

Skinner showed that variable reinforcement rates in his lab animals was able to pound in a behavior better than any other method. But it not the only explanation for gambling. A lottery, for example, gets better play when it uses commitment and consistency tendency to have players pick their numbers as opposed to numbers generated by random. Slot machines do better by employing deprivation super-reaction syndrome: BAR-BAR-LEMON (“near miss” after “near miss.”) -Charlie Munger

This article is part of a [multi-part series](#) on human misjudgment by Phil Ordway, managing principal of [Anabatic Investment Partners](#).

Update

Prospect Theory and loss aversion are especially prevalent in this arena. To counter this tendency, consider the **“base rate.”** Some gamblers may not want to understand their true odds - see below - but for others, it would really **help to avoid the “I’m due” or the “breakeven” fallacies** if they understood independent events and the baseline rates of the probabilities in the various casino games. How many gamblers would sit down to gamble - or would continue gambling, or would double down on losses - if they truly, deeply understood that dice throws are independent events?

Addiction by Design: Machine Gambling in Las Vegas by Natasha Dow Schüll is a powerful book. It was also recommended to me by a friend of a Zurich attendee last year who happened to get on my “good reading” list. In any case, a passage from the introduction will serve as a preview. It describes “the machine zone,” a trancelike state manufactured by the gambling companies. The key element isn’t competition or winning or social feedback, all features of what I associated with traditional casino gambling. Video gamblers want “disassociation” and talk about “numbness or escape” or “climbing into the screen and getting lost” or “a magnet [that] just pulls you in and holds you there,” “a trancelike preoccupation in which perpetuating the trance was reward enough.”

“When I ask Mollie if she is hoping for a big win, she gives a short laugh and a dismissive wave of her hand. ‘In the beginning there was excitement about winning, but the more I gambled, the wiser I got about my chances. Wiser, but also weaker, less able to stop. Today when I win—and I do win, from time to time— I just put it back in the machines. The thing people never understand is that I’m not playing to win.’ Why, then, does she play? ‘To keep playing— to stay in that machine zone where nothing else matters...It’s like being in the eye of a storm, is how I’d describe it. Your vision is clear on the machine in front of you but the whole world is spinning around you, and you can’t really hear anything. You aren’t really there— you’re with the machine and that’s all you’re with.’”^[49] And gambling companies are acutely aware of this psychological tendency - they’re designing electronic games explicitly to exploit it. Electronic games have evolved from afterthoughts - stodgy slot machines tucked in the corner - to elaborate systems that occupy premier real estate and generate much of the casinos’ profits. “A panel of representatives from the gambling industry had

gathered from around the country to speak on the profit-promising future of machine gambling. Echoing Mollie's wish to stay in the machine zone, they spoke of gamblers' desire for 'time- on- device,' or TOD. An evolving repertoire of technological capabilities was facilitating this desire. 'On these newer products, they can really get into that zone,' remarked a game developer from a top manufacturing company. Like Mollie, the industry panelists were invested in the zone state and its machinery...the solitary, absorptive activity can suspend time, space, monetary value, social roles, and sometimes even one's very sense of existence. 'You can erase it all at the machines— you can even erase yourself,' an electronics technician named Randall told me. Contradicting the popular understanding of gambling as an expression of the desire to get 'something for nothing,' he claimed to be after nothingness itself. As Mollie put it earlier, the point is to stay in a zone 'where nothing else matters.' As machine gamblers tell it, neither control, nor chance, nor the tension between the two drives their play; their aim is not to win but simply to *continue*." And the games do *continue*. "[M]achine gambling is distinguished by its solitary, continuous, and rapid mode of wagering. Without waiting for 'horse to run, a dealer to shuffle or deal, or a roulette wheel to stop spinning,' it is possible to complete a game every three to four seconds. 'It is the addiction delivery device.'" Perhaps gambling addiction researcher Nancy Petry put it best: **"No other form of gambling manipulates the human mind as beautifully as these machines."**

As always, there are multiple factors working together to create this huge result in the rise of machine gambling. "The story of 'problem gambling' is not just a story of problem gamblers; it is also a story of problem machines, problem environments, and problem business practices." And there are plenty of factors in each of those categories that should be familiar from the other tendencies on our list: the passing of the torch between generations (real gambling used to be table games while machines were for old ladies; now everyone is accustomed to screen-based interaction and entertainment); the short-sighted chase for gambling tax revenues driven by politicians with an incentive to plug budget holes by any means necessary, and thereby enabling an explosion of availability with accompanying social proof of every river town and reservation having multiple casinos; the contrast principle inherent in the industry's marketing push as low-stakes gaming rather than high-risk gambling ("The low- stakes devices fit comfortably with the redefinition of gambling as "gaming" by industry spokespeople and state officials who hoped to sway public endorsement of the activity as a form of mainstream consumer entertainment rather than a form of moral failing or predatory entrapment"); and the third-degree removal of association with money - it's not cold hard cash, with all of its ties to actual expenditures, and it's not even little clay chips, but merely "units" on a screen that were linked to a master account, likely funded by a credit card or bank account.

In investing, the problem is no less acute.

"More money has probably been lost by investors holding a stock they really did not want until they could 'at least come out even' than from any other single reason." - Phil Fisher ^[50]

How many **distressed equities** actually produce good returns to outside shareholders? We can probably conjure up some vivid evidence - that also ignites other psychological tendencies - of a security that shot straight up and produced a quick 5x or 10x or 25x return. But out of the thousands and thousands of examples, how often does that actually occur? And in the cases where it does occur, how many investors (or traders) are actually able to capture the return without succumbing to other biases? Setting aside "penny stocks," which is a sloppy term, but considering all microcaps or even all equities, the lion's share of gains is generated by a tiny handful of companies at the top, while the preponderance of companies below that tier are middling at best. So how likely is it that you've found the next 10x microcap turnaround? Or out of all the bankrupt OTC equities trading, how many are American Airlines, GGP, or WR Grace? There is often a flurry of trading on the Pink Sheets, and lots of speculation and rumor-mongering on the message boards, but there is considerable evidence that the base-rate returns for pre-petition equities are horrendous:

"[B]etting on these stocks on average generates large losses... Our sample's median matching-sample-adjusted monthly return is -15%, and market-adjusted monthly return is -14%. The negative abnormal returns do not cluster in a particular year but persist over time. In addition, this finding is...an indication of the poor performance during the Chapter 11 process, which can last from a few months to a few years. It is surprising that investors lose so much money investing in Chapter 11 stocks, even given the fact that shareholders are residual claim holders in bankruptcy. Thus, the finding that Chapter 11 stocks underperform indicates the existence of market frictions. Our explanation for the negative returns is motivated by the Miller (1977) theory, which argues that, when investors have heterogeneous beliefs about the value of a risky asset in a market with restricted short-selling, prices will reflect the more optimistic valuation. After Chapter 11 filings, these stocks are mostly traded on Pink Sheets, which does not require information disclosure to investors. Meanwhile, as the stock ownership data shows, institutional investors dramatically reduce their stock holdings around bankruptcy filings, and more than 90% of the shareholders post-filing are individual investors. Many analysts stop covering these stocks due to the lack of interest from institutional investors. Individual investors are presumably less efficient in gathering information and interpreting the available information (Barber and Odean, 2000). Therefore, the information uncertainty and the divergence of opinion regarding the true value of these stocks increase dramatically after filing. In addition, low institutional ownership produces binding short-sale constraints for these stocks. As a result, the high information uncertainty and binding short sale constraints cause bankrupt stocks to be overvalued."^[51]

I don't doubt that market frictions play a role, but I also doubt the academic authors of that study have talked to many investors/traders who are participating in such situations. I believe that their collective psychological tendencies are a far more important factor than any market frictions. The "smart money" often finds better odds higher up the capital structure (at or near the fulcrum) while retail bagholders are usually 90% or more of the remaining equity. There is often commitment and consistency, social proof, mis-gambling compulsion, and other factors at work in concert. They're not just violating absolute priority and ignoring base rates; they've been lured into a game with an overwhelming amount of

zero-return failures but a few home-run or lottery-ticket profiles that create bias from extra-vivid evidence. That happens in other option-like asset classes and in real lotteries, of course. (There is also good reason to believe that as secured debt and sophisticated distressed analysts proliferate, that future recoveries to pre-petition equity holders could be even lower than the pittance they received on average in prior decades.)

^[49] <http://press.princeton.edu/chapters/i9156.pdf>

^[50] Common Stocks and Uncommon Profits.

^[51] https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1343765