

### *John Hayden*

When attempting to combine price retracement theory with RSI retracement theory, we encounter some difficulties because the RSI can more easily overextend itself than price. This over-extension creates reversal formations such as MDRP UP and MDRP DOWN. Let's look at what typically happens when the RSI is not overextending itself.

Because the RSI is very sensitive to the movement of price especially in the 40 to 60 zone, it will usually retrace a larger percentage of its prior move than price. In other words, if price is retracing 33%, the RSI will often retrace 50 to 60%.

#### Rules # 5 – General Rules of Retracements - Combined

Price Retracement	RSI Retracement	Meaning
No more than 85.41%	approx. 125%	Momentum Discrepancy Reversal Point
~ 125% of previous leg up	61.80% to 85.41%	Bull Divergence
~ 125% of previous leg down	61.80% to 85.41%	Bear Divergence

We want to see a shallow price retracement coincide with a MDRP UP or MDRP DOWN. This provides two strong indications that the original trend will reassert itself with a shallow retracement and a Momentum Discrepancy Reversal Point. However, as the depth of the price retracement increases, the market is telling us that traders in a longer timeframe believe that the preceding trend was false, which gives them an opportunity to fade it. Should there be a “tentative” MDRP UP or MDRP DOWN concurrent with a medium or deep retracement, we should become cautious. As the percentage of the price retracement becomes deeper, the probability of achieving the target level obtained from the MDRP UP or MDRP DOWN begins to decrease. However, considering how the different timeframes interrelate, there are plenty of times, even with a deep retracement, that an MDRP UP or MDRP DOWN will easily surpass its upside or downside target level.

## CHAPTER 8

### IDENTIFYING SUPPORT AND RESISTANT PRICE LEVELS

We know that these are the 5 key numbers in order of importance:

1. The price where a Momentum Discrepancy Reversal Point is made
2. The upside or downside price target of a Momentum Discrepancy Reversal Point
3. The price where a basic retracement reverses (pages 18-20)
4. The price where a divergence occurs (using the right shoulder)

Now we have the ability to precisely identify important price levels, which allows us to set our stop levels. In the event they are hit, the trend has probably reversed or weakened so much that prices are about to stagnate. In either case, we really should no longer be in the trade.

Conventional knowledge states that the RSI chart is helpful in revealing certain price behaviors that are not so easily seen on a price chart. This is absolutely true once you understand the key numbers! At this point, you should have a thorough understanding of the RSI and be able to identify these important support and resistance levels.

The most important number is the Momentum Discrepancy Reversal Point price. Since the RSI is calculated on the closing price of a bar, stops can be placed tighter than using the low or high price. When day trading, I like to place stops 2 or 3 ticks away from these key prices. Since the charting application I use gives me the ability to enter text directly onto the chart, I enter the key numbers directly under the RSI patterns. This makes it very easy to identify key numbers and their locations.

## John Hayden

### CHART # 20 – TRADING CHART WITH PRICES ON RSI



#### Notes for Chart #20:

This is a chart that I use in trading. The only modification I made replacing the Candlesticks with bars for ease of printing. Since I use TradeStation™ Charting by Omega Research and Epsilon Charting, I have the ability to type the price just above the peak or trough on the RSI plus any comments I might have. I use the following color scheme:

1. Gray for bear or bull divergence.
2. Green for MDRP UP
3. Red for MDRP DOWN
4. Black for normal price

I also enter the target levels as T= "n" and any swing point greater than 1 as "s2," "s3" and so on depending upon strength. The colors used in the trendlines are the same as above.

---

### ***RSI: The Complete Guide***

---

On the far left of the chart is a bearish divergence at 1172.18 telling us that the market trend was UP. Prices fell to 1142.07 on March 25, which was below the support level at 40 RSI. At this point, we were not sure if the trend had definitely shifted, as it could have been nothing more than the 130-minute Bears and smaller timeframe traders becoming too pessimistic pushing prices lower before a timeframe longer than 130 minutes begins to buy. We don't have to wait long as prices rally to 1150.19 creating a MDRP DOWN. We know that the Bears have once again re-asserted themselves at this point. They confirm their strength by closing prices below the downside target of 1138.17 at 1134.85 just 3 bars later! After studying the RSI to this point, you should be able to place a piece of paper over the price action and tell by the RSI chart everything we originally set out to accomplish as outlined on page 4 in Section I.

End chart # 20 notes.



## CHAPTER 9

### **HELP! A LONGER TIMEFRAME JUMPED IN MY PUDDLE!**

We know that the marketplace consists of traders who focus the majority of their energies on different timeframes primarily because of their level of capitalization. At times, different timeframes will be the reason for the underlying price momentum. The concept of trading in different timeframes is a very difficult concept to fully understand and is considerably beyond the scope of this book. For the purposes of this book, all we need to understand is when the timeframe we are focusing on has been taken over (permanently or temporarily) by a different timeframe.

This is easy to determine using Momentum Discrepancy Reversal Points and divergence. For example, if we see that prices are steadily falling on a 30-minute S&P chart. Then, we see a small contra-trend rally of less than 32% before the market once again falls to new lows. This decline is followed by another contra-trend rally. This time the contra-trend move rallies almost 50% on the price chart and 105% on the RSI chart giving us an MDRP DOWN. Once again prices eventually fall and exceed the targeted low. This is a good example of a solid bear market that is controlled primarily by the 30-minute traders in agreement with shorter and longer-term traders – i.e., prices and RSI perform as expected.

However, what happens if the 450-minute traders decide that the move down should be faded because they think prices are going higher without letting the 30-minute traders know? These traders begin to buy on weakness to reduce slippage. This means that we will see the formation of multiple bullish divergences. More importantly, the market will be unable to achieve the targeted lows created by any future MDRP DOWN! Without knowing that it is the 450-minute traders who are fading our 30-minute bear party, we must as 30-minute traders recognize the clues. There are simple and multiple divergences and failed MDRP DOWN targets. Upon recognizing the clues, we can

---

*John Hayden*

---

either exit our short positions or tighten our stops until we are stopped out of our positions. When the 30-minute timeframe traders are once again in charge, we can re-enter the marketplace in the direction of the 30-minute chart.

If we are interested in aligning our trade position with the dominant traders, we must examine multiple timeframes until we find a timeframe where the price behavior becomes crystal clear. In our example, once we look at a 450-minute chart, we might discover that the reason the 450-minute traders faded the 30-minute bear market was because there was a MDRP UP or perhaps even a long-term bear divergence on the 450-minute chart!

In summary, we know that longer timeframe traders have decided to enter the game when what should be working – fails. The market is indicating something significant when there is a “high probability expectation” that fails. You must be paying attention at all times. We can also identify when shorter timeframe traders have decided to play because they are the ones that create the MDRP UP and MDRP DOWN formations. They are also the reason that the 60 and 40 levels are slightly exceeded in a bear or bull market respectively.

## CHAPTER 10

### CONCLUSION

Now we have a working model of how price and RSI behave and relate. We have also discussed why there are different timeframe traders and how these traders interrelate with each other. We have studied basic retracement theory, the different types of divergences and their meanings and Momentum Discrepancy Reversal Points.

To successfully use everything requires a trader to have a thorough understanding of the underlying principles. The foundation of this working model is the mathematics of the RSI calculation and Fibonacci ratios. The mathematics tells us that there is a certain zone where the RSI is most comfortable. It is in this zone that very slight changes in price are easily magnified, and RSI values where price changes barely move the RSI value. The Fibonacci number sequence allows us to identify percentage retracement levels that will help us identify the strength or weakness of a preceding trend.

The real nature of the marketplace is one where any two traders can agree upon a price and this price can be valid or invalid depending upon whether one trader was “forced” to trade. In this case, the information that the “trade price” conveys is worthless. We learned that because of the different capitalization levels of traders, not all traders are focused on the same interval of time. We also know that simple divergences are a good way to quickly determine the trend and when we see a divergence, we should begin looking for a place to fade the coming contra-trend move.

Often, the place or price to fade this retracement move is when we see an MDRP DOWN or MDRP UP in the RSI that coincides with a shallow to medium retracement in price. Once we have a “tentative” MDRP UP or MDRP DOWN, we can determine the upside or downside price target. Once this MDRP DOWN or UP



---

***John Hayden***

---

becomes “locked in,” we have a valid support or resistance price that we can be used for our stop placement. Using the targeted upside or downside price, we have a place to confidently take some or all of our profits.

If the targeted price is not reached, the trend is probably about to end. An early indication that the price objective is in danger is the negation of a corresponding trendline on a closing basis by one or more bars depending upon the timeframe being used. We also know that we can determine when longer-term timeframe traders are present because the targeted level is not achieved and/or we begin seeing multiple signal divergences. We can also detect short-term traders because they typically create the MDRP UP and MDRP DOWN formations and cause the 40 support and 60 resistance levels to occasionally be exceeded in bull and bear markets. By identifying the prices that create the RSI patterns, we are able to use those price levels as stops allowing us to capture additional profits. Here is a summary of everything:

**TREND DETERMINATION TABLE**

<b>Uptrend</b>	<b>Downtrend</b>
1. RSI ranges from 80/40	1. RSI ranges from 60/20
2. Simple Bearish Divergence	2. Simple Bullish Divergence
3. Hidden Bullish Divergence	3. Hidden Bearish Divergence
4. Momentum Discrepancy Reversal Up	4. Momentum Discrepancy Reversal Down
5. Upside Targets being hit.	5. Downside Targets being hit.
6. 9 bar simple moving average is greater than the 45 bar exponential moving average on RSI	6. 9 bar simple moving average is less than the 45 bar exponential moving average on RSI
7. Contra-trend declines do not exceed 50% of previous rally	7. Contra-trends rallies do not exceed 50% of previous decline

---

### ***RSI: The Complete Guide***

---

**TREND IN DANGER TABLE**

<b>Uptrend in Danger</b>	<b>Downtrend in Danger</b>
1. Longer Timeframe fading rally	1. Longer timeframe fading decline
2. a. Multiple long-term bearish divergences b. Upside targets not being hit.	2. a. Multiple long-term bullish divergences. b. Upside targets not being hit.
3. 9 bar simple moving average less than the 45 bar exponential moving average on RSI	3. 9 bar simple moving average greater than the 45 bar exponential moving average on RSI
4. Hidden Bearish Divergence, or simple Bullish Divergence	4. Hidden Bullish Divergence, or simple Bearish Divergence
5. Deep contra-trend retracements	5. Deep contra-trend retracements



Day	Close	Change	Advance	Decline	AvgGain	AvgLoss	RS	Close
	1380.47							
1	1380.42	=B3-B2	=B3-B2	=IF(OR(C3<0,C3=0),ABS(C3),0)				
2	1380.71	=B4-B3	=B4-B3	=IF(OR(C4<0,C4=0),ABS(C4),0)				
3	1380.74	=B5-B4	=B5-B4	=IF(OR(C5<0,C5=0),ABS(C5),0)				
4	1380.88	=B6-B5	=B6-B5	=IF(OR(C6<0,C6=0),ABS(C6),0)				
5	1380.74	=B7-B6	=B7-B6	=IF(OR(C7<0,C7=0),ABS(C7),0)				
6	1380.53	=B8-B7	=B8-B7	=IF(OR(C8<0,C8=0),ABS(C8),0)				
7	1381.01	=B9-B8	=B9-B8	=IF(OR(C9<0,C9=0),ABS(C9),0)				
8	1381.07	=B10-B9	=B10-B9	=IF(OR(C10<0,C10=0),ABS(C10),0)				
9	1381.48	=B11-B10	=B11-B10	=IF(OR(C11<0,C11=0),ABS(C11),0)				
10	1382.19	=B12-B11	=B12-B11	=IF(OR(C12<0,C12=0),ABS(C12),0)				
11	1382.08	=B13-B12	=B13-B12	=IF(OR(C13<0,C13=0),ABS(C13),0)				
12	1382.05	=B14-B13	=B14-B13	=IF(OR(C14<0,C14=0),ABS(C14),0)				
13	1382.09	=B15-B14	=B15-B14	=IF(OR(C15<0,C15=0),ABS(C15),0)				
14	1381.95	=B16-B15	=B16-B15	=IF(OR(C16<0,C16=0),ABS(C16),0)	=AVERAGE(D3:D16)	=AVERAGE(E3:E16)	=ABS(F16/G16)	=100-(100/(1+H16))
15	1382.18	=B17-B16	=B17-B16	=IF(OR(C17<0,C17=0),ABS(C17),0)	=((F16*13)+D17)/14	(((G16*13)+E17)/14	=ABS(F17/G17)	=100-(100/(1+H17))
16	1382.22	=B18-B17	=B18-B17	=IF(OR(C18<0,C18=0),ABS(C18),0)	(((F17*13)+D18)/14	(((G17*13)+E18)/14	=ABS(F18/G18)	=100-(100/(1+H18))
17	1382.12	=B19-B18	=B19-B18	=IF(OR(C19<0,C19=0),ABS(C19),0)	(((F18*13)+D19)/14	(((G18*13)+E19)/14	=ABS(F19/G19)	=100-(100/(1+H19))
18	1382.36	=B20-B19	=B20-B19	=IF(OR(C20<0,C20=0),ABS(C20),0)	(((F19*13)+D20)/14	(((G19*13)+E20)/14	=ABS(F20/G20)	=100-(100/(1+H20))
19	1382.32	=B21-B20	=B21-B20	=IF(OR(C21<0,C21=0),ABS(C21),0)	(((F20*13)+D21)/14	(((G20*13)+E21)/14	=ABS(F21/G21)	=100-(100/(1+H21))
20	1382.22	=B22-B21	=B22-B21	=IF(OR(C22<0,C22=0),ABS(C22),0)	(((F21*13)+D22)/14	(((G21*13)+E22)/14	=ABS(F22/G22)	=100-(100/(1+H22))
21	1382.15	=B23-B22	=B23-B22	=IF(OR(C23<0,C23=0),ABS(C23),0)	(((F22*13)+D23)/14	(((G22*13)+E23)/14	=ABS(F23/G23)	=100-(100/(1+H23))
22	1382.22	=B24-B23	=B24-B23	=IF(OR(C24<0,C24=0),ABS(C24),0)	(((F23*13)+D24)/14	(((G23*13)+E24)/14	=ABS(F24/G24)	=100-(100/(1+H24))
23	1382.12	=B25-B24	=B25-B24	=IF(OR(C25<0,C25=0),ABS(C25),0)	(((F24*13)+D25)/14	(((G24*13)+E25)/14	=ABS(F25/G25)	=100-(100/(1+H25))

Use these formulas to construct a 14 period RSI

To build a 3 period RSI eliminate lines 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13



## **Appendix B**

### **TREND DETERMINATION—A QUICK, ACCURATE & EFFECTIVE METHODOLOGY**

By John Hayden

This short article was written for my clients and friends in the spring of 2000. It is included here to help those that are interested in understanding how the RSI can be incorporated into an overall trading strategy. I have modified it to eliminate any redundancy with the majority of this book.

It is my belief that it is a valid indicator that will work in all markets and all time frames. The RSI can be used for:

#### **1. Trend Analysis**

#### **2. Determining Price Objectives**

After reading and studying the material within this book you should have a thorough understanding of the RSI. At this point we will broaden our examination of some other momentum based indicators.

Momentum derived oscillators are very popular among futures traders and have become increasingly popular among stock traders.

The first momentum indicator measures the change in the closing price over 'N' units of time. This indicator is referred to as the Momentum Indicator and it measures the absolute change in price by calculating

$$(\text{Present Price}) - (\text{Price 'N' Time Periods Ago})$$

The second momentum indicator is called the Rate of Change Indicator, which measures relative change by the formula,

$$(\text{Present Price}) / (\text{Price 'N' Time Periods Ago})$$

The third momentum-derived oscillator is the Stochastic Indicator developed by George Lane. This indicator measures the relationship between the closing price and the high and low price for the time period under consideration. The formula is

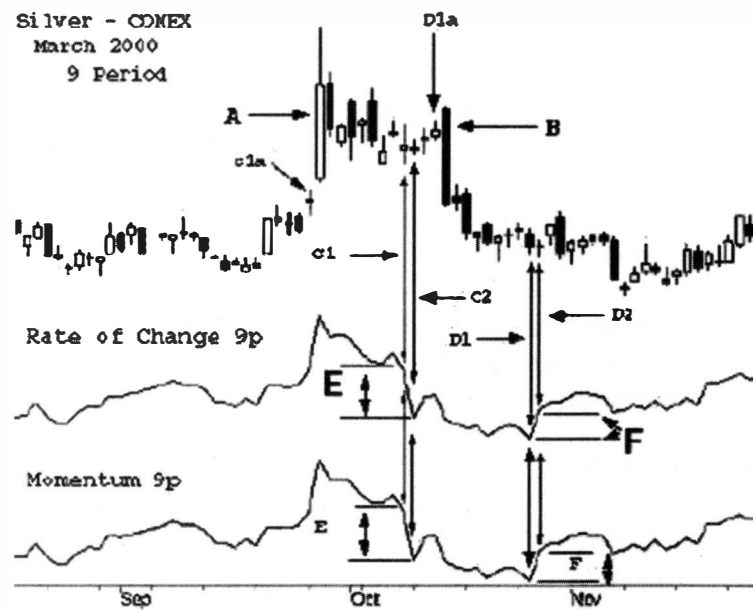
$$[(\text{Present Closing Price} - \text{Lowest Low 'N' Time Periods Ago}) / (\text{Highest High 'N' Time Periods Ago} - \text{Lowest Low 'N' Time Periods Ago})] * 100$$

This formula is a more involved than the simple Momentum Indicator formula.

The fourth momentum-derived oscillator is the Relative Strength Index (RSI), which we have described in depth.

With the first three oscillators, Momentum, Rate of Change, and Stochastic, a major problem occurs when large price movements are dropped from the calculation during the time period under consideration. This causes the indicator to oscillate more frequently and with a larger amplitude than it should.

For example, here is a chart of the March 2000 Silver contract where we look at two consecutive days for the Rate of Change and Momentum indicators.



In early October, Silver had a large one-day advance (A) at C1. When the 9-period Rate of Change or Momentum Indicator is calculated, the calculation is based upon the closing price at (C1a) with the current closing price at (C1). The next day (C2), shows a closing price that is barely changed from (C1). However when the calculations are redone using the closing price of (A) and the closing price of (C2), the large up move is dropped and the value of the Rate of Change and the Momentum Indicator makes a large move as measured by (E) while the price at (C1 & C2) have barely changed! This problem can also be observed in conjunction with the large down move (B).