

KIM: Fireworks galore, but Powerball still a lousy “investment”

Mickey Kim
August 27, 2016



I'll admit nobody was more excited than me in January when the Powerball jackpot grew so big it exceeded the billboards' digital capacity of \$999 million. If it seems like these ginormous jackpots are becoming more frequent, you're right. According to an article in *The New York Times*, four of the 10 biggest jackpots in U.S. history have already occurred in 2016, including the \$1.58 **billion** Powerball jackpot on January 13.

Was this the result of the “luck of the draw?” Hardly, it was an “engineered outcome intended to generate mind-boggling big winners,” created by combining math and human nature to “stimulate more gambling.”

State-run lotteries are a huge business in the U.S., generating sales in 2015 of \$73.8 billion. Since only roughly 60% of sales are paid-out as prizes, the remaining 40% is an important source of funds for the 44 states (and D.C.) with lotteries.

Powerball started as Lotto America in 1988 and Mega Millions in 1996 as the Big Game. In 2010 a cross-selling agreement between Powerball and Mega Millions went into effect, resulting in lottery players across the country now having the opportunity to play four times per week, Tuesday and Friday (Mega Millions) and Wednesday and Saturday (Powerball).

The enormous jackpots resulted from redesigns of Mega Millions in 2013 and Powerball in October 2015. Winning the Powerball jackpot requires matching all five white balls plus the red Powerball. By making a small adjustment in the number of white balls (from 59 to 69—*doubling* the available combinations of white balls) and Powerballs (from 35 to 26), Powerball **decreased the odds** of winning the jackpot from an infinitesimal 1 in 175 million to an even more infinitesimal 1 in 292 million (while making it slightly easier to match just the Powerball, which yields the smallest prize).

The “genius” in the redesign, according to a July 2015 piece by Walt Hickey <http://fivethirtyeight.com/features/new-powerball-odds-could-give-america-its-first-billion-dollar-jackpot/> on stats guru Nate Silver's FiveThirtyEight.com (a fascinating website which uses statistical analysis to tell compelling stories about politics, sports, science and economics), was it **increased the odds of future jackpots growing to \$1 billion by 7.5 times**. Sure enough, Hickey's prediction came true within four months of the redesign.

It's fun to fantasize, but the harsh math of lotteries makes them a losing proposition. With states paying out only 60% of sales in prizes, you can expect to lose a whopping 40 cents on every dollar you spend, a 40% “house advantage” that would make casinos blush (roulette is a casino's favorite game, with a 5% house advantage).

The *Times* guessed as many as 50 million U.S. adults are swallowing net losses averaging \$1,000/year (\$20/week). Further, if that \$1,000 was instead invested every year from the age of 20 until 65 and earned a very attainable 5% annually, you would have a very real nest egg of about \$167,000.

Successful investors focus on process, not outcome. Somebody *did* win that billion dollar jackpot, but that doesn't mean betting one dollar with the expectation of losing 40 cents is wise. Finally, the best way to make money investing is *slowly*. It's human nature to want to win the jackpot with a lucky ticket or discovering the “next Facebook,” but that's a dream bound to end badly.

The opinions expressed in these articles are those of the author as of the date the article was published. These opinions have not been updated or supplemented and may not reflect the author's views today. The information provided in these articles does not provide information reasonably sufficient upon which to base an investment decision and should not be considered a recommendation to purchase or sell any particular stock or other investment.