

INTERVIEW

You're Able With AbleSys

Create Your Trading System With John Wang

John Wang received his bachelor's degree in chemical physics from University of Sciences and Technologies of China (USTC), his master's degree in quantum chemistry from Zhongshan University (China), and his doctorate in physical chemistry from University of California, Santa Cruz. He was a senior scientist at a leading gas analyzer company in Silicon Valley for 10 years. He began trading futures in 1989 and remains an active trader today.

A Commodity Trading Advisor (CTA) since 1995, Wang cofounded AbleSys in 1994, created the Spyglass trading system in 1992, ASCTrend indicators in 1995, developed the eASCTrend trading system in 2000, and introduced AbleTrend in 2007. His extensive background in both trading and natural sciences uniquely qualify him to create and develop computerized trading systems.

AbleTrend: Identifying And Analyzing Market Trends For Trading Success, the book written by Wang and his wife Grace, will be published by John Wiley & Sons in April 2010. You can contact John Wang at ablesys1@ablesys.com.

STOCKS & COMMODITIES Editor Jayanthi Gopalakrishnan and Staff Writer Bruce Faber interviewed Wang on November 9, 2009, via telephone and email.

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ohn, how did you get interested in the financial markets and technical analysis?

With a doctorate in physical chemistry, I was always most interested in discovering the hidden structure underlying life's seemingly random events. So it may not have been an accident that led me to turn my analytical eye on one of the world's most seemingly chaotic phenomena — the financial markets.

It all started when I was working as a senior scientist at a leading gas analyzer company in Silicon Valley, CA. It was 1989, and a friend talked me into investing \$10,000 in a Standard & Poor's 500 futures trading pool. My friend told me it returned 10% a month, and he told me he had received returns of \$3,000 in the previous three months. At that time, I knew nothing about trading, and that's why a 10% return per month didn't set off any alarms with me, indicating that it might be too good to be true. Two months later, the CFTC shut down the investment company, which was revealed to be a multimillion-dollar Ponzi scheme. I lost \$7,000 of the \$10,000.

This incident turned out to be a good thing for me. It introduced me to a whole new world — the futures and commodity trading

industry. And rather than scaring me off, it triggered my curiosity about trading.

What decisions led you to create AbleTrend?

We face these questions every day: Is market behavior random, or does it follow certain rules? Is the market completely chaotic, or is there a hidden order? Can markets be quantified or predicted using scientific methods? Most economists believe that markets are random and chaotic and cannot be predicted. A smart man once told me that if you could know just a bit about market law, the world would be yours. But most people don't believe there is such a thing as market law.

Up to that point, I had been steeped in the world of physics all my life. But thanks to my friend who introduced me to the world of investing, my interests broadened to include financial matters. But I was still a scientist, and the more I became interested in trading the markets, the more my scientific sensibilities were focusing that way. My work was driven by the dream that something better was possible.

I was looking for something fundamentally sound, something that should work

under any and all market conditions. It had to be universal, working in any market and for charts in any time frame: hourly, daily, weekly, and so on. If there was hidden order behind all markets — and I strongly believed there had to be — I wanted to find it.

Over a 20-year period from the 1960s to the 1980s, the National Science Foundation funded and supported thousands of scientists to finish a huge project: numerically working through most standard mathematical computations. On the shoulders of those scientists, I developed a simulation program by using the huge libraries of LINPACK and EISPACK. The LINPACK, used for linear algebra computations, was developed at Argonne National Laboratories. EISPACK is another huge software library for Eigen system solutions.

The software program I developed from 1983 to 1988 during my graduate study at UC Santa Cruz not only can be applied to molecular spectral simulations, but to any kind of mathematical simulation. That was why I decided to use this approach as the starting point of my investigation into the financial markets.

Applying it to the stock market proved to be complicated. I needed to simplify

the process and find mathematical models to simulate the DJIA index waves.

Then in 1994, after countless tests of different models and formulas, I hit on one proprietary mathematical model that worked very well with the DJIA index waves. I applied the model to other markets such as gold, wheat, Treasury bonds, and so on. They all showed positive results.

Why do you think that was?

When we ask, "What is the basic law behind each market move?" we discover that it is the market trend itself. But no one had ever described it before; there was no name for it yet. So I named this internal market force "AbleTrend." After creating the AbleTrend concept, I set the scientific formula to help develop a set of indicators. As a result of these efforts, market direction and key support and resistance levels are now easily plotted out and can be presented on paper or on a computer screen for any market and any time charts.

My wife Grace and I just finished writing a new book, *AbleTrend: Identifying And Analyzing Market Trends For Trading Success*, which will be published by John Wiley & Sons. It will give more information about this topic. In this book, we talk about how to define a trend, how to pinpoint the exact starting and ending points for a trend, how to define key support/resistance levels, and so on.

Let's talk about creating a trading system. What are the steps a trader should go through to do so?

There are three main steps a trader should follow. The first step is selecting a principle that is fundamental and universal, which must follow the natural law. For example, between trend-following and antitrend-following methods, I'll choose to use the trend-following method. Because of this, I eliminate the need to pick tops or bottoms. I also think it is impossible to pick tops and bottoms.

But even in nontrending markets, couldn't there be short-term trends that a trader could trade?

Yes, but I prefer not to catch the top or bottom. What I look at is a series of trends and label them trend 1, trend 2, trend 3, and so on. I prefer to use trend 2 and see if price trades at the stop level. If price does not penetrate the stop, it would be

a retracement. This means we can take a chance. So if the trend has already started and prices pull back close to the stop level I have set, I can take a chance on entering the trade because from there, I will know in a short time if I am right or wrong.

So what is the second step?

The second step is based on the idea that "less means more." You should focus on two key pieces of information — the market direction and the key support and resistance levels. You want to know if the trend is up or down and where the support and resistance levels are. I just concentrate on these two parts and try to get that right.

And what is the third step?

The third step is to build in backtesting and forward-testing, and paper-trade your modules to test the idea. Generally speaking, when developing a trading system, only 20% of the job should involve developing the trading system itself — developing formulas, designing indicators, and so on. Now, 80% of the job should involve validating the trading system, proving that the signals it provides lead to profitable trading decisions. Backtesting using historical data and forward-testing should be part of the validation process of any trading system. Think of it as parallel to developing laser-guided missiles where the testing, calibration, and global positioning systems have the same importance as the laser guidance system itself.

Why is backtesting important?

Backtesting is the first and easiest way to validate the signal algorithm. How can anyone trust colored bars or lights or whatever indications you are using if you have not validated it by backtesting? If you blindly follow unproven signals, you are just shooting in the dark. It will be costly. So make sure that whatever trading software you are using offers backtesting capabilities. You can validate the signals and strategies before you risk any hard-earned money. Trading with proven strategies is the best way humanly possible to trade in the market.

What is the importance of forward-testing and paper-trading?

Backtesting involves looking at data from the past and analyzing the perfor-

mance results. Forward-testing should really be called historical forward-testing. It doesn't mean testing from here on out. Assume we are looking at data from six years ago. Since we are now in 2009, it would mean going back to 2003, at which time we set the parameters of the program. So we test the system in 2004 and see how it worked.

Then we run the program again at the end of 2004, fix the parameters, and then test it to see how it performs during 2005. So you keep forward-testing in this way. The advantage of doing this is it gives more realistic results.

What about virtual paper-trading?

When you are paper-trading — that is, trading your system without risking any capital — you will buy and sell based on the buy or sell signals on the chart. The program will log in all your buys and sells. So you let the program go back, say one year, and then test it. This is a great way of testing to see if your system gives you the desired results.

When you test and analyze a trading system, what kind of variable do you consider?

For starters, we suggest you not change anything in your trading system when you are trading it virtually. If you do, the entire program will change so you don't know if it will work. So when paper-trading, just keep your parameters fixed. Let the program go back one year and let it run so you can see how the program works. You may see that half your trades win and half lose. But as long as your losses are small and your wins are big, you could end up having four to five good trades a month. This is why trend-following works.

What are the disadvantages of curve-fitting?

Curve-fitting tests how well the model is working for the past data. It has nothing to do with the future. Since we are trading the current and future markets, in most cases, curve-fitting parameters may not work for future markets. The more input parameters you use, the better the fitting can be. But since you are using more parameters, it becomes much more difficult to fit future market conditions. This is why we only allow two input parameters to vary in AbleTrend. The key is finding out the basic

INTERVIEW

market movement rules, not curve-fit the past specific historical data.

If a trading system is designed for a particular market, with a particular time interval, the programmer can curve-fit the historical data and come up with an unrealistic, overly optimized program.

Beware of programs designed to trade only one particular market with a particular time interval — for instance, a system that only trades the emini S&P two-minute chart.

Why is that?

Because it is very likely that the program is curve-fitting the historical data. A program based on curve-fitting is worthless because financial markets are dynamic and constantly changing. An algorithm based only on historical data ideally would work well only during that historical period. Only algorithms based on timeless and universal market principles work in today's markets — in all the markets, all the time.

Given that markets are always changing, how can you come up with an algorithm that works for all markets, all the time?

It's possible. Many people ask us if AbleTrend still works after being in the market for so many years. Our answer is that yes, it still works. You don't have to change the algorithm all the time in order to make it work in today's fast-changing, volatile markets. In fact, our core algorithm has not changed since we first implemented it.

The changes in today's marketplace are so dynamic, so relentless, and occur at such an increasing rate, that to meet the challenge of these fast-changing markets we need a reliable tool that cuts through the noise and keeps us pointing to the true direction of the market.

What is important is the identification of where to place your stops. Those should be at optimal levels and we usually use support and resistance levels. Your stop levels should provide you with flexibility for entering and reentering the market. Our stop values are driven from the market price's action and reaction, not from any arbitrary idea. Because of this, we are able to identify optimal stops for every trade. And as experience has shown me again and again, if you know where to exit the market, you can enter the market at virtu-

ally any time. Above all, a trading system should be universal and based on the natural law, which works for any market and any time charts. It should be time-tested and its principle should be timeless.

As algorithmic trading comes to the forefront, do you see the need to change any of your algorithms?

No, I don't see any need, since our software does not predict or forecast the market. It is merely an observation of market trends, a picture of market actions that you can visually see, and a language that the market is speaking that you can understand. It tries to become a mirror of the markets. All you need are the key pieces of information. If you have a chance to read our new book, you will understand why. The book has more than 320 pages with more than 20 case studies on how to identify and analyze market trends without using AbleTrend software.

The first thing we do is define a trend. So if you use a scientific method to define a trend, you will know when the trend starts and ends. We discuss how we scientifically define a trend. Simply, if you see a higher high and a higher low on any time chart, then you know an uptrend is formed. So there are two ways a trend could start. You could have a higher high first, or you could have a higher low first. So if a trend starts to move up, it is always from a breakout. So we are just looking for that breakout.

We don't need to change anything in our algorithm because when we define the trend, it is very clear and it's short so it can be applied to any time chart and any market. Similarly, for a downtrend we look for lower highs and lower lows. Again, there are two ways a trend can start. You can have a lower high first, or you can have a lower low first. As soon as that forms, you will see the downtrend start.

AbleTrend acts like a mirror of the markets. It simply acts on facts, so it's internally sound and timeless.

Incorporating risk management into a trading system is important and is something you have done. Why is risk management so critical?

Risk management in a trading system means knowing where to place your stops. It deals with intratrade management. There is another level called money management, which deals with intertrade trading size —

that is, the number of futures contracts or stock shares. You need to have both. One of the main reasons most traders lose money is that most traders cannot cut losses short, or it takes them too long to determine if being in a position is right or wrong. We have our indicators to determine if a trend is reversing or if it is a retracement. If it is a retracement, we will stay in our position. However, if it is a reversal, then we must exit or reverse the position. Markets are never wrong; it's our opinions that are wrong. We must have reliable risk management to follow the market's way.

Last question. Why is it necessary to have an objective trading system that takes all the emotions out of trading?

Trading is a zero-sum game. Every gain by one trader is offset by an equal loss by another trader. One man's pain is another man's gain. Obviously, it is every trader's goal to be on the winning side of the equation.

It is important to realize that a trading system alone cannot make you a successful trader. Given my long-term experience in the markets under a variety of conditions, I believe that a combination of the following four elements is the foundation on which we can build success in trading. It is necessary for traders to have all four elements working together. These four elements are:

- A profitable trading system/method
- Adequate capitalization
- Money management strategy, *and*
- Discipline or a winning trading psychology.

A profitable trading system is your foundation. Emotionless trading is a long-term training process that is based on the feedback of the performance of your trading system. Another important thing to keep in mind is to only risk the amount of money you can afford.

Thanks, John.

SUGGESTED READING

Wang, John, and Grace Wang [2010]. *AbleTrend: Identifying And Analyzing Market Trends For Trading Success*, John Wiley & Sons.