

ticket ploy hurts players of lotto games. The reality is that the 'free' is for the lottery to claim a high overall chance for prizes without having to give cash prizes with that overall chance.

## 3.2 Optional Play

---

In the 20th century and the early years of the 21st, car prices were often quoted based on the 'standard' features such as manual shifting of gears. Features such as automatic transmission, airconditioning, remote-controlled mirror and so on were offered as options. Beginning in the early years of the 21st century, this idea caught on with lotto by giving you additional prizes or increase in the existing prizes for an additional cost on the original wager. Let us consider this in USA's Powerball lottery.

A Powerball ticket cost \$2 in May 2019. For an additional \$1 you got a chance to be included in the 'Power Play' which multiplied all non-jackpot prizes. The multiplier number – 2, 3, 4, 5 or 10 – was randomly selected just before each televised drawing begins. The 10X multiplier was only in play when the advertised jackpot annuity was \$150 million or less. The biggest non-jackpot prize was \$1 million and that prize only doubled regardless of the multiplier.

Power Play is an example of a ploy by the lottery to increase sales, for the additional \$1 put out is equivalent to buying a ticket in a lottery that gives a prize of \$1 million at a chance of 1 in 11,688,053. Your Expected Win on the \$2 play rises from 41 cents to 91 cents. Power Play is actually Power Ploy. Buyer, beware! See Appendix B.2.

USA's Megamillions lottery also had optional play – called Megaplier. A plier is a small tool used for pulling, holding, or cutting. Megamillions had a mega plier to pull more money from millions of people!

Canada's Lotto 6/49 and some other pick-numbers games there had an add-on game – the same game –, as of May 2019, called Encore. This was an interesting idea in that it was a single game but applicable as optional purchase in different lotteries where you picked numbers. The brochures said this: Add Encore for just \$1 more to Lotto Max, Lotto 6/49, etc. Encore was a standalone lottery but you could play it only as an additional play in any of the lotteries. You received a string of seven digits for \$1. Match all seven digits to win \$1 million. Clearly, the chance for this was 1 in 10 million. Match the last six digits to win \$100,000, and the first six to win \$10,000. Other matchings yielded small cash prizes. The overall chance for a prize was 1 in 9.17 and Expected Win was 47.75%. This meant that the \$1 you paid returned to you as a ticket whose value,