Pardo: System designer has another upgrade

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September 06, 2018
09:49 PM

Bob Pardo taught himself computer programming as he anticipated the direction of trading back in the 1980s when he was in charge of floor operations for Salomon brothers and worked on supporting the execution of trading legend John Meriwether's hedge fund.

"I bought an Apple II [and] taught myself programming. I wanted to use it to create trading signals and do market analysis," Pardo says.

This led him to build trading software, and when he was able to sell $3,000 worth of software at a trading show — a lot of money in the early 1980s — he saw there was interest and launched a software business.

"I built a program that became one of the first really capable and affordable charting programs for the small investor: Chartist. It evolved into Advanced Chartist, which then evolved into Advanced Trader," Pardo says.

At the time it, unlike now, it was not popular to sell off-the-shelf trading signals. However, Pardo had something altogether bigger in mind.

"With Advanced Trader we built a programming language that allowed people to do testing of trading ideas. This was before Easy Language," Pardo says. "We evolved that into Expert Trader that allowed people to test a portfolio of strategies in very flexible ways. I was always pushing the envelope for learning new stuff."

His work gained the attention of a big name. "Someone at Goldman Sachs found us and they were looking for an in-house white label program that could be adapted to their needs," Pardo says.

Unfortunately, when the three-year project ended, their benefactor at Goldman had passed away and his replacement was not interested in continuing the project, but Pardo's team had made progress. "We expanded Advanced Trader to be real-time and adapted it to read their data feeds, and we built an API into it," he says.

Pardo would then work with Daiwa Securities. That project was to build a trading platform based diversified by uncorrelated strategies, time-frames and markets. It was, if not the first, one of the earliest multi-strategy trading programs.

One of Pardo's models stood out and he continued to develop it into what would become his XT99 model that he perfected by the early 1990s, and would be the basis for a CTA. After meeting Pierre Tullier of DUNN Capital Management, Pardo agreed to work with him in offering the strategy to DUNN investors. DUNN ran it through its proprietary risk measures and would raise money for the program.

The strategy was highly successful, earning an annual rate of return of 21.07% from June 1999 through August 2011. In 2008 alone, XT99 earned 142.01%.

Pardo was happy earning fees from the strategy that managed roughly $40 million at its peak, but Pardo says that DUNN did not aggressively market the program that was highly correlated with DUNN's in-house strategies.

XT99 was an intermediate to long-term breakout strategy that fit into the broader CTA trend following space. "It traded off of the primary cycle of each of its markets," Pardo says.

One unique aspect of XT99 is that while it was the same strategy for all markets in terms of the general parameters, he customized it to each of the 40 markets it traded.

After the financial crisis, and with the world of managed futures becoming more institutional, returns like the ones XT99 produced — four years of greater the 60% including 142.01% in 2008 — became more of a liability than a selling point. "People literally complained about our 2008 performance; it was actually a turn off," Pardo says.

He would work on lowering the volatility and stopped offering it after August 2011, despite being in the midst of a positive year.

Walking Forward

While Pardo built numerous successful trading strategies and software packages and his CTA and XT99 strategy produced eye popping returns over more than a decade, he may best be known for his advancement of walk forward analysis.

Pardo created walk forward analysis as a way to optimize trading strategies in real-time without wasting a huge chunk of market data. At the time, strategy designers, if they did ANY out-of-sample testing, would often purchases large batches of data and split them into two piles: one dataset to optimize with, and another to test the strategy once it was optimized to ensure that strategy wasn't over-fit (often referred to as curve-fitting) to the data used in the optimization.

It is an essential part of testing a strategy because there is a risk of building a strategy that will produce solid returns on a previous timeframe but not in real market conditions, i.e. curve fit. The process of testing a strategy with out-of-sample data is essential, but the process can be costly and create other problems. With walk forward analysis a small portion of the testing data is held out to test the optimized strategy, and as the optimization continues that data will be included and the testing continues on an additional set of new data.

"It came about organically. Pardo Corporation had a program called Swing Trader [around 1986]. Swing trader was one of the first programs that allowed people to test a trading strategy and generate signals on it," Pardo says. "Traders would

create models, but some would fall apart after performing well in back testing. I learned that I had to walk some of these models forward manually to verify them. I then realized people were optimizing it, trading it for a while and then re-optimizing. In those days, it was hard to test a big window, but easy to test a small window due to very limited computer memory and storage.

Pardo read about moving windows and decided to build it into his software to see if it worked. He would take three years of data, leaving the last six months out to test once he optimized the strategy. He would then incorporate that data into his next optimization and test on the next six months of out-of-sample data.

"One of the biggest benefits is you are evaluating the strategy completely on out-of-sample data," he says. "It's a sequence of continuous walk-forward analyses of both in and out-of-sample windows. You move the whole window forward for six months and add the six months to the previous in-sample window and re-optimize and then test on the next six months of out-of-sample, and so on through the full testing history."

He says this is preferable to optimizing a strategy on 10 years of data and then testing it on two years. "A single out-of-sample test can be a fluke. The reason walk-forward is so helpful is that you are really doing a number of in-sample and out-of-sample tests. We have 20 to 30 walk forwards," Pardo says. "You have to look at the internal structure of the walk-forwards. You don't want to see all your money being made in a couple of windows; you want to see some consistency in all of the walk-forwards."

Another big benefit of walk forward analysis is that it allows the strategy to adapt to current market conditions. "You could do a walk forward on a roaring bull market, but it may not do so well if we go into a bear market," Pardo says. "There are still things that can go wrong, but ideally if you have enough different market regimes in your test period you will have a high level of confidence in it."

Optimizing XT99

Pardo's basic philosophy involves building trading programs that include multiple strategies that are not correlated. "If you put three uncorrelated strategies together that all produce $25,000 returns and a $10,000 drawdown, you will end of with a $75,000 return and a drawdown of [about] $10,000 to $15,000 instead of the sum of the three drawdowns," Pardo says.

When institutional investors began to balk at the strong returns of XT99, he began researching ways to reduce the volatility and maintain performance.

"I entered a phase of creativity at a level that I haven't had since the mid-1990s, and I found ways to change the basic algorithm of XT99 to have it produce uncorrelated strategies," he says.

What he came up with is the Pardo Renaissance Diversified program, which is a greatly enhanced version of XT99. It has numerous non-correlated strategies and is not as dependent on trend following and its need for really big moves to profit. "It is about 55% countertrend and mean-reverting and 45% with the trend,"

It is also shorter term with trades running two to six weeks instead of three weeks to three months with XT99. Renaissance has a portfolio of five to 10 strategies per market, running each individually. There are different trading paces for these different strategies. It trades roughly the same number of markets, but not entirely the same markets.

"For instance, XT99 was not very good trading the stock indexes; in contrast, Renaissance is extraordinary in the stock indexes," Pardo says. "We are also able to trade more varied markets with Renaissance than we could with XT99. We don't trade any of the foreign markets other than Brent crude and gasoil. It's mainly all domestic markets. In XT99 we were too bond centric. I don't want to have that kind of concentration. I like the mix we have now; we don't have any big concentration in any one sector."

While Pardo has not begun trading Renaissance with customer or proprietary money, the back test has been extremely promising. Backrest results show an annual return of 32.01% from January 2007 through May 2017 with a standard deviation of 10.9%, a worst drawdown of 5.22% and a Sharp ratio of 2.36.

Pardo is not planning on opening another CTA, but is working on building a relationship with a proprietary trading firm to run it in as a prop trading program, though he expects the strategy to be open to the public through the CTA arm of this partner.

Pardo has a long history of producing successful trading models, and while it may sound improbable for his latest strategy to match its back-tests performance, it does appear to be an improvement on his highly successful XT99 program.

Note – last I heard from Dan Collins, Modern Trader was out-of-business. The original article was in need of editing and although he wanted to do so, he indicated that he might not be able to do so.

I took the liberty of editing Dan's excellent article only to correct some typos and subtle inaccuracies. Bob Pardo 04-09-2020