Stocks & Commodities V. 29:7 (82, 78, 80-81): Calling The Tune In The Gold Market by Donald W Pendrgast, Jr.

RUSS SPITKOVSKI

Calling The Tune In The Gold Market

This trading system shows a glint of promise in trading the volatile precious metal.

Just about everyone seems to be aware of the long-running uptrend in the gold market, one that is now about 10 years old. Gold market traders, on the other hand, realize that the shorter-term swings and cycles in this highly emotional commodity are chaotic and unpredictable, and that a highly disciplined discretionary or mechanical trading system is an absolute must in order to make and retain trading profits. Here is a closer look at an intraday, fully mechanical trading system for gold futures.

A GOLD TRADING SYSTEM

Recently, I wrote an article based on an intraday gold futures trading system. The strategy trades the full-sized, front-month COMEX gold futures contract and it showed some promise, but after much forward-testing and further optimization, I decided to lay it aside until I could learn how to garner more consistent profits in the daytrading environment. I discovered, however, that a swing trading system, one that is allowed to hold positions overnight (as needed), seemed to allow for more consistent equity growth with fewer drawdowns. Here, we'll look at the basic code for this gold swing trading system and examine why it appears to work. We'll also determine if the method offers promise for budding system builders and traders as they seek to work with and even enhance this simple trading method (see Figure 1).

The gold futures trading system showed real promise in walkforward mode and also demonstrated a propensity to identify tradable reversal and breakout areas in a variety of market conditions. Intraday trend-following methods in the gold and silver markets are difficult to trade, much less gen-

by Donald W. Pendergast Jr.

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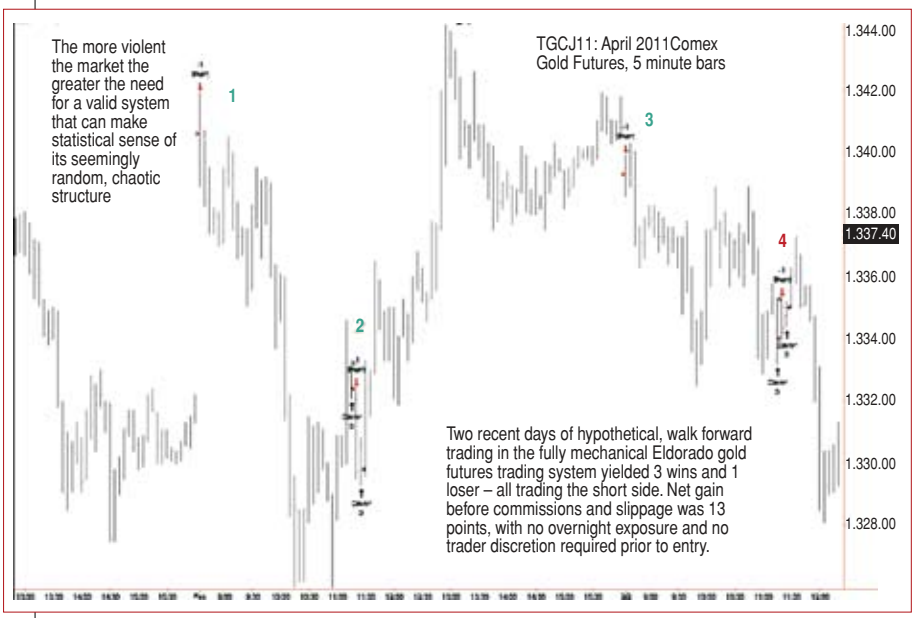

METASTOCK

FIGURE 1: THE ELDORADO GOLD SYSTEM. This gold futures trading system showed real promise in hypothetical, walkforward mode, and also demonstrated a reasonably good propensity to identify tradable reversal and breakout areas in a variety of market conditions.

erate a consistent profit from. If you look at this five-minute chart of the full-sized COMEX gold futures contract (April 2011 contract), you can see just why this is so; this market generates more chaos than a heavy metal rock concert (and just about any other liquid futures market), making it very hard for trading systems that depend on sustained directional movement to earn any meaningful profits at all.

I don't know about you, but the prospect of attempting to daytrade this market without a statistically viable system would not be appealing to me. It is all over the place, lacking any kind of rhyme or reason. Like some forms of music, the "sound" of this market is dissonant, and only a trained "ear" — say, an appropriate trading system — can even begin to appreciate its potential.

In the case of gold and silver futures, swing trading systems and long-term position trading systems tend to deliver more reliable profits for trend-followers, so keep that in mind when you're shopping for your next precious metals futures trading system. That brings us to our intraday gold swing trading system, which I'll call "GoldTASCMaster."

The GoldTASCMaster gold futures system tends to go long or short early in the daily session and allows a position to run until stopped out by a time exit (short entries only) or until a long position is closed out as a new short signal is generated by the system (making it a stop & reverse logic), never taking more than one trade entry on any given day. The system trades a five-minute bar using the front-month, full-sized COMEX gold futures contract and also relies on a fixed stop-loss of $600. No trailing stop is utilized. Commissions and slippage was included at a rate of $12.50 per contract, per side. You can find the EasyLanguage code in the sidebar, "EasyLanguage Strategy Code," on page 80.

TECHNICAL DEFINITIONS

Here are some definitions provided by Mike Bryant, the creator of Adaptrade Builder, the software used to create this code after I programmed it to seek a specific set of system performance characteristics for the intraday gold futures market:

NBarEnL4: Number of bars for entry, long side. This input is used in calculating the long entry price, where it determines the number of bars back that the highest function looks when calculating the highest of the low prices — that is, it calculates the highest of the lows over the past NBarEnL4 bars.

EntFrL: Fraction of the price difference for long entries. This is also used in calculating the entry price. The EntFrL value is the multiple of the price difference that is subtracted from the high to calculate the long limit entry price. The price difference is the absolute value of the difference between the high and the highest low over the past NBarEnL4 bars.

TimeExS: The time at which short trades are exited. When time reaches this point, the short trade is exited at market next bar.

Here are some other details in the code:

(EntriesToday(Date)<1: This simply is an instruction that limits the system to a maximum of one new trade entry (either long or short) on any given day.

Essentially, this system is seeking a statistically logical price area where a reversal is likely before initiating a new position. This works much better in a market that is just coming out of a trading range/consolidation phase just prior to embarking on a sustained intraday/multiday trend move than it does in a market already ensconced in a major trend thrust. In testing, the system also liked the idea of cutting short trades off early in the trading session, and the obvious reason for this is the upward bias of this market over the test period. Cutting trades short early seems to help lock in at least some profit rather than allowing a modestly profitable open trade to be stopped out instead as a loser as the gold bull continued higher.

This is not a magic or be-all/end-all system, one that you should go out and trade tomorrow morning. No, this is a simple system test, one designed to show that a potentially profitable gold futures trading system can be created without a lot of high-level math, programming, or chart reading skills. The system

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AT THE CLOSE

Continued from page 78

EASYLANGUAGE STRATEGY CODE
Population member: 52

```
Created by: Adaptrade Builder version 1.1.1.0
www.adaptrade.com
TradeStation code for TS 6 or newer
Build Dates: 11/5/2010 to 5/5/2011
----------
Inputs: NBarEnL4 (26),
 EntFrL (4.25),
 TimeExS (1030);
Var: EntCondL (false),
 EntCondS (false);
EntCondL = true;
EntCondS = true;

If (MarketPosition = 0 or time = SessionEndTime (0, 1)) and (EntriesToday (Date)
< 1 or time = SessionEndTime (0, 1)) and EntCondL then begin
 Buy next bar at H - EntFrL * AbsValue (H - Highest (L, NBarEnL4)) limit;
end;
If (MarketPosition = 0 or time = SessionEndTime (0, 1)) and (EntriesToday (Date)
< 1 or time = SessionEndTime (0, 1)) and EntCondS then begin
 Sell short next bar at market;
end;
If MarketPosition < 0 and time <> SessionEndTime (0, 1) then begin
 If time >= TimeExS then
 Buy to cover next bar at market;
end;
setstoploss (600);
```

does pass a basic TradeStation walkforward, out-of-sample stress test, so perhaps the code is something to be reckoned with, or one you can improve upon as you seek to apply it to other markets and time frames.

In Figure 2 you see the basic TradeStation system performance statistics. Yes, it's only a six-month test, but there is enough to suggest the method may be workable. For example:

- It makes money on both sides of the market, impressive for such a bullishly biased market
- Profit factor of 1.78
- Average win/loss ratio is 2.35
- Stays with a winning trade nearly three times longer than with losers
- No gap exits; the initial stop of $600 held in every case during the test
- Percent of time in the market is less than 19% — minimal exposure for traders.

TradeStation Performance Summary — Expand

	All Trades	Long Trades	Short Trades
Total Net Profit	$18,900.00	$12,305.00	$6,515.00
Gross Profit	$42,990.00	$22,385.00	$20,605.00
Gross Loss	($24,090.00)	($10,000.00)	($14,090.00)
Profit Factor	1.78	2.24	1.46
Total Number of Trades	162	35	127
Percent Profitable	43.21%	54.29%	40.16%
Winning Trades	70	19	51
Losing Trades	92	16	76
Even Trades	0	0	0
Avg. Trade Net Profit	$116.67	$353.86	$51.30
Avg. Winning Trade	$614.14	$1,178.16	$404.02
Avg. Losing Trade	($261.85)	($625.00)	($185.39)
Ratio Avg. Win:Avg. Loss	2.35	1.89	2.18
Largest Winning Trade	$2,815.00	$2,815.00	$1,825.00
Largest Losing Trade	($625.00)	($625.00)	($625.00)
Max. Consecutive Winning Trades	5	5	4
Max. Consecutive Losing Trades	10	3	10
Avg. Bars in Winning Trades	30.47	81.26	11.55
Avg. Bars in Losing Trades	10.67	26.38	7.37
Avg. Bars in Even Trades	0.00	0.00	0.00
Max. Shares/Contracts Held	1	1	1
Total Shares/Contracts Held	162	35	127
Account Size Required	$4,000.00	$2,220.00	$4,200.00
Return on Initial Capital	126.00%		
Annual Rate of Return	166.36%		
Return Retracement Ratio	6.10		
RINA Index	297.27		
Trading Period	5 Mths, 26 Dys, 30 Mins		
Percent of Time in the Market	18.99%		
Max. Equity Run-up	$23,005.00		
Max. Drawdown (Intra-day Peak to Valley)			
Value	($4,515.00)	($3,507.50)	($4,675.00)
Net Profit as % of Drawdown	418.60%	353.10%	139.36%
Max. Drawdown (Trade Close to Trade Close)			
Value	($4,000.00)	($2,220.00)	($4,200.00)
Net Profit as % of Drawdown	472.50%	557.88%	155.12%
Max. Trade Drawdown	($600.00)	($600.00)	($600.00)

FIGURE 2: TRADESTATION PERFORMANCE SUMMARY. This system is a foundation that could be used to create a workable system.

Okay, so it's a foundation upon which to build. Maybe. Let's run it through the TradeStation walkforward optimizer (WFO) and see if the system receives a "pass" or "fail" rating from this brand-new tool that is now available for use in TradeStation 9.0.

The WFO will periodically reoptimize using different system parameters (specified in the strategy formatting section of TradeStation) to see if this system is a pile of numerical trading debris or the seed of a truly viable and successful trading system.

In Figure 3 you see the equity curve of the continuously reoptimized system. It actually improved its performance compared to the static, single-parameter set of runs that were originally conducted in TradeStation. It may not be the straightest equity curve on record, but it got a pass rating in each of the five key categories tested by the WFO (overall profitability, walkforward efficiency, consistency of profits, distribution of profits, maximum drawdown), and that means the system has a very good chance of being profitable going forward.

Figure 4 displays the summary report for the walkforward optimizing tests. This is what you want to see when the WFO test is over. Things are looking encouraging for the

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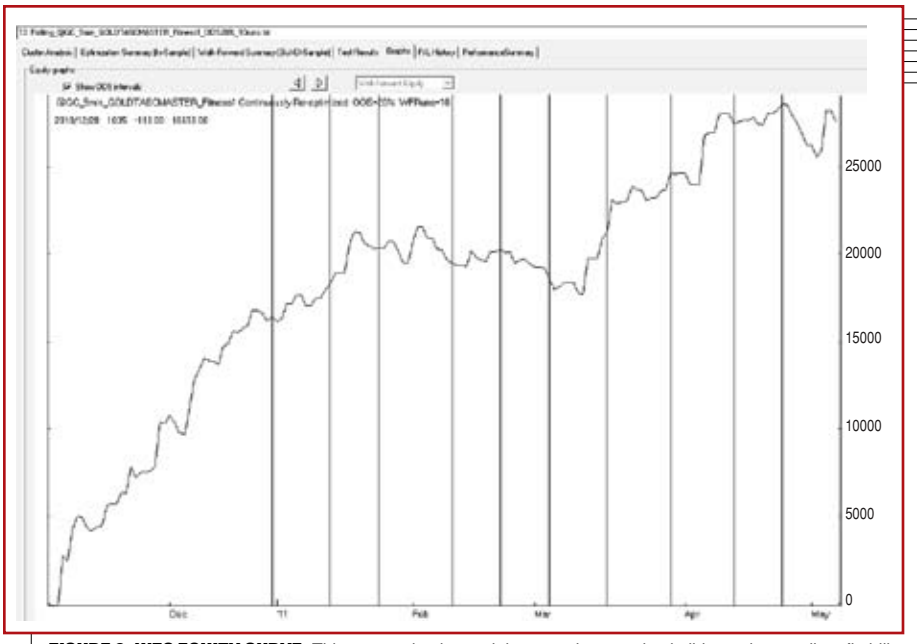
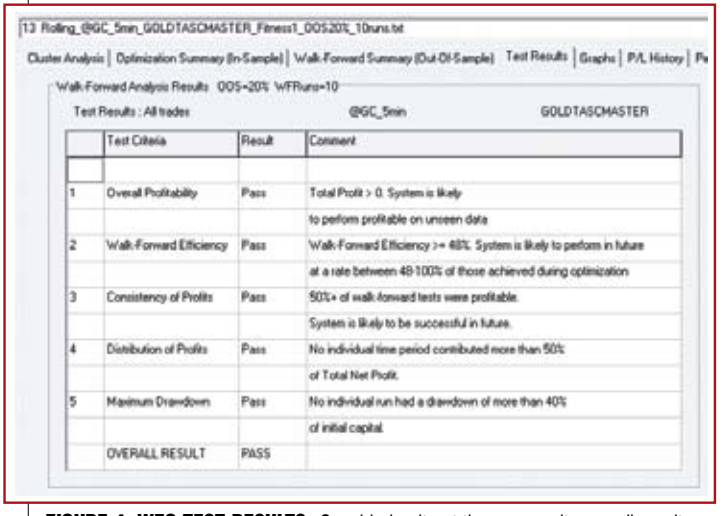


FIGURE 3: WFO EQUITY CURVE. This may not be the straightest equity curve but it did pass in overall profitability, walkforward efficiency, consistency of profits, distribution of profits, and maximum drawdown.



13 Rolling_@GC_5min_GOLDTASCMASTER_Fitness1_OOS20%_10runs.txt

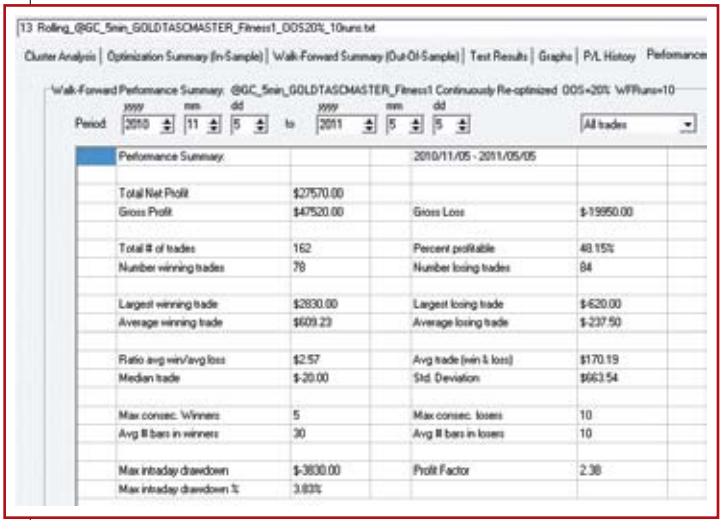
Cluster Analysis | Optimization Summary (In-Sample) | Walk-Forward Summary (Out-Of-Sample) | Test Results | Graphs | P/L History | Pe

Walk-Forward Analysis Results OOS=20% WFRuns=10

Test Results : All trades @GC_5min GOLDTASCMASTER

	Test Criteria	Result	Comment
1	Overall Profitability	Pass	Total Profit > 0. System is likely to perform profitable on unseen data
2	Walk-Forward Efficiency	Pass	Walk-Forward Efficiency >= 48%. System is likely to perform in future at a rate between 48-100% of those achieved during optimization
3	Consistency of Profits	Pass	50%+ of walk-forward tests were profitable. System is likely to be successful in future.
4	Distribution of Profits	Pass	No individual time period contributed more than 50% of Total Net Profit.
5	Maximum Drawdown	Pass	No individual run had a drawdown of more than 40% of initial capital.
	OVERALL RESULT	PASS	

FIGURE 4: WFO TEST RESULTS. Considering it got the pass as its overall result, we could have a system here that could be profitable.



13 Rolling_@GC_5min_GOLDTASCMASTER_Fitness1_OOS20%_10runs.txt

Cluster Analysis | Optimization Summary (In-Sample) | Walk-Forward Summary (Out-Of-Sample) | Test Results | Graphs | P/L History | Performance

Walk-Forward Performance Summary: @GC_5min_GOLDTASCMASTER_Fitness1 Continuously Re-optimized OOS=20% WFRuns=10

Period: 2010 11 5 to 2011 5 5 All trades

Performance Summary:		2010/11/05 - 2011/05/05	
Total Net Profit	$27570.00		
Gross Profit	$47520.00	Gross Loss	$-19950.00
Total # of trades	162	Percent profitable	48.15%
Number winning trades	78	Number losing trades	84
Largest winning trade	$2830.00	Largest losing trade	$-620.00
Average winning trade	$609.23	Average losing trade	$-237.50
Ratio avg win/avg loss	$2.57	Avg trade (win & loss)	$170.19
Median trade	$-20.00	Std. Deviation	$663.54
Max consec. Winners	5	Max consec. losers	10
Avg # bars in winners	30	Avg # bars in losers	10
Max intraday drawdown	$-3830.00	Profit Factor	2.38
Max intraday drawdown %	3.83%		

FIGURE 5: WFO PERFORMANCE SUMMARY. The walkforward optimizer test results are drastically better than the original test results. The original system was reoptimized every 700 price bars or so.

GoldTASCMaster, but let's look at one more test result to get a better numerical handle on what's going on here.

The WFO test results in Figure 5 are demonstrably improved over the best-case backtesting runs originally done at the time of system development in TradeStation. Reoptimizing the original system every 700 price bars or so helped keep the system in better time with the band calling the tune in the intraday gold market, or so it seems. There are those who believe that static, unchangeable system parameters are the best way to develop and then operate a winning trading system, but I am not a believer of that philosophy. And this WFO performance summary tells me that periodic reoptimization is the wisest way to keep a good system profitable over the long haul.

Remember that these are the preliminary steps that go into developing and then testing a trading system and that raw backtest results are one thing, but only the process of continual optimization, stress testing, and forward-testing will ultimately determine if the GoldTASCMaster will be able to perform as well in real-life trading as it has in the statistical-theory world of computer-generated modeling and backtesting. I will be doing just that kind of testing and hope to provide further updates and summaries in future issues.

Highly focused, goal-oriented repetition is the only way to achieve success in any field, whether it involves playing 64th notes at lightning speed on a Les Paul guitar or designing a reliable futures trading system that can consistently generate trading profits in a market that looks more like a World War II minefield than a level playing arena in the financial markets. Only after it produces consistently profitable walkforward, out-of-sample results will I be able to determine if it is a virtuoso performer or just another one-hit wonder.

Stay tuned for further updates, and we'll see if the GoldTASCMaster system has what it takes to make it in the world of gold futures trading or other gold tradables.

Donald Pendergast is a trading systems developer in Jacksonville, FL. He currently has two trading systems for the silver futures market at Striker Securities in Chicago, IL. The out-of-sample track record for the systems can be viewed at www.striker.com. He may be reached at www.linearjax.com or via email at linearjax@gmail.com.

SUGGESTED READING

Pendergast, Donald [2011]. "Gold Futures System Music To The Ears?" Traders.com Advantage, February 4.

_____ [2011]. "Making A Good System Great," *Technical Analysis of* STOCKS & COMMODITIES, Volume 29: January.

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