

The PNR Method

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A simple method to help prevent total loss of your spreads

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Introduction

The most important aspect of any trading strategy is its money and risk management rules. The 25K strategy is no different and has at its core the '50% Loss' and '30% Allocation' rules. These two simple rules, combined, help protect you from blowing up your account.

The '50% Loss' rule in its simplest form is: "*If there are < 15 days and you are nearing or over 50% loss, you should try to close the trade for whatever you can - if possible on the next green day.*"

This rule works very effectively and is almost completely hands-off when the market is trending.

However, in the non trending market conditions or deep pullbacks that we frequently find ourselves in, we often see our spreads pass the 50% mark well before 15dte and then we are faced with an unpleasant judgment call to decide if we should cut the trade or leave it and hope it comes back up again. We all know, judgment plays with our emotions and emotions play with our ability to make objective decisions.

What if there was a simple way to determine a point of no return – a PNR – beyond which a spread is unlikely to recover. Something that required no emotional judgment and was statistically shown to work more than 80% of the time.

If we could define this, then all we'd need to do is draw a '*line in-the-sand*' on our charts and just make sure the price never crossed this line.

Then, if a stock crossed this line we'd just place a 50% loss order. This would not replace the already existing 50% loss rule but rather act as an additional filter.

Indeed, such a point can be determined, and our *line-in-the-sand* can be drawn with an amazing amount of accuracy. The PNR method presented below has a > 80% success rate when tested on all the official 25K trades in 2021.

Although, past performance is not an indicator of future performance, this simple PNR calculation, if done correctly, could be a game changer for many members.

The basic theory behind the PNR method

The underlying theory behind calculating the PNR is very simple.

When you open a spread, it has an expiry date. Your spread has a long strike price and a short strike price and at expiry (0 DTE) we need the stock price to be at or above the short strike price.

The question then arises “How far below the short strike price can the stock price be and still recover by 0 DTE. In other words: what is the PNR for this spread?”

This value depends on how far out we are from expiry. The further away from expiry we are, the lower the PNR will be.

So then, the next question is “What is the relationship between days out and the PNR?”

Although, there is no *exact* relationship, our studies have shown that PNR reduces by approximately 0.25% each day.

So, if we open a spread for 30 DTE we can say that a drop of 7.5% (30×0.25) would be the PNR on the day we open the spread, and similarly, at 15 DTE it would be 3.75% (15×0.25).

This can be represented graphically as follows:



AMGN 215/220 spread opened 9/13, expiring 10/15

The dotted line would represent the *line-in-the-sand* that the price should not drop below.

There is one obvious issue with the above calculation - it assumes that all stocks behave the same. However, we know that stocks with a higher ATR can move faster and consequently they can often recover from a much lower PNR.

We can therefore further refine our PNR calculation by also taking into account the ATR of the stock.

The PNR equation

The resulting equation for calculating the PNR is:

$$\$LONG - \frac{\$LONG * DAYS * ATR}{2000}$$

$\$LONG$ = Long Strike Price

DAYS = Days until expiration

ATR = Average True Range

Below is a step by step example of how to draw the *line-in-the-sand* on a chart using the above equation to calculate the PNR.

We'll use the same AMGN 215/220 10/15 trade as before.

How to draw the PNR lines in your charts

Step 1: Draw a vertical line at the opening date, another at the closing date and a horizontal line at the long strike.



Step 2: Calculate the PNR when you open the spread. We know there are 32 days between open and close, the ATR is 4 and the long strike is 215. Using our equation $PNR = \$201.24$



Step 3: Draw a diagonal line from the PNR on the opening day to short strike at 0 DTE.



You now have a diagonal line which represents the *line-in-the-sand* that the price should not drop below.

How to use the PNR method

Let's see how we can use the PNR method with four real life examples.

Example One:

Below, VMW clearly shows where to cut and a cut would have ensured a limited 50% loss instead of the full loser most members incurred.



During the trading session you will see the red candle crossing the PNR line. Don't try to close your spread immediately. Just wait to see what happens. Sometimes it will rise back up and close above the line. This would not count as a PNR violation. If the candle closes below the line, then in the next trading session you make a decision on what to do. Depending on how the stock and the market are behaving you can put in a close order or wait another day.

You basically want to determine whether the next candle will also close below the line (in which case you place your 50% loss order) or whether it has a chance of coming back up above the line (in which case you wait another day). Below, the section 'Some things to consider' gives some advice on how to determine this.

If you do not wish to do any technical analysis, then just follow the simple rule – *if it closes below the line and then subsequently opens below the line in the next trading session place an order for 50% loss.*

Example Two:

In our next example, SPOT also shows a clear place to cut. There is a choice of 3 candles to do it on all resulting in catching SPOT at 50%.



The red candle only just closes below the line so you could be forgiven for opting to wait the next day as it is not a clear PNR casualty yet. The next candle gaps down and also heads down in the morning. This would be a valid time to place a 50% loss order.

However, if you had waited a bit you would have experienced the price rise and this could give an opportunity for recovery.

The next candle even manages to cross back over the line but sadly closes below again putting you back in the same situation as two days previous, only this time it has clearly closed below the line.

This is not a good show of strength and it probably better just to place a 50% loss order.

Example Three:

Now for a not-so-clear cut example. PYPL ended as a winner but only just and could easily have ended a loser. For this reason it is a good idea to wait till the candle closes under PNR and then observe what happens the next day. If there is a green day or a gap up it often pays to wait for another candle. If it is a red day or it gaps down it is time to place an order for 50% loss.



Example Four:

Finally, we illustrate an example using a PUT spread. The principle is the same as with CALL spreads, only we now use an **addition** instead of a **subtraction** in the PNR equation so that the resulting PNR value is **higher** than the LONG strike value. Remember, for CALL spreads the PNR is lower than the LONG strike value.

The formula for PUT spreads looks like this:

$$\text{\$LONG} + \frac{\text{\$LONG} * \text{DAYS} * \text{ATR}}{2000}$$

This last example was taken more than two years after the CALL spread examples above. The markets were now no longer trending upwards and the majority of trades taken were PUT spreads. This NKE 104/103 PUT spread is an example and looked promising for the first few days after opening it. Unfortunately, it crossed the PNR line 9 days after opening. The next day it gapped down a little and from there went down even further. However, by the end of the day it didn't look good and closed higher than the day before. This would justify pulling the plug and placing a 50% loss limit order which would fill 5 days later.



The above chart doesn't show where the price ends up at the expiry date. This is because; at the time of writing we didn't know. It might still end up below the short strike which means it would become a winner. These things can and do happen and if this were to happen here we should still feel good about our decision because we followed the rules.

You may not be able to catch all your PNR casualties at 50% but even if you manage to save some and the rest at 30-40% of the original value, this is always better than 0% and it all mounts up to a considerable amount by the end of the year.

Some things to consider

This strategy is to be used like any other tool. You can use it blindly with great results, but to get the most out of it, it requires practice and thought.

While this worked on more than 80% of all trades that were tested (back- and forward-), previous performance does not necessarily predict future results. Additionally, there may be some stocks with a high ATR that would allow them to recover at a much faster rate than other stocks. Those are special cases and require additional technical analysis.

Before you determine whether to cut a trade prior to the 15 DTE mark, you should consider the following technical indicators:

- 1) ATR – does the stock have a very high ATR value (greater than 10) and therefore has a better chance of recovery versus one with a much lower ATR of 3?
- 2) DMI – if D- has strong positive momentum or D+ has strong negative momentum, there is a high chance that the stock will continue to drop in price. If it is leveled out, or D+ appears to be turning positive, it may be worth waiting a few days before exiting the position early.
- 3) RSI – Is the stock oversold? If the RSI is below 30, there's a high chance the stock will reverse direction and go up in price.

A summary of our back-testing results

Below is a summary of the results from our back-testing with the estimated “savings” by closing spreads early when crossing the PNR prior to 15 DTE from January 2021 through September 10, 2021:

Winners:	140
Losers:	103
Scratch:	10
Total:	253
Estimated dollars saved from catching full losers early enough at 50% loss:	\$10,000.00
Estimated profits lost accidentally cutting winners early where ATR < 10:	\$2,055.00
Estimated Net Savings Applying Cutoff Where ATR < 10:	\$7,945.00

As you can see, placing 50% loss orders after the PNR has been crossed resulted in considerable savings.

More detailed statistics, and analysis

And here we have a more detailed analysis and statistics from our back-testing.

Losers where lowest price within 7 days is >4.25%	33
Losers where lowest price in last 15 days is >4.25%	80
Average ATR of Winners who had a low of more than 4.25%	14.03
Winners where lowest price is more than 3.75% and ATR is higher than 10:	26
Average % lower price in first 7 days on winners:	1.53%
Average % lower price in first 7 days on losers:	2.71%
Average % lower price at any point on winners:	2.58%
Average % lower price at any point on losers:	10.26%
Average % lower price < 15 DTE on winners:	-2.50%
Average % lower price < 15 DTE on losers:	8.52%
% of trades (winners and losers) that had a price drop > 4% within first 7 days:	20.53%
% of Winners where price was > 4.25% below the long < 15 DTE:	12.14%
% of Losers where price was > 4.25% below the long < 15 DTE:	77.67%
Average ATR of Losers where price was less than 4.25% at < 15 DTE:	8.74
Average % below the long for losers not above 4.25% at < 15 DTE:	0.71
Total Winners where price was 4.25% below the long < 15 DTE:	17
Total Losers where price was 4.25% below the long < 15 DTE:	80

Final thoughts

Although this method has been thoroughly tested for several months and we are satisfied in our own minds that it works for us, we urge all traders to approach all new methods with a healthy dose of skepticism and tread carefully when first using it.

Possibly the best way forward is to first paper trade this on your own spreads and when you see it working for you, slowly start using it yourself.

You can also do your own back testing on all the official trades. At the end of the day, all the data is there for anyone to do their own thorough testing.

One last point: this is NOT a new rule. It is an additional tool in your tool box that you may or may not use at your own discretion. We hope that our members will derive great benefit from it and it will help them to have a prosperous 2022.