8 Day Intensive Course
Lesson 4

Oscillators (RSI & MACD)

A) Relative Strength Index

Relative Strength Index (RSI)

What is RSI?
RSI is an indicator that falls under the category of oscillators, and it is an extremely simple indicator to use. RSI works well in range-bound markets, but it has limited value in trending or breakout markets. RSI was created by Welles Wilder, who also created ATR, Parabolic SAR and other well-known indicators.

The Concept of Oscillators
Oscillators are chart studies that are designed to show the strength of the current price in relation to the recent price action. As such, they display the short term momentum of the market, giving signals that the bias of the market is shifting before the price actually changes directions.

The principle upon which oscillators are based is that of regression to a mean. Essentially, a large part of a statistical sample should be within a certain number of standard deviations from the mean of the sample, and if the price strays too far from this center, then it will likely revert back to the rest of the sample. In terms of trading, the price should not rise or fall too far in too short a time.

Oscillators are not usually displayed on the same graph as the price itself, but are most often placed at the bottom of the chart to show that the fluctuations do not occur on the same scale as the price movement.

What RSI Does
Like all oscillators, RSI offer indications of when a currency pair is overbought/oversold. RSI essentially calculates the strength of all upward candles (green) against the strength of all downward candles (red) over the course of the specified time frame.

Parameters
When pulling up RSI on a chart, the charting application will prompt you to select how many periods you would like to include in your study. The most commonly number used is 14, and most traders do not alter this default setting. Some traders do use 9 or 25 period RSI's instead of the standard 14. Of course, increasing the number of inputs will decrease the number of signals and increase the reliability of these signals. Decreasing the number of inputs would have the opposite effect.

How to Use RSI in Trading

- Can be used to determine overbought/oversold levels

- Used to spot divergences, which indicate potential weaknesses in trends

Overbought/Oversold
If RSI is above 70, the pair is considered to be overbought. Some traders enter short at this point, but this can be dangerous as the price may still be rising. Enter short when the RSI crosses back under 70, as this may indicate that the momentum has turned. If the RSI is below 30, the pair is considered to be oversold; enter when RSI crosses back above 30. Like most oscillators, RSI works best when the market is range-bound – in other words, when the market is expected to simply gravitate between an upper and lower level. In trending or momentum-driven markets, using the overbought/oversold levels offered by RSI is generally of limited value.

Divergence.
RSI can also be used to signal when a trend is weakening. If a currency pair makes new highs in its price but RSI does not – meaning there is divergence between the price movement and RSI – it may signal that the trend is not strong, and that a reversal may be imminent. If candlestick patterns confirm, a trader can use this as an opportunity to enter a position.

Divergence occurs on the RSI chart before the actual price falls.

This chart shows the EUR/USD pair on a strong upwards trend. RSI shows that the pair has deviated substantially from the mean, and hence is due for a retracement. This serves as a classic example of how oscillators can signal mean reversion for a currency pair.

B) RSI: Historical Trades

RSI: Historical Trades

Overbought/Oversold

The chart below offers an example of how RSI can be used to determine if a currency pair is overbought/oversold. Readings above 70 give an overbought indication, and readings below 30 give an oversold indication.

Divergence

The chart below shows an example of how RSI divergence could have been utilized in trading.

Assuming a short position near 1.8900 with a stop at 1.9150, a limit near 1.8400 would have been hit before the price reached the support line. This would realistically have been a good place to cover (exit the trade).

C) Assignment - Place a Trade

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ASSIGNMENT: Using the methods described in this lesson, place a trade on your demo account based on the RSI indicator. Reply to this thread telling us about your trade and why you placed it. If you'd like, feel free to upload an image of the chart you were looking at to help convey to the class why you placed the trade. Also, feel free to ask the instructors any questions that you may have regarding usage of RSI and other indicators that have previously been covered. If possible, try to focus on a longer time frame, such as a daily chart. You may use current or past situations.

D) Question of the Day

Question of the Day

RSI uses the levels of 30 and 70 to indicate that the market may be about to reverse, but it is an imprecise indicator. If RSI is above 70, it shows that the market is overbought and may sell off, however if you sell when RSI is above 70 you take

the risk of trading against a strong trend. Markets can always continue to become stronger or weaker, regardless of the fact that our indicators say they are overbought or oversold.

What other indicators that we have already covered might you use along with RSI to help signal a reversal of a strong trend?

E) Quiz

Quiz: RSI

Go to the Quiz Center and take the RSI quiz.
http://www.learncurrencytrading.com/main

F) Trading with MACD

H) Trading with MACD
Trading With MACD (often pronounced Mac-D)

What is MACD?

· MACD is a commonly used technical indicator derived from exponential moving averages that can be used in both momentum and rangebound markets. Like RSI it is an oscillator plotted at the bottom of the chart, and it shows the momentum of the market relative to its recent history.

What it does: Can be used as an oscillator (indication that the asset will revert back to its mean valuation) OR a momentum indicator (indication that the trend is strong and will continue).

Parameters: The MACD line is the **difference** between the 12 and 26 day EMA. The signal line is the 9 day EMA **of the MACD.**

Visually, the MACD consists of three elements:

· **MACD line.** This is simply the difference between the 12 and 26 day EMA. It is a line plotted on the chart.

· **Signal line.** The signal line is the 9 day EMA of the MACD line. Like the MACD, it is a line plotted on the bottom of the chart.

· **Histogram.** The MACD histogram is simply a bar chart located at the bottom of the chart, where the MACD and signal lines are plotted. The histogram is simply a visual representation of the difference between the MACD and the signal line.

The "zero" point of the histogram – meaning the point where the bars cross above and below – is referred to as the centerline.

AUD/USD(1 day 1 yr.)

Price makes a new high, MACD does not. This is an alert to look for a place to sell.

Crossover occurs and price breaks support line shortly after. This is a strong combination of sell signals.

MACD(12,26,9)   MACD_Signal(12,26,9)   MACD_Hist.(12,26,9)

Histogram shows the difference between the MACD line and signal line. Histogram is zero when they cross.

How to use it:

Trade Signal. When the MACD crosses the signal line, a trade signal is issued. Traders can enter positions following the direction of the MACD.

Overbought/Oversold. No specific numbers indicate whether it is overbought or oversold, but if it is relatively far from its mean compared to its recent history, this may suggest that it is due for a reversion.

Divergence. When the pair makes new highs/lows but the MACD does not, this suggests divergence, and that the trend may in fact be weakening with a reversal in store.

Consider the chart below for some examples as to how the MACD indicator can be used.
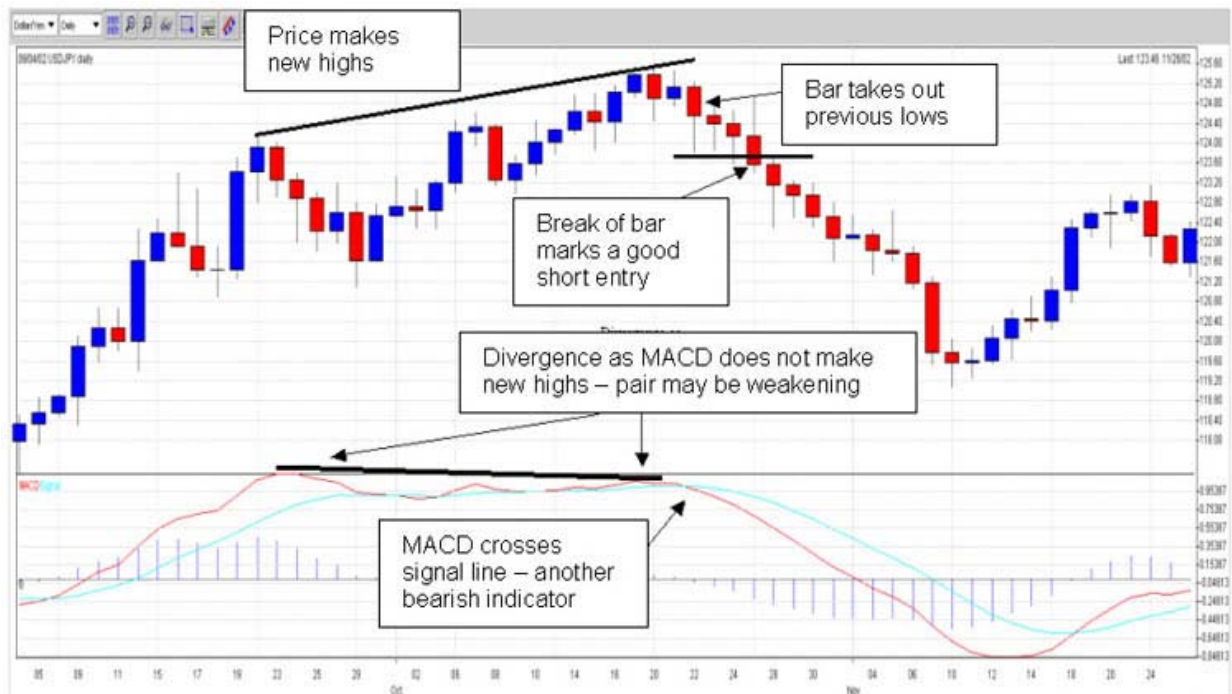
G) MACD: Historical Trades

MACD: Historical Trades

Using the MACD Crossover

The MACD crossover is a straight-forward indicator that provides precise timing for entry points. The one drawback of it is that it is sometimes too slow to provide a signal. Sometimes it signals an entry several candles after the ideal entry point. The price has already moved far enough that the trade no longer has a favorable risk:reward ratio. Always consider support/resistance when entering a trade regardless of the crossovers.

This second chart shows that while MACD divergence can be an effective signal, like crossovers it should not be considered in a vacuum. This divergence on the daily chart lasted over a year before the pair finally broke support and fell lower.

From April 2002 until April 2003, price continues to make new highs.

Divergence alone would not be a good sell signal. It is simply an alert to look for places to sell. Support/Resistance should also be considered.

MACD fails to make a new high during the entire span.

H) Assignment-Place a Trade

ASSIGNMENT: Using MACD crossovers, place a trade based on the chart or determine a possible entry point based on divergence combined with other indicators. Reply to this thread telling us about your trade and why you placed it. If you'd like, feel free to upload an image of the chart you were looking at to help convey to the class why you placed the trade. If possible, try to focus on a longer time frame, such as a daily chart. You may use current or past situations.

I) Question of the Day

Question of the Day

The MACD provides a large number of signals based on the crossovers of the signal line, the MACD and the flat line. Describe what you feel would be the ideal situation for a MACD signal. Of the different signals available--crossover, divergence, MACD crosses the center line--what do you think is the ideal signal? If you have experience with the MACD, you can relate that as well.

J) Quiz

Quiz: MACD

Please test yourself on your knowledge learned from this lesson by taking the MACD quiz on the quiz center at the following link.

http://www.learncurrencytrading.com/main

K) Animated Lesson:

The following link(s) illustrate how the various indicators can be used to identify the best times to initiate a position, keep losses relatively small, and take advantage of trading situations that may occur over the course of a trading day. Please feel free to pause each animation or replay it as many times as you wish. In addition, please turn your speakers on to listen to the audio segment as well.

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