggressive accounting that may cross the line into fraudulent accounting. But contemplate the recent escalation in scale and scope, such as Waste Management's cumulative misstatement between 1992 and 1997 that broke the billion dollar fraud barrier, coming in at a whopping $1.7 billion.[10] And following that, in quick succession, were the multi-billion dollar accounting frauds at Enron, Adelphia, Global Crossing, Quest, Tyco, WorldCom, Royal Ahold, and Parmalat. Despite the passage of Sarbanes-Oxley, multi-billion dollar fraud proceeds apace, including the aforementioned Lehman Brothers. Investors and employees whose pensions often depend on it, hope but no longer trust that the accounting is fair and honest.

Finally, folks sometimes argue to me that CEOs have always manipulated earnings to improve their personal compensation. Indeed, I am sure they have. But prior to 1980, there was close to zero stock-based compensation for CEOs; the incentive to manipulate earnings was tiny compared to the incentive in the post-1980 period, when stock-based compensation burgeoned. Suddenly, earnings manipulation had potentially huge payoffs. How widespread is earnings manipulation? For a 2005 article, finance professors John Graham, Campbell Harvey, and Shiva Rajgopal surveyed 400 financial executives from large US public companies and found that a majority of them agreed that in order to meet the current quarter's analyst consensus earnings, they would defer or cancel attractive projects.[11] The effects of earnings manipulation are very real, and they are growing.

Games, rules, and behaviors

All games need rules, including economic games like trading, accounting, and compensation. The prevailing view of our economic games seems to be, so long as there are rules and they are enforced, then the game will be just fine. Gamers might manipulate the rules in their favor, but they will not damage the game in any meaningful ways.

But gaming is not a stable phenomenon. It is a dynamic, self-reinforcing system. Clever innovators figure out an initial way to game the game. Then, everybody watching replicates that gambit, eliminating the initial advantage. So, the cleverest gamers realize that they have to take their gaming to the next level. This is eventually matched, which produces the next level of gaming, and so on. That is why there is a 70 percent share for high-frequency trades and billions of dollars spent on ultra-high-speed trading networks; it is why there is not just the occasional repurchase agreement but $50 billion of Repo 105s for a single company; and it is how leading companies can manage earnings and analysts to get to utterly unnatural performance records.

The more important the game, the more dedicated the gamers. The capital markets have become by far the biggest economic game in the world. For that reason, the most motivated gamers are focusing on it – and succeeding. The biggest gamers in the world are the hedge fund managers, and they have quickly become the most potent economic force in America (at least).

The annual Forbes 400 list of the richest Americans is the chronicler of wealth in America. Historically, the most common way to get on the list was to build an oil and gas, retailing, media or real estate empire. In the 1990s, the new way was to have built a technology empire, like Bill Gates, Larry Ellison, or Paul Allen. In 2000, these men held down spots one through three, respectively, and led the record 87 members of the list who had built their fortunes by way of a technology company. The media clan was next with 59 members.

But the 2000 list also heralded the arrival of a new kind of billionaire. These were hedge fund managers, who made their fortunes in the trading game. Four hedge fund managers made the list that year, with one in the top 200 (George Soros at #50). Since 2000, the rise of hedge funds has been nothing short of spectacular. There are 35 hedge fund managers on the 2012 list, closing in on technology empires with 43 (down dramatically from the 2000 technology heydays). The growth in hedge fund managers was highest by far of any source of wealth.

Conventional wisdom says this is just fine, a small and natural evolution of the market. Yet, shortly the best way to become wealthy in America will be to trade other people's money. This is a zero-sum game in which a dollar made by a hedge fund manager is a dollar lost by someone else. Hedge funds exist to trade value rather than build it. A technology company creates value when it offers a new product that has sufficient value that customers pay more than it costs to produce. That is a positive-sum game in which both customers and the company are better off. A shift to trading rather than building as the best way to gain wealth is a profound change to the structure of our game.

The bigger and more powerful these players become the greater risk they pose to our shared game. Even now, they seem prone to push the rules to the breaking point. The Raj Rajaratnam scandal exposed the unseemly world of "expert networks" in the hedge fund industry. Rajaratnam peaked at #236 on the 2009 Forbes 400 list thanks to the performance of his hedge fund, Galleon Group. It was found to have used insider information from, among others, the former managing director of McKinsey & Company, Rajat Gupta, who used the information from public company board meetings to supply insider information to Rajaratnam. Both men and other associates were convicted of insider trading.[12]

Stephen Cohen, listed at #40 on the 2012 Forbes list, and members of his current and former SAC Capital team, were and are being investigated for pushing past the boundaries of the acceptable into the illegal. While Cohen himself has not yet been convicted of an offense, numerous current or former employees were either convicted of or pleaded guilty to insider trading charges.[13]

Rules alone do not protect a game, even if they are rigorously enforced. A fixed set of rules will not stop the gamers from gaming, because the world changes and games evolve. A rigid adherence to a single, unchanging set of rules by some players simply offers more power to those inclined to game the game. Powerful players will use their enemies' rules to exploit them and not even overwhelming force will ever stop them. It is almost enough to make one give up on rules entirely. But a market free-for-all is clearly not the answer either.

Gaming, tweaking, and principles

No, the only solution is to accept that the game you love will always be gamed by the most dedicated, talented, and ruthless gamers. Do not attempt to set, maintain, and enforce a perfect set of rules. Rather, adjust them continuously to counteract the gaming. The key is not the rules themselves, but the principles that guide the continuous adjustment of the rules.

The National Football League (NFL) provides an excellent example on this front. It has always had rules, and at any given point in time, a very specific set of them. It enforces them rigorously but at the same time understands that they will be gamed by particularly clever coaches. So, annually it tweaks the rules of the game to make sure that the gaming does not endanger the game.

Regularly tweaking the rules is critical to success, but the question is how to tweak? The tweaking needs to be guided, at all times, by an unwavering set of principles. As the rules evolve, the principles must remain steadfast.

In the case of the NFL, the guiding principle is what is best for the fans; not what is best for the owners or even for the players. The owners might think: We own the teams; our interests should come first. But it does not matter how much owners' interests are theoretically privileged, owners will not benefit if the fans are not delighted. When the NFL's Competition Committee meets at the end of every season to consider tweaking the rules, the fan experience comes first. Whether they tweak the rules to keep the offense and defense in balance, or to protect star players from injury, or to maintain competitive balance between teams; the core principle is that if the fans' interests are upheld, everything else largely takes care of itself.

In this system, those who innovate within the current set of rules are able to benefit for a time, but not forever, from the fruits of their innovation. If an innovator, for example, figures out how to enable the offense to gain an advantage over the defense, as did legendary offensive genius Bill Walsh, or the reverse, as did legendary defensive genius Bill Parcells; the Competition Committee will figure out how to rein in that advantage, even though it was created in a perfectly legal fashion.

The Committee does not delay taking action because it is reluctant to undermine a perfectly legal innovation. It does not believe that the current rules are somehow sacrosanct. It tweaks quickly, in small ways as necessary to protect the fan experience. That is its guiding principle.

The principle of principles

Rules cannot stop the gamers from gaming. We should stop thinking that they can. Principles that guide us to tweak the rules appropriately are the only thing that can protect the precious games in our economy. That is why we must be guided by the principle of principles, which holds that every game will be gamed and because of that, we need to be prepared to continuously tweak the rules of the game to protect it against the forces that wild destroy it. But what principles? Being guided by crummy principles is hardly an advantage over being controlled by inflexible rules. The American obsession with the principle of shareholder value maximization is a perfect illustration. It is a crummy principle that has aided the gamers in undermining American capitalism. So what are the principles that should guide us in protecting and enhancing modern democratic capitalism?

I do not propose to have the full answer. This is a project to which I, and others, will be turning in earnest over the next few years. But to get the thinking started, I offer four principles, helpfully supported by the greatest management thinker of the past century.

First, I believe that if the principle that the customer comes first holds, it is more likely to nurture healthier economic games that produce greater societal value. Putting the fans first has helped the owners and players succeed in the NFL. One might think that if owners put owners first, they would experience the greatest success. But the league recognizes that teams will die quickly without committed fans, regardless of the owners' interests. If fans are happy, owners will do well. It does not work so well the other way around.

Yet, the capital markets increasingly put investors first. The capital markets are merely an aggregation of individual companies who trade on stock exchanges and, at the individual company level, it may seem at first blush that putting shareholder value first is the best for shareholders, but it is not. Putting customers first is the best way for shareholders of an individual company to prosper.

In the long run, investors are best off when companies grow and succeed; that is what maximizes stock values. If the focus is on making the stock markets work wonderfully for investors, rather than on helping companies raise equity, manage their operations, and serve customers for the longterm; then investors will actually suffer. Artifacts like mandatory quarterly reporting, and incredibly complicated and legalistic requirements for issuing treasury stock might seem sensible if not optimal if investors come first. But if instead issuers come first as the true customers of stock markets, I believe that the market will be better off.

Putting customers first is not, of course, new. Peter Drucker said 60 years ago, that "the purpose of a company is to create a customer."[14] Then it may have been a novel and controversial idea, but it should not be today.

Second, I believe that if we seek integrative solutions on principle; we will be more likely to prosper. Currently, integrative thinking is not the core principle of the modern world or of capitalism or of capital markets. Our world operates instead on the principle that deep and narrow specialization is the most important capacity to pursue and to value. As long as that is the case, we will produce narrow answers that do not take advantage of understanding the whole. Since the world is complex and interrelated, we build simplified models of it in order to function. Nowhere do we do that more than in the capital markets. Yet, when we operate on the basis of these narrow models, avoiding complexity and confusing them with reality, we get into trouble. The less integrative our thinking, the more capital market crashes we will produce, as in 2008, on the basis of financial models that look only at pieces of the true financial picture.

The more integrative our thinking, the more our models will be consistent with the way the world actually works and the better chance they will produce results that we actually need and want. Again, this is not new. Peter Drucker has long held this to be the case and said so in addressing an audience at the Rotman School in 2002: "There are no tax problems, there are only business problems…There are no marketing decisions, there are only business decisions…There are no specialty results, there are only business results."[15]

Third, we should hold as a principle that we seek sustainability. If instead, as was the case leading up to the financial crisis, the principle is that we should do whatever is doable until the music stops, we will get utterly unsustainable games (like the subprime mortgage bubble) that crash spectacularly. Similarly, if companies believe that they need not be concerned with environmental sustainability and are not required by the capital markets to pay attention to it, company performance will only prosper until such time as the ecology collapses, and takes business with it.

Once again, Peter Drucker was decades ahead of his time on the sustainability front, arguing famously in 1954 that "what is most important is that management realize that it must consider the impact of every business policy and business action upon society. It has to consider whether the action is likely to promote the public good, to advance the basic beliefs of our society, to contribute to its stability, strength and harmony."[16]

Fourth and finally, we should hold the principle that we support positive-sum games and discourage zero-sum games. Unfortunately, a lot of the opposite goes on – as is the case with private equity taxation. The largest form of private equity, hedge fund management, is entirely a zero-sum game. Hedge fund managers trade financial instruments and when they make a dollar, someone else automatically loses a dollar. They add zero net value to society. Yet, the "carried interest" that they earn as their fee for trading on behalf of the limited-partner investors is taxed at the highly preferential capital gains rate. This represents the use of the tax system to encourage rather than discourage a large and rapidly-growing zero-sum game. Meanwhile income earned by executives who build companies is taxed at the much higher ordinary income rate, which discourages the positive-sum game of growing a real company.

Modern capitalism is increasingly being dominated by the trading of value rather than the building of value. Much if not most of that trading creates no value for society. We need to ensure that zero-sum trading is not favored by our rules but rather is discouraged. When rules are altered, one core principle behind the alteration needs to be the encouragement of positive-sum games.

While Peter Drucker did not use the terminology of positive-sum or zero-sum games, he spoke consistently about the creation of value. He encouraged all managers to ask themselves perpetually "What should my contribution be?" To him, an effective manager was one who focuses his or her work and energy on tasks that create a positive contribution.

In the end, the principle of principles holds that like all games, democratic capitalism will be gamed and because of that, we need to be prepared to continuously tweak the rules of the game to protect it. The rule tweaking must be guided by a set of principles because otherwise, the tweaking will not be likely to maintain a productive and healthy game. The four principles that should guide our tweaking are: the customer should come first, the seeking of integrative solutions, the seeking of sustainability, and the encouraging of positive-sum games. With these principals in mind, democratic capitalism – which I believe is the surest and best route to broad prosperity – can survive and thrive.

Notes

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