The Basics

PredictIt is a real money prediction market where you can place bets on whether various events will occur in the future.

Here's an example of what a market on PredictIt might look like:

Which party will win the Florida Senate race?
Democrat | Y: $0.70 | N: $0.40
Republican | Y: $0.60 | N: $0.51

Each contract in this market represents a possible outcome in the election. Eventually, if a share evaluates to true, it will be worth $1. Otherwise, it will be worth nothing. For example, if you purchased one Democrat-N share for $0.40, you would receive $1 in the event that a Democrat does not win the election, and $0 if a democrat does win.

But how much money would you actually make? PredictIt charges a 10% fee on all earnings; specifically, for every winning share they take 10% of the difference between $1 and the amount you paid for that share.

So if you bought the Democrat-N share, the possibilities would break down as follows:

A Democrat wins: you lose the $0.40 you paid for the share. Profit = -$0.40
A Democrat does not win: you receive 0.9 * ($1 - $0.40) = $0.54. Profit = +$0.54

Okay, now suppose you bought both a Democrat-N and a Republican-N share. What would happen? The breakdown is as follows:

A democrat wins: Profit = -$0.40 + 0.9 * ($1 - $0.51) = +$0.04
A republican wins: Profit = 0.9 * ($1 - $0.40) - $0.51 = +$0.03

As you can see, in each case you are guaranteed to make a small profit. Furthermore, the nice thing about PredictIt is that once you purchase both shares, the site knows that you are guaranteed to make at least $0.03 on net, so it automatically credits you with that plus the $0.91 you spent to buy the shares in the first place.

Predictit limits the amount you can spend on one contract to $850, so you could buy at most 1666 shares of Democrat-N and 2125 of Republican-N. Still, assuming you bought 1666 shares of each, that means you could make $49.98 from just $0.91 in starting capital.

This method also works when there are more than two "No" shares available. In general, if there are *n* "No" shares available on a market, it's guaranteed that at least *n-1* of them will evaluate to true, as events are automatically considered to be mutually exclusive.

Using Ratios for Higher Profits

In the above example, it was possible to make a profit simply by buying one of each "No" share. However, one can generally achieve much higher profits by buying a specific ratio of different quantities of shares.

The strategy is to buy shares in such a ratio such that you will get equal profits regardless of which of your "No" contracts evaluates to false. To provide an intuition for how this works, we will consider only the case where there are two "No" contracts in a market, although this approach still produces the highest profits for markets with more contracts available.

With two "No" contracts, the guaranteed profit is calculated as follows:

$$E_1 = 0.9 * X_1 * (1 - P_1) - X_2 * P_2$$
$$E_2 = - X_1 * P_1 + 0.9 * X_2 * (1 - P_2)$$
$$E_g = min(E_1, E_2)$$

Where E_g is the guaranteed profit, E_1 and E_2 represent the profit if the first and second contracts evaluate to true, respectively, P_1 and P_2 are the prices of both contracts, and X_1 and X_2 are the number of shares purchased of each contract.

Our goal is to find the ratio of $X_1:X_2$ that will maximize E_g. Since we are looking for a ratio, we can set $X_1 = 1$. Then, if we were to graph out E_1 and E_2, we would get something like this:
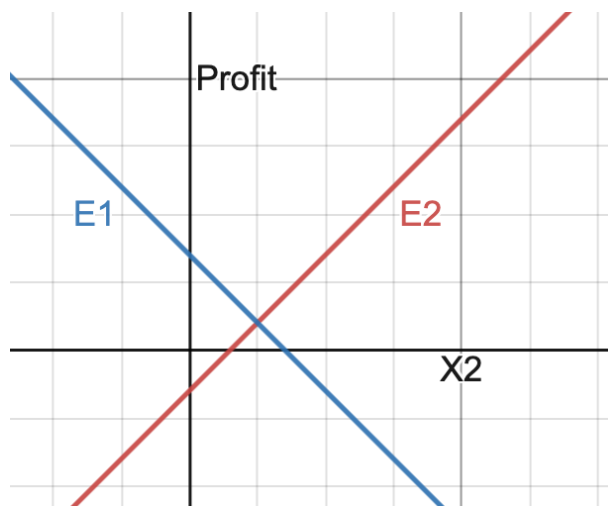
Our guaranteed profit, the minimum of E_1 and E_2, is thus always going to be maximized at the value of X_2 where $E_1 = E_2$. So long as the profit at this point is greater than zero, the market is arbitrageable.

The availability of arbitrages on PredictIt changes rapidly from day-to-day. At the time of writing this guide, there are currently two arbitrageable markets open with a total of $6.40 in profits available. In general, opportunities for arbitrage tend to net between $1 to $50, with higher windfalls being rare.