Successful Forex Rading System

Forex Trading System

2.1. What is a Forex Trading System?

Forex trading system is the subsystem of the forex trading plan which governs when and at which price you open and close your trades. A trading system works on the signals given by technical analysis and/or fundamental analysis. The signals are taken to see if the trader should buy or sell a specific currency pair or must close the open position(s). Any currency trading system prevents information overload by filtering out the universe of technical and/or fundamental signals in such a way that only the most reliable (successful in the past) signals or signal combinations are acted upon.

There are two kinds of trading systems - the discretionary and the mechanical. Discretionary trading systems expect the trader to use his or her own judgement to ascertain the importance of each of the technical or fundamental signals (whose number is potentially infinite) that he or she gets. Mechanical trading systems operate on a fixed number of technical or fundamental signals without the participation of the trader. Discretionary trading systems require the perpetual application of creativity (flexibility of approach) from the trader in the understanding of the changing market conditions. Mechanical trading systems require the creativity from the trader only in the forex system development phase.

Discretionary forex trading systems are best employed by professional forex traders with a lot of experience (internalized practical market knowledge) against which they can determine the validity of any signal that they receive. These traders usually remember a large number of various signal patterns from the past (just like the master chessmen) that they can compare to the current market conditions, to make their analysis more objective. In essence, they use themselves (i.e. their brain) as their trading system - often very successfully - because human mind has the best pattern recognition power on the planet.

Starting currency traders are advised to begin by following professionally created mechanical forex trading systems. Most of these systems are sold-out in the form of the forex signals that are usually developed by experienced traders who have found a way to systemize their knowledge of the markets into a working strategy. At the same time, the beginning traders can work on building their own knowledge base of the forex market through the quality forex books, educational courses, bank reports and newswires on this subject -so that they can too, with time, create mechanical trading systems from their own insights and intuitions (using the forex charting packages which allow to do this).

Beginning without a proven mechanical forex trading system (that has positive mathematical expectation) drastically dilutes the chances of maintaining the capital. This is because any intuition or a hunch that the traders experience as a result of some newly gained knowledge of the forex market is likely to be overridden by one of the two emotional derivatives of their life-long programming towards the money - the greed and the fear. In other words, without exact adherence to an existing mechanical trading system the beginning trader will eventually succumb to his or her emotions. As a matter of fact, the only way the traders can acquire discipline in the early phases of their trading careers is by tight following the signals generated by a proven mechanical forex trading system.

Note: Neural Network Packages (e.g. NeuroShell) emulate the process of human learning and can be used to accumualte the knowledge of the past technical and/or fundamental signal patterns (just like the mind of professional forex traders does) for the purpose of the future currency price forecasting.

Quote: "A mechanical approach to the markets can be successful and this is backed up by the fact that approximately 80% of the $30 billion in the managed futures industry is traded by exact systematic methods", from the "The Ultimate Trading Guide" by John R. Hill, George Pruitt, and Lundy Hill.

2.2. Components of a Forex Trading System.

A regular forex trading system consists of two subsystems - the entry system and the exit system. These systems can operate on a different or the same set of inputs. The inputs can be technical or fundamental signals.A system consists of a number of rules which interpret the signals that it receives. The entry system evaluates the signals to determine if and at which level the positions should be opened. The exit system evaluates the signals to determine if and at which level the open positions should be closed.

The propose of an entry system is to find market points which allow to open positions with high potential reward and low potential risk (high reward-to-risk ratio). The risk is defined as the pip distance from the entry price to the next support or resistance level lying opposite to the entry direction (above entry for sell and below entry for buy). The reward is defined as the pip distance from the entry price to the next support or resistance level lying in the direction of the entry (above entry for buy and below entry for sell). It is generally advised that the traders accept only the trades with the reward-to-risk ratio of over 2 (e.g. risk=60 pips, reward=130 pips). All the same, depending on the accuracy of a trading system (i.e. the percentage of the winning trades of all the past trades) this requirement might be shifted to a lower or a higher value without sacrificing the profitability of the system. This is because the true measure of the long term profitability of a forex trading system is neither the average per-trade reward-to-risk ratio nor the accuracy of the system but the combination of these two measures which is calculated as the mathematical expectation of a trading system. In the absence of the accuracy measure of a trading system (as is the case with some discretionary trading systems) - the trader ought strive to find entries with the greatest possible reward-to-risk ratio.

Note: Elliott wave analysis allows to find entries with extremely high reward-to-risk ratios (e.g. just check some of reports on MTPredictor's site). It is worth noting that MTPredictor automatically calculates the reward-to-risk ratios and helps to find optimum entry points based on these ratios. Some Elliot wave software developers (e.g. Advanced Get) also supply their subscribers with detailed Elliott wave trading plans.

The aim of an exit system is to protect the capital base and the unrealized profits. The capital base is shielded by ensuring that the trades are exited with a fixed loss when the reasons for holding them are no longer valid. This is done by triggering a stop-loss order on your forex brokerage account when the price crosses the level which defined your risk at the entry. If you are a discretionary trader, forcing yourself to place the slop-loss on each trade and to stick to it no matter what will make you very selective about your entries - which ought increase your profitability. The unrealized profits are protected either by a take-profit order which is triggered on your brokerage account when the price reaches the level which defined your profit at the entry or with the help of the trailing stop-loss which gradually locks in more profits as the price moves in your favour. In fact, the trailing stop-loss exit can be more suitable than the fixed take-profit exit if you wish to profit from the extending "character" of some impulse waves. In such a event the trailing stop-loss can be placed just a few pips opposite to the trendline which defines impulse wave. There is one more type of exit which can be used to protect the trader from missing trading opportunities - the time exit. A time exit is triggered if a trade hasn't reached either its stop-loss or take-profit level in the specified period of time. Exiting such trades reduces the chances that the capital will be tied up when better opportunities appear on the other currency pairs.

Note: Most forex newswires (e.g. Marketnews) are a great source of real-time information on the location of the major support and resistance levels and clusters of large orders that are watched by professional forex traders and which can be used to manually update the position of your trailing stop-loss.

2.3. Development of a Currency Trading System.

Making a mechanical forex trading system involves a number of steps: 1) Selecting the inputs for the trading system - technical analysis or fundamental analysis tools which will generate the signals for the system; 2) Developing the rule-set which will operate on these signals; 3) Optimizing the parameters of the analysis tools used to produce the signals; 4) Backtesting and forwardtesting the system over historical price data. Each of these steps is covered in more detail below:

2.3.1. Selecting the Inputs for the Trading System

It is important to base your selection of inputs to the system on a sensible premise about the way the currency markets operate. As an example, you can use 200-day moving average to determine if the market is in a long-term up or down trend because a large proportion of professional forex traders use this technical tool to measure market trendiness. It is also better to combine technical analysis tools of different type and scale because this increases the chances of finding high-probability entry points (those that are likely to be followed by sharp currency price moves in your favour), which should, in turn, contribute to the overall system accuracy.

If you use technical tools only on the higher time-frame charts like the daily or the weekly charts this will increase the duration of the trades and the time periods out of the market - because the signals will take longer to form. Either of these outcomes can have detrimental impact on the trader and investor morale during the inevitable losing streaks as is shown by our forex trading simulator (Please note: The size of this page is 0,6 Mbs and it requires that you have Flash installed and Javascript enabled in your browser). which can last longer than they are naturally prepared to wait. This makes it important to focus on lower time-frame charts (e.g. hourly charts) for signal generation which will lead to shorter trade durations and, consequently, to quicker recoveries from the drawdowns. Shorter trade durations can also help to the trader to defeat the temptation to overtrade because he or she can expect to see the next entry signal in the next couple of days - not in the next couple of weeks.

Quote: "Your freedom to choose your time-frame is too valuable to lose. Investors and margined speculators, on the other hand, can choose their own time-frames. This is one of their positional advantages, to use a favourite notion of Larry Hite* , one of the founders of Mint Investment Corp* - one of the largest of the futures fund operators. Investors and speculators can choose. Obviously it makes sense to choose time frames which match any natural rhythms that can be discerned in the currency markets." John Percival in his book "The Way of the Dollar".

Note: If you are using the Elliott Wave analysis your average holding period will depend on the degree of the impulse or corrective waves that you are trading.

Choosing which fundamental factors are best for your forex trading system (e.g. as inputs to your neural network) can be very hard because the effect of various economic indicators on the currency prices changes with time. In other words, the strength of correlation between the price of a currency pair and the fundamental factors relevant to it is not fixed (even with interest rate differentials). In contrast, the relationship between the price patterns (especially the classical price patterns) and trader psychology (the driving force behind most important price moves) remains fairly stable over the years. This is the reason why the forex traders are encouraged to dedicate most of their efforts to building trading systems around the technical analysis.

Another all-important question is the time horizon of the prediction that the trader is trying to make with his system. Better not to try to forecast currency prices too far into the future. This is because the number and the complexity of interaction of various technical and fundamental factors rises geometrically with each trading day. It is, therefore, best to "leave" this task to high-end investment banks and houses which alone have the capacity to perform the necessary calculations inherent in longer-term currency course forecasting. It is more practical for the typical currency trader to concentrate on capturing the so-called "knee-jerk" market reactions driven by crowd emotionalism through the analysis of the current technical or fundamental conditions.

Quote: "Rule 5: Be prepared for anything don't try to predict what will happen or when. Investing is a skill, not a science. The Zen swordsman dicsniplines body and mind to counter any blow spontaneously; he does not anticipate the moves of an opponent, for that impedes his ability to react. Likewise, professional investors know they cannot control the real estate or stock market, let alone the global economy. Instead, they train themselves to be financially intelligent, to think confidently and creatively when opportunities or problems arise." one of the The Seven Rules of Investing given in Robert Kiyosaki's book "You Can Choose to Be Rich".

You should also try not to include too many indicators (over 12) in your forex trading system. This is because probability that the system will perform like it did in the past diminishes as you add more indicators to your system. As a rule, the larger the number of indicators in your system the longer the period of historical currency price data you need to backtest the system on.

Note: There is no necessity to learn all the available indicators and technical analysis methods before you can start creating your own robust trading systems. It is usually enough to master just a few "basic" technical indicators and formations to start combining them to identify high probability entry and exit points. The fundamental and technical reports issues by the investment banks are one of the best sources of information on which technical and/or fundamental signals are watched by the professional trading community that you can include in your forex trading system. In the long run it is best to stick to a sound forex trading strategy, that has high probability of being profitable in the long-run, than to dissipate your capital among a variety of "promising" methods.

2.3.2. Developing the Rule-Set which will Operate on the Signals

You can create these rules based on your observation of how the prices move in relation to various technical and fundamental indicators. For example, you might notice that currency prices tend to resume trending behaviour after they correct toward and touch 200-day moving average. You can use this observance to formulate a rule which will enter the markets when the prices bounce off from the 200-day moving average. You could also notice that the prices tend to stop trending when they touch the outer daily Bollinger bands. You can use this information to create a rule which will exit the trades once the prices penetrate the outer daily Bollinger Band. Because making rule-sets for mechanical trading systems forces you to quantify your insights about the market this practice aids to clarify them.

The rule-set of a forex trading system is in essence the clarified version of the weighing algorithms that you naturally create in your mind as you learn the technical and fundamental analysis and observe the price action. I say "weighing" because most of the technical rules are transcribed in your mind as fuzzy patterns (e.g. "The longer the shadows of a doji the more likely the reversal" or "The steeper the trendline - the more bullish or bearish the market sentiment."). When you make the trading system, you transfer your knowledge to the computer in the form that can be understood by it. Admittedly, the quality of the computerized model very often will fall short of the actual mental model that you keep in your head. Nevertheless, the real advantage of the "mechanicizing" your market knowledge is the power to objectively determine the validity of your trading ideas by the process of the backtesting. It should be noted that the closest the computers approach to simulating the complexity of human comprehension of the market patterns is in the neural network packages.

Neural network packages can be especially effective if you wish to model your way of weighing the strength of support or resistance levels. For example, if you believe that fibonacci retracements are more reliable entry points if they are confirmed by reversal candlestick patterns and/or RSI divergence you can "ask" a neural network to search for past occurrences of this pattern combination and determine the actual numeric weight that should be placed on each of these technical signals for the entry or exit to occur. This process is very advantageous because it allows the computer to extend your natural pattern recognition ability by perfecting (or objectifying) the weights associated with each technical input/signal. This way you can objectively measure the strength or the beauty of the technical setups that you encounter in your trading (e.g. the resultant model might require the position to be opened if the total sum of signal weighs is bigger than 0,5 where a reversal candlestick signal is "worth" 0,15, fibonacci retracement is "worth" 0,3 and the RSI divergence is "worth" 0,45). In essence, your forex trading system is the description of how beautiful your trading setups should be, where "beauty" is defined as the convergence of confirming signals from different type and/or scale technical analysis tools. Advanced users of the neural networks can go even further by tying the position size (within the maximum percentage value set by their money management system) to the strength or the beauty of the technical setup. If done decently this practice will allow them to make the most of the best trading opportunities while simultaneously reducing the exposure on the less promising setups.

Meta4: An fascinating parallel to weighing the signals in order to determine if the position should be taken or not is the way people fall in love. Each individual carries a certain number of unconscious or semi-conscious qualifiers that "describe" in more or less fuzzy terms the appearance, the character, the temperament of their likely mate. When you meet the person who posses enough of these traits (i.e. above some "threshold" or unconscious minimum) the cascade of the confirming signals sets your mind off into the love state. A similar process occurs in the mind of discretionary trader when the market action through all of its technical and/or fundamental signals (i.e. "when all the pieces fit") activates the hunch or intuition response from him or her. If you compare the brain of a discretionary trader to a neural network the hunch finds its direct expression in the output neuron. The similarity between the process of falling in love and experiencing a hunch is probably behind such market advices as "do not marry your trades" or "do not fall in love with your trades". To stretch the similarity further we can compare a stop-loss order to the practice employed by some of the married couples called the "boundary". The boundary is the some form of behaviour unacceptable to the other spouse which if violated will lead to the end of relationship. Yet another analogue is between adding to a losing position and trying to win a favour of an unloving partner - the more you invest the harder it is to let go and the more likely you are to end up destroyed financially (emotionally in the relationships). As a final comparison the neural networks allow to model the connections among the ideas in the human mind in a similar way that a website through all its external and internal links permits to express the specific mental idea-network of its creator.

Quote: "I use all forms of technical analysis, but interpret them through gut feel. I do not believe in mathematical systems that always approach markets in the same way. Using myself as the "system," I constantly change the input to achieve the same output—profit!", Mark Weinstein in Jack D. Schwager's book "Market Wizards".

Note: It should be marked that the effectiveness of your model will always be only as good as the inputs that you give or "feed" to it (as someone said - "Garbage in, garbage out"). This is because computers merely extend your pattern recognition ability and cannot be relied upon to think up a winning system on their own - if this was false, the markets would have been cornered long ago by the guy with the most powerful computer.

2.3.3. Optimizing the Parameters of the Analysis Tools used to Produce the Signals

Some forex charting packages (e.g. TradeStation) permit to optimize the parameters of the technical indicators that you use in your forex trading system. Optimization allows to find parameter values of your indicators that result in the biggest profit (most frequently used measure of system performance in optimization) from the trading system over the past data. An good example of the optimization is looking for the best time-period parameters for a two-moving-averages crossover system. Commonly the periods of two moving averages are stepped from 1 to 50 in steps of 1 and the trading results for each of around 250 moving average combinations are recorded and then sorted to find the most profitable combination. Such process of going though all possible parameter combinations is called brute force optimization. As the number of indicators used in your system increases arithmetically the number of potential parameter combinations increases geometrically. The total number of parameter combinations is, therefore, said to be subject to combinatorial explosion. For example, to optimize a system with 5 indicators each of which has 50 different parameter values you would have to cycle through 312 500 000 (50^5) possible parameter combinations. The only way you can expect to quickly solve such huge optimization problems in your lifetime is through the use of generic optimizers (e.g. OptEvolve for the TradeStation or NeuroShell Trader Professional).

Optimization of the time-period parameter of the cycle-based indicators like Stochastics permits to automatically adapt them to the cycles present in the market instead of using the default time-period values - which is the method originally used by the developer of Stochastics.

As a final note, try not to over optimize your indicators because majority of the professional forex traders use default indicator settings. You are looking for trading setups where the smart money will be acting (as opposed to the general investor public) so it doesn't make much practical sense to use indicator settings that hardly any professional forex trader is aware of.

2.3.4. Backtesting and Forwardtesting the System over Historical Price Data.

Backtesting allows to see how your system would have performed if it was run during some period in the past. You optimize indicator parameters using the price data in the backtesting period. It is crucial that the time period that you backtest your system on is representative of the currency pair that you wish to trade - it should include all types of market conditions (trending, rangebound) and it should be as recent as possible. Once you are comfortable with the performance of your system you forward test it - you run it on the out-of-sample price data (the price data that would be immediate future to the backtesting period). This way you can see if the system is able to perform likewise to the way it did during the backtesting. The closer the system's performance during the forward testing is to its performance during the backtesting the more robust the system and the more assured you can be that it will continue to trade in a similar manner during the real-time trading. You could also wish to trade your system on a forex demo account for some time before beginning to trade it with the real money.

Backtesting aids the trader or investor to determine if they are prepared psychologically for the live trading of a forex trading system. By examiningthe past performance of a system they can decide if the size of the drawdown, the number of the consecutive losses and the average duration of the trades are acceptable for them. For the complete list of the performance measures that you could wish to review before starting to trade with professionally-created mechanical trading systems please visit the forex signals page. In contrast to the mechanical trading systems the discretionary trading systems cannot be backtested because the discretionary traders cannot guarantee that they will react to a similar set of signals in the future in the same manner that they did in the past.
2.4. Implementation of a Forex Trading System.

There are two ways you can implement a forex trading system - either manually or automatically. Discretionary trading systems can only be followed by the manual placing of the trades. Mechanical trading systems are better followed though the use of automation.

If you are following a discretionary trading system you will be generally screening the currency markets for the signals that you have outlined in your checklist. The checklist is the description of the technical or fundamental trading signals that your trading system's rule-set operates on. The checklist could also contain the guidelines on how often you should check your forex charts/forex newswires for the signals (using the economic news calendar provided by the forex newswires as your fundamental signal timing tool); in contrast, the mechanical forex trading systems will be going through their own checklists with every second, 24 hours a day - which no human being can possibly do. Having a elaborate checklist will help you to be more disciplined in the application of your system. It is better to write your checklist in the form of the questionnaire. You can automate your search for some technical signals with the help of those forex charting packages which allow you to set up the sound or email/SMS alerts to notify you whenever the technical signal of your interest is generated (e.g. in Intellicharts). The forex bank reports and the forex newswires frequently issue mini reports of technical conditions on the market which most often are merely the "filled-in" versions of the same checklist.

Manual implementation of the mechanical signals is NOT recommended. Since the signals are generated by the computer you will always feel compelled to double-check them against you own experience - since no computer can model your thinking with 100% accuracy. This can lead to the delays and/or missing of some of the signals which can potentially undermine the system profitability, that rests on the principle of taking each signal exactly at the time it is generated. A lot is being said about the widespread lack of the discipline in taking the signals of the mechanical forex trading systems. This trouble can be easily overcome though the use of a reliable signal automation service. You solve all emotional troubles associated with the manual trading of the signals by simply automating this process. Elimination of the emotions from the trading through the use of the automated mechanical forex trading systems should explain their popularity amidst the multi-billion dollar hedge fund industry.

An crucial aspect of mechanical system trading is the monitoring of its real-time performance. The concealed market dynamics (a particular way of reacting to technical or fundamental signals that an important grouping of forex market participants shares - or, systematic mass investor impulsiveness) that your system has captured during the back-testing may be switching or might already have changed at the time you start to trade your system with the real money. The single way you can say that the market dynamics that you are focusing on have changed or not is to compare the real-time and the past system perofrmance. If the system continues to perform like it did on the backtesting then you can conclude that the market dynamics it targets have not yet changed. If you notice important deviations in such system performance measures like the maximum peak-to-valley drawdown, the average duration of trades, the average value of the profits/losses, the maximum number of consecutive winners/losses, it can signal that an important shift in market dynamics is taking place (e.g. a group of investment banks have modified their trading models). The fastest way to update your system to the changes in market dynamics is available for the neural network packages - which allow to retrain your model over the most recent price history. Retraining a neural network involves readjusting its matrix of weighs which allows it to stay attuned to the current market conditions. If mechanical trading systems suffer form the paradigm shifts on the market - the same can be said of the human mind (discretionary trading systmes) which tends to be very inflexible once a partciluar way of doing things (i.e. trading style) is ingrained in it.
2.5. Mastering System Trading.

To master system trading you ought have the patience to wait calmly for the entry or the exit signal from your own forex trading system and act only on them - irregardless of the technical or fundamental conditions that you see in-between these signals. It is no wonder why the best traders prefer to compare themselves to skilful predators when they describe their trading style:

Quote: "Top traders love the hunting metaphor to describe what they do. One of them, for example, claims he is like a cheetah. The cheetah can outrun any animal, but it still stalks its prey. It won't attack until it is right on top of its prey. In addition, the cheetah usually waits for a weak or lame animal to get close. Another top trader told me that he trades like a lion. He watches the herd for weeks until something other than his presence causes the herd to panic. When the herd panics, he then chases a weak or lame animal that appears most confused. The difference between an average hunter and a really skilled animal like the swift cheetah or the cunning lion is that the skilled hunter waits until the odds are overwhelmingly in his favor", from "The Ten Tasks of Top Trading" by Van K. Tharp.

Quote: "Much of the time, even professionals don't have a clear picture of what is going on, but they have learned to have the patience to wait for select, specific setups. You must learn to trade on only the most recognizable and reliable patterns." from the "Street Smarts: High Probability Short-Term Trading Strategies".

The most important rule of systematic trading is to take each and every trading signal that your system generates. Only by taking all the signals at the time they are generated can you count on replicating the past performance of your system. If you have the slightest suspicion that you will not be able to take all the signals - either due to the timing of the signals or your busy schedule - you should arrange for the signals to be automatically traded.

At the end of the day, a forex trading system just like the money management system serves to protect yourself from your own destructive tendencies which very often mask themselves as the "well-meaning" hunches and gut responses. This doesn't mean that you shouldn't trust your instincts - only that you should base your trades on them only if you can eliminate emotions from your decisions. This is because a trading system is a method to profit from other traders' emotional instability, therefore, if you do not control your own emotions you will not be able to profit from any system. Removing the emotions from your manual trading can take years (!!!)- so it can be more practical and profitable to simply autotrade your system.

Even if you start your currency trading career by following a professionally created forex trading system you will receive full satisfaction from the trading - in terms of profit and self-actualization - only if you make and trade a successful system of your own. One of the best books which can help you to start this fascinating journey is "Mechanical Trading Systems: Pairing Trader Psychology with Technical Analysis" by Richard L. Weissman.

Quote: " In the meantime, it cannot be emphasized enough that, at the very least, genuine success in trading markets involves the adoption of a trading system. Without the discipline of such a system, the very best efforts are likely to be doomed to failure." Tony Plummer in his book "Forecasting Financial Markets: The Psychology of Successful Investing".

There are no certainties in the forex trading, since the future will never be exactly the same as the past. There are only probabilities, which you can systematically put in your favour with the help of a established forex trading system.

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The article was written by the author of the www.forexhit.com.