

**BASIC TECHNIQUES**

*Time Frame Within Time Frame*

# Trading Currencies Using Multiple Time Frames

*When trading currencies, it's best to get the big picture first and then use a shorter time frame to select entries and exits.*

by *Kathy Lien and Patrick Dyess*

**W**ith \$1.5 trillion in daily turnover, the foreign exchange market is the largest market in the world. Previously, access to this market was restricted to hedge funds, large commodity trading advisors (CTAs), and institutional investors due to regulation, capital requirements, and technology. The big players have always wanted access to the market because unlike the equity markets, where liquidity is dispersed across many different stocks, the \$1.5 trillion in liquidity is concentrated in four major currency pairs, so they are *very* liquid. This means that traders can get in and out easily, executing more than \$100 million without causing a significant shift in the markets.

**TRADING THE TRENDS**

Technical analysis is the most common trading strategy used by professional forex traders because currencies rarely spend

much time in tight trading ranges and tend to develop strong trends. More than 80% of forex volume is speculative in nature, so as a result, the market frequently overshoots and then corrects itself. A technically trained trader can easily identify new trends and breakouts, providing multiple opportunities to enter and exit positions. In addition, aside from trend trading, certain currencies may undergo extended periods of range trading. Traders can find ample opportunity to play the ends of ranges.

In order to trade successfully on an intraday basis, it is important to be selective. You've heard of the trading cliché "The trend is your friend," haven't you? Clichés become clichés for good reason — more often than not, they're true. This one is *the* tenet for trading, and its importance should not be understated. Trading with the trend while employing trailing stops allows the opportunity to capture big moves in any market.

The goal of multiple time frame analysis is to get traders to think about the big picture first. This can be likened to taking a road trip from Los Angeles to New York. Certainly, there will be left turns and right turns along the way, but it is important to know that overall, you are heading east. In much



**FIGURE 1: FIRST STEP: THE DAILY CHART.** Since May 2001, the British pound has been in an upward trend, which means that the most effective way to trade this market is to follow the trend.



**FIGURE 2: NEXT STEP: THE HOURLY CHART.** Focusing on the selloff (see Figure 1) between February 2004 and May 2004, you can see where an ideal entry point would be. In this example, Fibonacci retracements were used but you may use any method you prefer.

the same way, in trading, looking for opportunities to buy in an uptrend or sell in a downtrend tends to be much more successful than trying to pick tops and bottoms.

**USING MULTIPLE TIME FRAMES**

The best example of multiple time frame analysis is to use daily charts to identify the overall trend and then to use hourly charts to determine specific entry levels.



**FIGURE 3: APPLYING MULTIPLE TIME FRAMES.** Here you see the daily chart of the EURUSD with a 20-day SMA and support turned resistance level. As you can see, the trend has turned negative.



**FIGURE 4: MOVING ON TO THE HOURLY CHART.** The EURUSD is trading below the 10- and 20-period SMA, confirming the downward trend seen in the daily chart. This means that you should look for opportunities to sell.

Let's take a look at the daily chart of the British pound against the US dollar (GBPUSD) in Figure 1. As you can see, the British pound has been trending higher since May 2001. Traders looking to pick tops would have been faced with at least three years of unprofitable and difficult trading, particularly when the GBPUSD was making 10-year highs in January 2004. This area would have certainly attracted traders looking to pick a top and fade† the trend. The GBPUSD has rallied up to 10% beyond its 10-year high since January, which means that those traders would have incurred significant losses.

The more effective trading strategy would have been to follow the trend. This would have involved looking for opportunities to go long the GBPUSD on dips. In Figure 2, you see an hourly chart of GBPUSD, with Fibonacci retracements of the February 2004–May 2004 selloff. Rather than looking for opportunities to sell, by using the 50% Fibonacci retracement level as the key support zone between May 30 and June 6, you can look for opportunities to go long around the support zone at 1.8300–1.8325.

Multiple time frame analysis can also be employed on a shorter-term basis. Take a look at an example using 15-minute charts and hourly charts of the euro against the US dollar (EURUSD) as the indication of the broader trend. Although 15-minute and hourly charts are sufficient, we'd still recommend that you use the daily charts for further confirmation, although focusing on a shorter time frame.

Similar to our example of the LA–NY road trip, first you must take a look at the daily charts for guidance on the near-term trend for the EURUSD. As you can see on the daily chart (Figure 3), the pair has broken a key former support-turned-resistance level and begun moving below the 20-day simple

moving average (SMA). On a near-term basis, the trend has turned negative.

Then look at the hourly charts (Figure 4); you'll see that the pair is also trending below the 10- and 20-period SMA, which confirms that you should look for opportunities to sell. Therefore, as a daytrader, you turn to the 15-minute charts (Figure 5) to identify entry levels. The circled areas indicate when the short positions were initiated based upon a break of a short-term intraday range.

## USEFUL TOOLS

The best way to stay with the trend is to apply a moving average to your price chart and determine the trend. A dual moving average crossover is a popular combination with intraday traders. Using the crossover, you can trade with the trend by trading long when shorter moving averages move above the slower ones or short when the converse occurs.

Combining this technique with a technical study such as the moving average convergence/divergence (MACD) is one intuitive way to trade with the trend. While the MACD calculation is complex (see sidebar, "The MACD spreadsheet") and beyond the scope of this discussion, interpreting the MACD is not nearly as complicated. When you apply the MACD, you will see two lines oscillating above and below the zero line. In addition to these two lines you will see a

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### THE MACD SPREADSHEET

This spreadsheet calculates the MACD fast line and the signal line. Column A is the date; column B is the closing price of the security. Column C calculates the 12-day EMA. The EMA is calculated as:

$$EMA_n = \alpha P_n + (1 - \alpha) * EMA_{n-1}$$

where P is the price,  $\alpha$  is the smoothing constant,  $2/(n+1)$ , in which n is the length of the period used for the moving average. In cell C13, enter the formula:

$$(0.154 * B13) + (0.845 * (SUM(B2:B13)/12))$$

The number  $(2/(n+1))=0.154$  is the smoothing factor. In this specific cell, the simple moving average is used instead of the EMA, whereas in the subsequent cells in column C, the EMA is used.

In cell C14, enter the formula and copy it down through to the bottom of the data series in column C:

$$(0.154*B14) + (0.845*C13)$$

Column D calculates the 26-day EMA. In D27, enter the formula

$$(0.074 * B27) + (0.926 * (SUM(B2:B27)/26))$$

Here, the smoothing constant is  $(2/(n + 1)) = 0.074$ .

In cell D28, enter the following formula and copy it into the cells in the same column through to the bottom of the data series:

$$(0.074 * B28) + (0.926 * D27)$$

Column E calculates the difference between the 12-day EMA and the 26-day EMA (column C minus column D). The results in this column should be plotted as the MACD fast line.

Column F calculates the signal line, which is the nine-day

	A	B	C	D	E	F
1	Date	Price	12-day EMA	26-day EMA	Fast Line	Signal Line
2	05/10/99	60.63				
3	05/11/99	62.31				
4	05/12/99	62.50				
5	05/13/99	60.06				
6	05/14/99	58.00				
7	05/17/99	59.44				
8	05/18/99	58.94				
9	05/19/99	59.69				
10	05/20/99	57.69				
11	05/21/99	57.00				
12	05/24/99	55.94				
13	05/25/99	52.88	57.79			
14	05/26/99	51.69	56.79			
15	05/27/99	53.13	56.17			
16	05/28/99	54.06	55.79			
17	06/01/99	50.69	54.95			
18	06/02/99	51.94	54.43			
19	06/03/99	50.50	53.77			
20	06/04/99	53.19	53.63			
21	06/07/99	53.44	53.54			
22	06/08/99	51.69	53.20			
23	06/09/99	53.13	53.14			
24	06/10/99	55.38	53.43			
25	06/11/99	54.44	53.53			
26	06/14/99	54.38	53.61			
27	06/15/99	55.69	53.87	55.71	-1.83	
28	06/16/99	59.69	54.72	56.00	-1.28	
29	06/17/99	58.00	55.17	56.15	-0.98	
30	06/18/99	54.94	55.08	56.06	-0.98	
31	06/21/99	56.81	55.29	56.11	-0.83	
32	06/22/99	55.69	55.29	56.08	-0.79	
33	06/23/99	56.56	55.43	56.12	-0.68	
34	06/24/99	55.06	55.32	56.04	-0.72	
35	06/25/99	55.31	55.27	55.99	-0.72	-0.93
36	06/28/99	57.00	55.48	56.06	-0.66	-0.86
37	06/29/99	59.25	56.00	56.30	-0.29	-0.75
38	06/30/99	59.50	56.49	56.53	-0.05	-0.61
39	07/01/99	62.88	57.41	57.00	0.41	-0.40

**SIDEBAR FIGURE 1: SPREADSHEET.** Here's a spreadsheet to calculate the MACD.

EMA of the fast line. It is calculated by using a smoothing factor that was determined by using the formula mentioned previously.

In cell F35, enter

$$(0.2 * E35) + (0.8 * (SUM(E27:E35)/9)).$$

Enter the following formula in cell F36 and copy it down through to the bottom of your data series:

$$(0.2 * E36) + (0.8 * F35)$$

The results in column F should be plotted along with the fast line.

—Jayanthi Gopalakrishnan, Editor

histogram of the two lines. The histogram essentially charts the difference between the lines as an oscillator so you can see the variance between the two lines more clearly.

When the fast line (the jagged line) moves above the slow line (the smoother of the two) and the price of the instrument has moved above the seven- or 50-period moving average, the long trend is established. At this point it is safe to trade with the trend and establish a long position. In Figure 6, the long trend is established in the circled area, where the fast line crosses above the slow line and the pair trades above the seven- and 50-period moving averages.

Employing multiple time frame analysis makes a MACD play particularly successful. The time frame of the confirmation chart should be approximately two times the time frame of the chart that you are using to determine your entry point. Thus, if you use a seven-period moving average on the two-hour chart, the confirmation chart would have to be a four-

hour chart with the same indicators.

When the (four-hour) chart indicates an uptrend (price above the moving average and the MACD fast line tracing above the slow line), you can move to the shorter time frame (two-hour) chart to look for the identical indication. When both time frames indicate a trend, there is arguable support for a long trade. At this point, often you have one long signal on the longer chart and the short time frame chart moves into a sell. In this instance, you remain inactive while watching the screen closely for the sell signal. If, however, the shorter chart also indicates the same signal, you should initiate your position.

Once the trade is open, if the two-hour chart shows a sell indication, you wait to exit the position unless your stop has been hit. If the four-hour chart shows a sell, close your positions and check to see if there is continuity between the two charts on the sell indication.

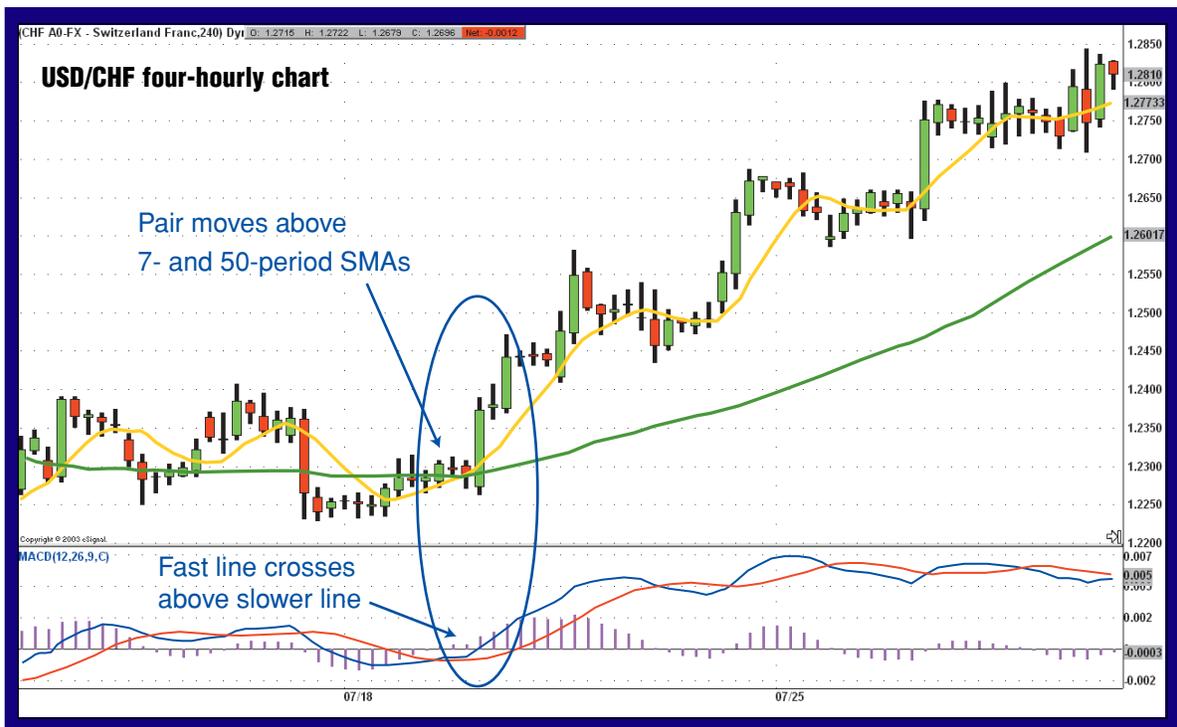


**FIGURE 5: IDENTIFYING YOUR ENTRY POINTS?** Moving on to the 15-minute chart, you can now place your entries. Here the short positions are based on breakdowns from a trading range.

**NOW FOR THE BEST PART**

If the two-hour chart calls for a sell but the four-hour chart does not and the two-hour version comes back into a buy, it may be an opportune point to add to your long position or

“double up” (*caution: doubling up increases risk and exposure*). This process is referred to as *laddering* or *pyramiding* a trend. When the four-hour chart indicates a sell, you exit the trade. You can use the same screen method on the short side.



**FIGURE 6: COMBINING OTHER TOOLS.** On this four-hour chart of the USDCHF, you see that the currency pair has broken above the seven- and 50-period SMA and started an upward trend. The MACD also confirms this upward trend, making it a safe bet to open a long position.

When the fast line (the jagged line) moves above the slow line (the smoother of the two), you have indication of underlying strength amid the buyers that often is not apparent in the price action. When the histogram moves above zero, it is indicating buyer strength. If the histogram moves below zero, it indicates seller strength. This information is valuable when trading with the trend. Combine this with the dual moving average crossover, and you have a systematic approach to trading.

The strategy of multiple time frame analysis is sound for a couple of reasons. First, this strategy will help you develop consistency so you become more systematic with your results and fine-tune your money management. Second, this strategy can expose you to the market during an extended trend, offering the opportunity to reap large returns.

*Kathy Lien is a seasoned forex analyst and trader with experience in the interbank market (using both technical and fundamental analysis). She has been a contributor to CBS MarketWatch, Active Trader, Futures, Trader's Source, and SFO Magazine. Patrick Dyess writes a daily forex technical column that is published on [www.dailyfx.com](http://www.dailyfx.com). They can be reached at [strategist@dailyfx.com](mailto:strategist@dailyfx.com). For more of their research, please visit [www.dailyfx.com](http://www.dailyfx.com) or <http://biz.yahoo.com/fxcn/>.*

#### **SUGGESTED READING**

Gopalakrishnan, Jayanthi [1999]. "Trading The MACD," *Technical Analysis of STOCKS & COMMODITIES*, Volume 17: October.

†See Traders' Glossary for definition

