Combining RSI and ADX

Yet again we have managed to talk a top trader into providing a trading lessons for our subscribers. Chuck LeBeau is not only a great trader, he is a recognized authority on trading systems.

by Chuck LeBeau

Now that I am spending seven hours a day doing trading for the new hedge fund I haven't had much time for research or writing new Bulletins. However a comment in one of the trading newsgroups that I monitor got me thinking about the potential benefits of combining our knowledge of RSI and ADX into a simple system. Both the ADX and RSI are valuable trading tools and a combination of the two would seem to offer some interesting possibilities.

I like to use the RSI primarily as an indicator for buying on dips in an uptrend. The ADX is my primary indicator of trend strength.

Here are a few ideas on how the two indicators might compliment each other in a system that "knows" when to enter on strength and when to buys on dips. (I'm only going to use the long side for examples but the logic should apply to short trades as well.)

When the ADX is rising it usually indicates that a strong trend is underway. In many cases waiting for any sizeable dip would be costly because the market could run away and the dip entry would be too late to maximize our profits. In this case we must enter on strength. To make this idea into a simple trading rule we might state that if the ADX is rising (and we have some indication it is rising because an uptrend is underway) we will buy whenever the RSI is below some very high threshold like 85. This rule would give us a very prompt entry in most cases and the result would be almost identical to simply trading whenever the ADX is rising which seems to be a good idea. The RSI has little, if any, benefit in this situation except it might occasionally keep us from buying into an extremely overbought market where the RSI was above 85. In this case a slight delay on the entry might be prudent.

The RSI, however, can play a much more important role when the ADX is flat or declining. In this case the rule would be that when the ADX is not rising we should postpone our entry until the RSI is below some more typical threshold like 45 or 50. Since the ADX is not giving us a signal that the trend is unusually strong we would need some additional indicator to show that the market has some minimal amount of upward direction. Otherwise we would not be buying a dip within the framework of an uptrend. Something simple like an upward sloping 20-bar moving average might work in this application.

Now that we have combined the ADX and RSI for our entries we might also want to combine them for our exits. When a market is rising but the trend is not particularly strong any spike in the RSI represents a good opportunity to take a profit. For example when trading in stocks the 9-bar RSI rising above 75 or 80 often signals that a correction is imminent. If the market trend is not unusually strong we would probably be happy with taking our profit on strength rather than waiting to get stopped out on weakness. However if the ADX is rising we might want to risk a correction in hopes of riding the trend even further. In this case when the ADX was rising we would ignore the RSI signal to take our profit. However, once our patience has allowed us to accumulate a very substantial open profit we might be best served by acting on the next RSI signal and nailing down the big winner. Also, when the ADX is rising it would not make much sense to be buying at a high RSI level and also selling at a high RSI level. We would be in and out of our trades almost immediately. Therefore we need to ignore the RSI extremes until our profit has had a chance to accumulate.

In summary, the important concept to remember is that our knowledge of the ADX can make the RSI a much more useful trading tool. When the ADX is rising the RSI tends to get overbought and it can often remain overbought for a surprising length of time. On the other hand when the ADX is flat or declining any spike to the upside in the RSI is an opportunity to nail down a profit. Conversely, any spike to the downside can be a potentially profitable entry point.

Here is the logic of a simple little system based on this discussion. (Just the rules in text form, you will have to do your own coding.) The parameters selected have not been tested or optimized. For example the 20-day moving average is just a number I picked out of the air. This is enough information to get you started and you can vary the rules to make the system trade over whatever time frame you prefer.

<u>Long Entries:</u>

1. The 20-bar moving average must be rising.
2. If the ADX is rising (ADX today is 0.20 or more higher than yesterday) then buy if the 14 bar RSI is less than 85.

If the ADX is not rising (ADX today is not 0.20 higher than yesterday) then buy if the 14 bar RSI is less than 50. Here is where you can influence the frequency of trading. For more trades use a higher threshold like 60. For fewer trades use a lower threshold like 40.

<u>Long Exits</u>

1. If the ADX is not rising (ADX today is not 0.20 higher than yesterday) then sell (long exit) if the 9-bar RSI is greater than 75.
2. If the ADX is rising (ADX today is 0.20 or more higher than yesterday) and the open profit is greater than (pick some amount - maybe 4 ATRs or some unit of price) then sell if the 9-bar RSI is greater than 75.
3. You need some additional exit rule for the losing trades. Use your favorite loss-limiting exit or you might want to exit when the price goes below the 20-dat moving average or when the 20-day moving average turns down. (See entry rule 1.)

by Chuck LeBeau

Chuck Le Beau's System Traders Club
http://www.traderclub.com
chuck@traderclub.com

Good Trading

Best Regards
Mark McRae