No One Wins the Jackpot

Last year, a lucky Californian became the state’s newest billionaire after winning the $1.22 billion Mega Millions jackpot drawn on Friday night, December 27, 2024.

Under news reports on YouTube, people complained of “fraud.” The highest-liked comment came from @shawnwillia: “Really!!! Again.... Bull crap all/most winners from there!! It’s got to be rigged!!! Such a scam.”

Does California really the luckiest place for Mega Millions jackpot wins?

[Chart]

On January 17, 2025, the first big win of the new year went to someone in Tempe, Arizona, who spent $2 and won $112 million—a mega life-changer. According to the Arizona Lottery, this ticket was the second-largest jackpot in Arizona’s history and the largest prize ever won with a ticket purchased online.

The winner has two options: take the total amount as an annuity paid over 29 years or accept a cash payout of $49.95 million. This marked the first Mega Millions win of 2025 and was the second-largest jackpot in the nearest five years.

However, winners rarely receive the full advertised amount.

Mega Millions® is an American multi-jurisdictional lottery game. Tickets cost $2.00 per play. Players pick six numbers from two separate pools--five different numbers from 1 to 70 (the white balls) and one number from 1 to 25 (the gold Mega Ball). Players also can select Easy Pick to generate a serious of numbers. Winners of the jackpots match all six winning numbers in a drawing.

March 4, 2025, the latest Mega Millions drawing ended with no winners, pushing the jackpot to $215 million. Is there a statistical approach to winning? I calculated each number’s appearance in winning combinations but found no obvious pattern.

Mark Glickman, a senior lecturer on Statistics at Harvard University, shared a “guaranteed” strategy for winning the jackpot in an interview with WCVB. He noted that the Mega Millions machine picks five white balls and one golden one in each drawing, creating a limited number of combinations: 302,575,350. At $2 per ticket, playing every possible number would require an initial investment of $605,150,700.

Even if player managed to fill out that many tickets without error, investing such an amount for the next jackpot of $215 million would result in a significant loss. The important fact is you might not get what you see advertised.

[Chart]

Lottery jackpots are expressed in two ways: “cash value” and “advertised value.” The cash value is based on ticket sale proceeds, minus retailer and state lottery commissions and other prizes. If no one wins, the jackpot rolls over to the next drawing. The cash value is what player actually receive when choose a lump sum. Winner can receive the full advertised jackpot amount when choose the annuity option which paid over 30 annual payments. These payments increase by 5% each year to help keep pace with inflation.

A jackpot is like foam--beautiful when viewed in sunlight. Media coverage intensifies this light, making the bubble grow larger until it resembles pearls. But when you approach, you see its empty interior. Despite your efforts to grasp it, it vanishes. I’d rather spend that $2 on a slice of pizza in New York City.