Could you use a purely mechanical timing formula that has produced 30 percent gains a Cyear since 1986 with strictly controlled risk? Nelson will teach you everything you need to trade the Pankin Sector Fund Strategy for exceptional profits and reduced risk. The Pankin Strategy trades Fidelity Select sector funds. Sector funds tend to trend more consistently than individual stocks or commodities and produce unusually reliable trading patterns. If you had traded this simple but powerful system over the past twelve years, you would have outperformed 99 percent of all Commodity Trading Advisors, yet the Pankin Strategy takes just a few minutes each week to update, uses straightforward logic and works for virtually any size account.

The Pankin Strategy has a superb hypothetical track record—35 percent annual gains since 1986 (real-time performance has been just as strong). However, the original strategy requires withstanding drawdowns most individual traders find unacceptable. Money manager Mark Pankin, developer of the system, posted returns of 57 percent in 1995 and 45 percent in 1996, but the drawdowns sometimes represented as much as 25 percent of total equity.

To better gauge the risk, Nelson tests the Pankin Strategy over a wider range of market conditions. In this workshop he will simulate Pankin trading back to 1970 (considerably longer than the Fidelity Select sector funds have actually been traded). You will see that the original strategy would have generated reassuringly strong profits throughout the past twenty-eight years, but with frequent and often punishing equity drawdowns (the maximum equity dip would have been an unacceptable 45 percent).

To help curb the risk, Nelson will introduce you to a variety of defensive tactics he uses in conjunction with the original Pankin Strategy. As he adds risk-control measures, you will observe a powerful trading system unfold. To insure that the evolving system is theoretically sound, he will test the findings across multiple portfolios, time frames and signals. The resulting variant of the Pankin Strategy has gained 30 percent a year since 1986 with just 12 percent drawdown!

Central to this final comprehensive trading system is a filter Nelson uses to confirm Pankin signals. He will demonstrate how this indicator is almost certain to capture every major stock market trend. With this and other defensive measures, you will trade the Pankin Strategy more confidently to achieve aggressive profits with limited risk.

* * *

Nelson Freeburg is editor of Formula Research, a monthly financial letter that builds systematic timing models for the futures, fixed income, cash and stock markets. Nelson took up trading while pursuing a Ph.D. at Columbia University. Totally absorbed by the financial markets, Nelson left academia. He decided to let the markets, rather than the university, provide his education. He began publishing Formula Research in 1991 in order to share his findings with a small nucleus of professional traders. Today Formula Research serves hundreds of money managers and serious researchers in the cash and futures markets. Nelson's subscribers include many of the leading names in global trading and finance.

Nelson initially confined his research and trading to chart signals. When overall results proved poor, he began to examine point and figure, Elliott Wave, Market Profile, candlestick analysis and an assortment of other technical theories. Nelson considers all of these methods deficient in their application because of their reliance on subjective judgment. In particular Nelson feels that chart patterns become elusive in fast-paced, highly leveraged markets (such as cash foreign exchange) and that the clear buy and sell signals illustrated in textbooks rarely appear as clearly and reliably in practice. To address these shortcomings, Nelson began testing the theories of leading technicians as well as his own theories against an extensive historical database covering a broad variety of traded market items.

Nelson uses the financial database which he built (that reaches back into the last century) to test systems in which he can examine clearly defined and precise mechanical buy and sell signals, devoid of subjectivity. Using these objective standards Nelson can rigorously evaluate complex system features. Additional rules such as the user's profit targets and stop orders, or mental stop points, can further strengthen this testing process. As a result of his research, Nelson has developed an impressive number of advanced trading systems.

TAG XIX LAS VEGAS 1997

Trading the Pankin Strategy for 30 Percent Annual Gains and Low Risk

NELSON FREEBURG



Nelson Freeburg
Formula Research
4745 Poplar Avenue
Suite 307
Memphis, TN 38117-4408
(901) 767-1956 O
(800) 720-1080 O
(901) 684-1178 FAX
nelson1@ix.netcom.com

The Pankin Strategy

I. Introduction to Sector Investing

A. Origins of the Pankin Strategy

- 1. Who is Mark Pankin?
- 2. The Fidelity Select Sector Fund Family

B. Pankin I

- 1. Trading Rules
- Risk and Reward: 1986-97

C. Pankin II

- 1. Trading Rules
- 2. Comparative Performance Edge: 1986-97

D. Testing Robustness

- 1. Parameter Sensitivity
- 2. Search for Concealed Risk

E. Pankin Model: Historical Simulation

- Nature of Test
- 2. Controls and Checks
- 3. Results of Rigorous Testing
- 4. The Pankin Track Record:
 - On the Plus Side: Strong Profits
 - ii. On the Minus Side: Potentially Heavy Risk

II. Trading the Pankin Strategy with Risk-Control Tactics

- A. Review of the Pankin Trading Rules
- B. Testing in Historical Depth
 - 1. More In-Depth Simulation Back to 1970
 - 2. Customizing the Pankin Formula
- C. Cutting Risk with a "Stop Loss" Exit

The views expressed by the speakers at the Technical Analysis Conference are solely the views of such speakers and are not the views of Dow Jones Markets. Such views are not intended to constitute investment advice and should not be relied upon to govern action in particular circumstances.

- D. Protecting Profits with a Retracement Stop
- E. Adding Price-Trend Confirmation
 - 1. "A Hitch to the Switch"
- F. More Price-Trend Confirmation
- G. Applications in Practice: Useful Guidelines for the Risk-Averse
 - 1. Simple Steps to Protect Profits and Cut Risk

III. Intense Testing of the Pankin Strategy

- A. Taking Stock
 - 1. A User-Friendly Summary of Findings So Far
- **B.** Answers to Key Questions
 - 1. Which is Better: Daily or Weekly Signals?
 - 2. Does It Matter if You Wait Until Monday to Trade?
 - 3. Is the Phenomenal Pankin Track Record an Artifact of Statistics?
 - 4. Does the Pankin Strategy Work Well with Other Funds or Sectors?
 - i. Rankin' by Pankin

IV. Confirming Pankin Signals with a Timing Model

- A. Search for a Trend-Sensitive Filter
 - 1. Background
 - 2. Test Assumptions, Controls and Constraints
- B. Initial Findings
 - 1. Six Timing Models Tested
 - 2. A Surprising Letdown
- C. Shifting Course: Introduction to the PENTAD Timing Model
 - 1. A Powerful Trend-Following System
 - 2. Will Capture Every Sustained Market Move
 - 3. Background: Two Types of Signal Confirmation
 - a. Filtered MA Crossover
 - b. MA Percent Swing
 - 4. Mechanics of PENTAD

- 5. Actions Rules:
 - i. Buy When 5 of 5 Components Bullish
 - ii. Sell When 2 of 5 Components are Bearish
- 6. Derivation of PENTAD
 - i. Test Procedures
 - ii. Out-of-Sample Testing
- 7. PENTAD Performance History

D. Back to the Quest for a Timing Model Filter

- 1. A Promising New Insight
- 2. Case Study in Risk Control: Air Transport Stocks in 1989

E. Adding New Defensive Tactics

- 1. Initial Stops
- 2. Retracement Stops

F. Historical Simulation with the Vega Model

- 1. Test Controls and Procedures
- 2. Performance: 18 Custom Sectors, 1970-96
- 3. Performance: Fidelity Select Family, 1986-97

G. Historical Simulation with PENTAD

- 1. No Change in Formulas/Parameters
- 2. Encouraging Performance: 18 Custom Sectors, 1970-96
- 3. Strong Gains, Low Risk: Fidelity Select Family, 1986-97

H. Parameter Sensitivity

- 1. More Rigorous Simulation
- 2. Consistent Results Across Broad Signal Mix
- 3. Exceptional Returns with Strictly Controlled Risk

V. Conclusion

- A. Summary and Trading Recommendations
- B. Nelson's Personal Trading of the Pankin Strategy
- C. Epilogue
- D. Answers to Your Questions

THE PANKIN STRATEGY

Trading Sector Funds for Aggressive Profits and Limited Risk

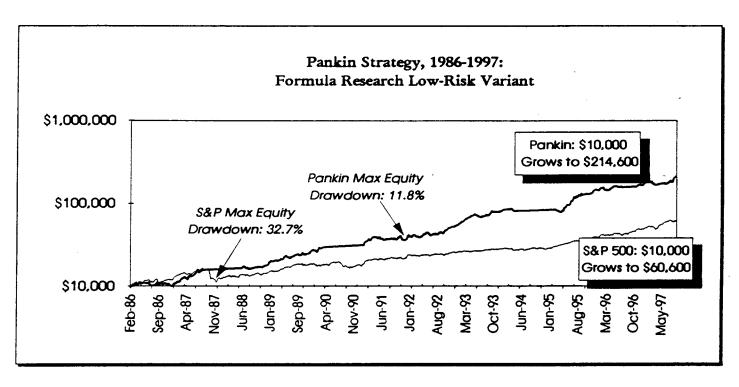
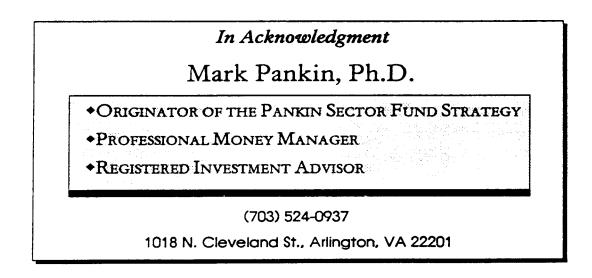


Figure 1



Fidelity Select Portfolios: Performance Since 1990

Fund	GPA	Fund	GPA	Fund	GPA
Air Transport	13.4%	Energy	9.0%	Med. Delivery	21.%
Automotive	17.5%	Energy Serv.	9.4%	Multimedia	15.2%
Biotech	17.8%	Environmental	4.8%	Natural Gast	10.9%
Brokerage	18.9%	Fin. Services	21.3%	Paper & For.	12.8%
Chemicals	15.1%	Food & Ag.	16.3%	Regn'l. Banks	23.4%
Computers	27.5%	Health Care	23.7%	Retailing	17.2%
Construction	12.0%	Home Finance	29.8%	Software	26.0%
Consumer Pr.†	14.1%	Indust. Equip.	15.6%	Technology	26.8%
Dev. Comm.†	22.1%	Indust. Mat'l.	14.4%	Telecomm.	16.9%
Def. & Aero.	24.8%	Insurance	15.1%	Transport.	16.3%
Electronics	33.8%	Leisure	14.5%	Utilities Grw.	11.3%
Benchmarks –	S&P 500	Total Return: 16.6	6% - Mon	ey Market Fund: 4	1.8%

†Fund started after 1990

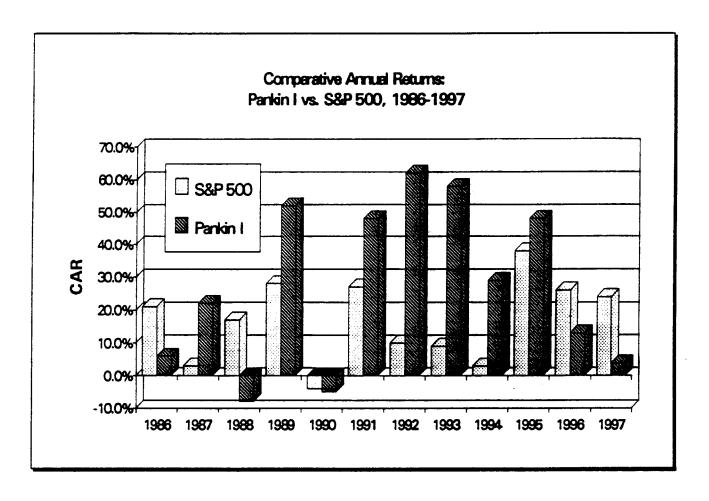
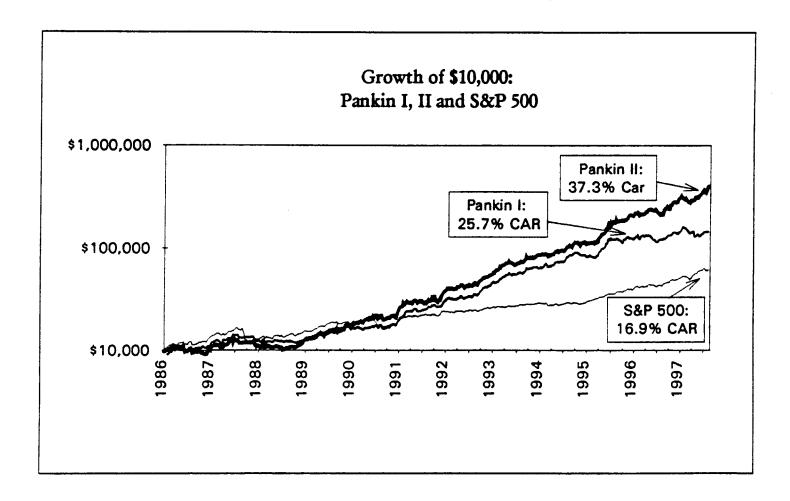


Figure 3

Performance Statistics: Pankin I vs. 8&P 500, 1986-97							
	CAR	\$10,000 Grows to	Max DD	No. Trades	No. Winners	Winning Percent	
Pankin I	25.7%	\$146,125	19.9%	83	56	67%	
S&P 500	16.9%	\$62,256	32.7%	n.m.	n.m.	n.m.	

Performance Statistics: Pankin I, II & S&P 500, 1986-97							
	CAR	\$10,000 Grows to	Max DD	No. Trades	No. Winners	Winning Percent	
Pankin II	37.3%	\$399,846	24.6%	49	66	74%	
Pankin I	25.7%	\$146,125	19.9%	83	56	67%	
S&P 500	16.9%	\$62,256	32.7%	n.m.	n.m.	n.m.	

Figure 5



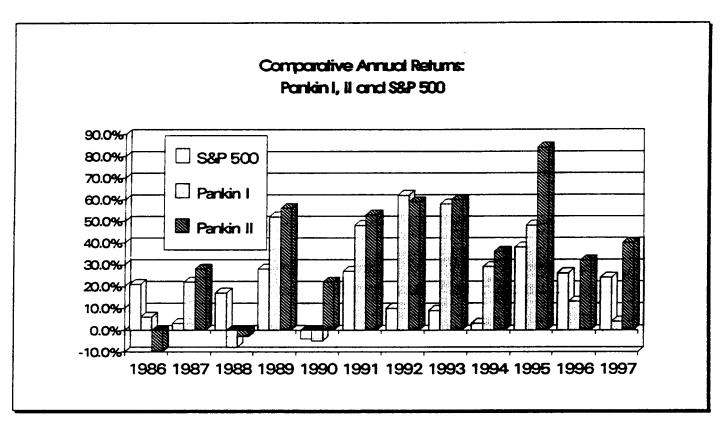


Figure 7

Industry	Groups	5
AMR	DAL	UAL
F	GM	GT
MER	PWJ	TA
DOW	DD	UK
HWP	IBM	MSFT
EK	GS	МО
ВО	GD	MD
AHC	CHY	XON
DL	HLI	SLM
AXP	FNM	JPM
K	MCD	PEP
BMY	MRK	JNJ
ALD	CAT	GE
DIS	HIL	PRD
всс	GP	IP
KM	TAN	S
AEP	D	GTE
	AMR F MER DOW HWP EK BO AHC DL AXP K BMY ALD DIS BCC KM	F GM MER PWJ DOW DD HWP IBM EK GS BO GD AHC CHV DL HLI AXP FNM K MCD BMY MRK ALD CAT DIS HIL BCC GP KM TAN

Figure 8

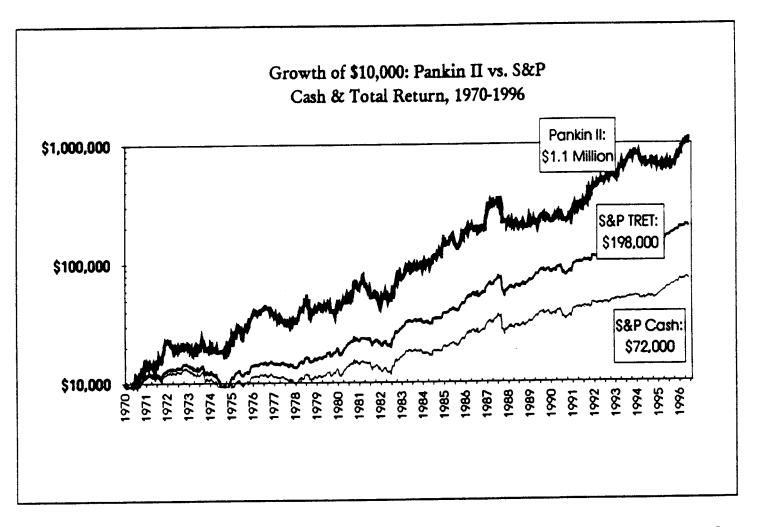


Figure 9

His	torical S	Simulation:	Pankin	vs. S&P	500, 1970-	1996
	CAR	\$10,000 Grows to	Max DD	No. Trades	No. Winners	Winning Percent
Pankin	19.4%	\$1,098,100	44.0%	172	110	63%
S&P 500	12.1%	\$206,700	44.7%	n.m.	n.m.	n.m.

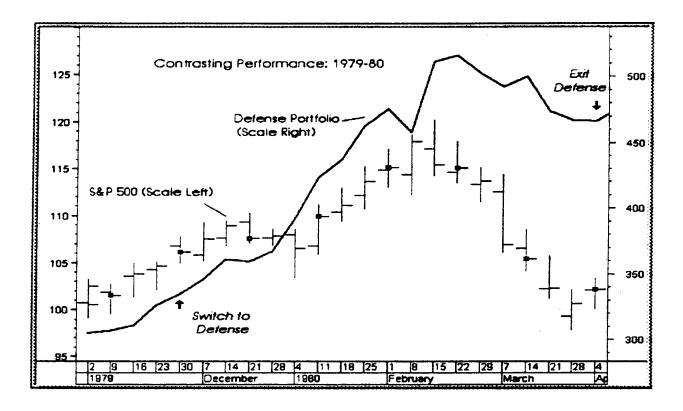


Figure 11

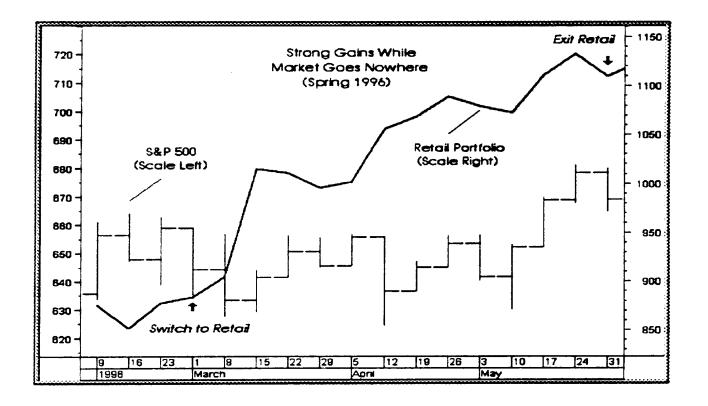


Figure 12

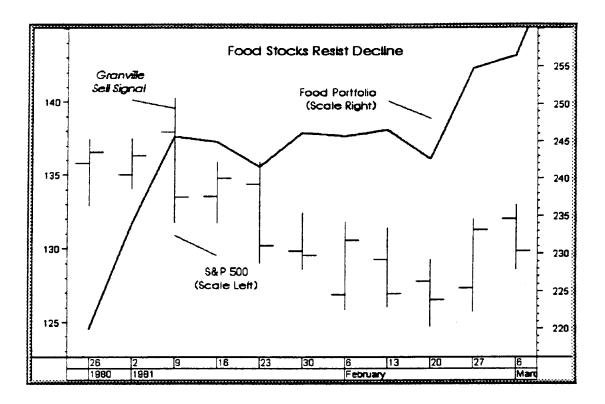
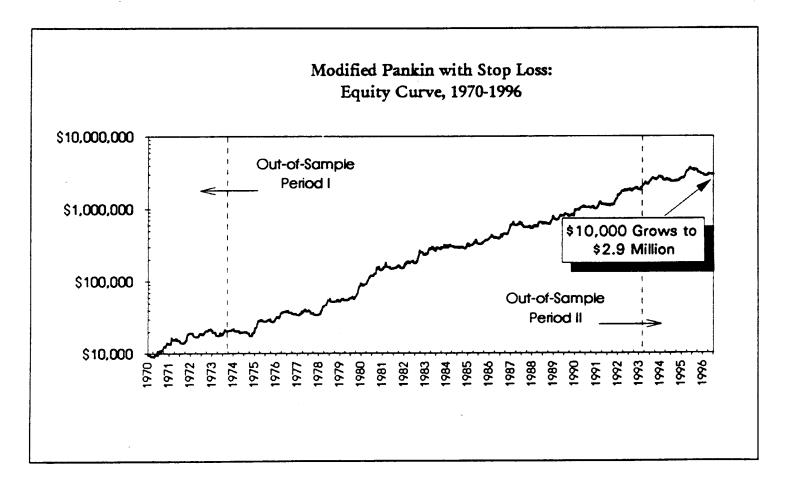


Figure 13



Historical Simulation: Pankin Variants vs. S&P 500, 1970-96							
	CAR	\$10,000 Grows to	Max DD	No. Trades	No. Winners	Winning Percent	
Pan-Mod I	23.9%	\$2,897,700	25.4%	191	124	65%	
Pankin	19.4%	\$1,098,100	44.0%	172	110	63%	
S&P 500	12.1%	\$202,700	44.7%	n.m.	n.m.	n.m.	

Figure 15

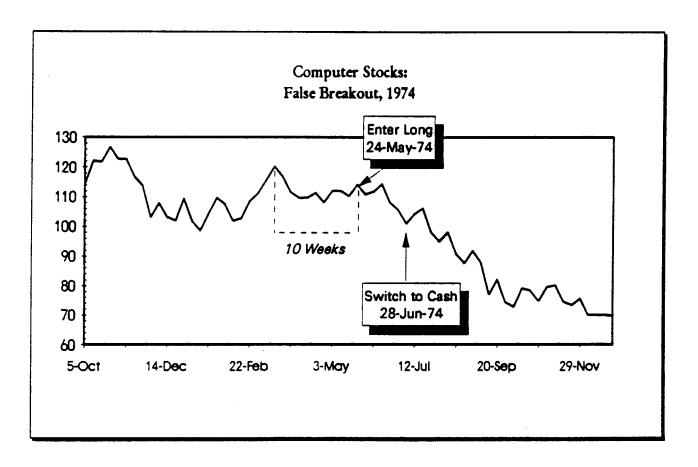


Figure 16

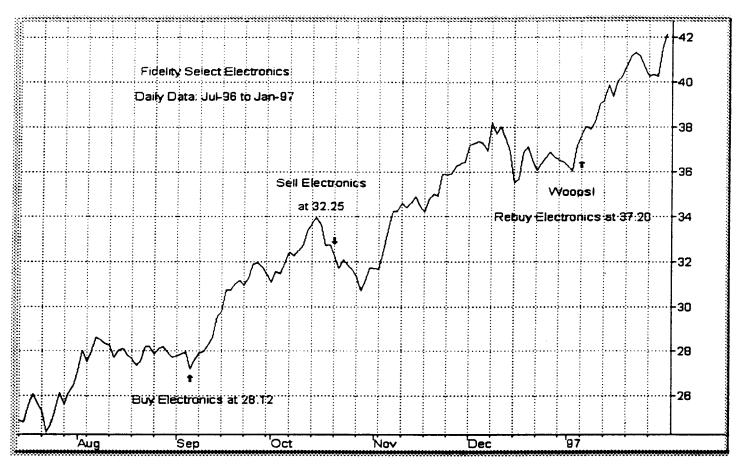


Figure 17

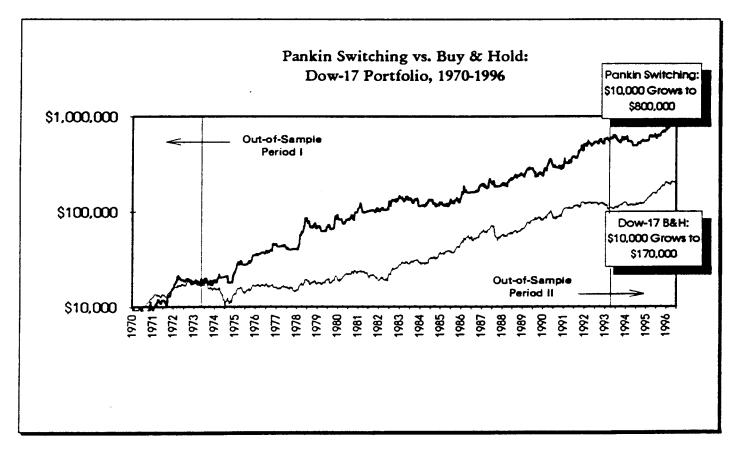


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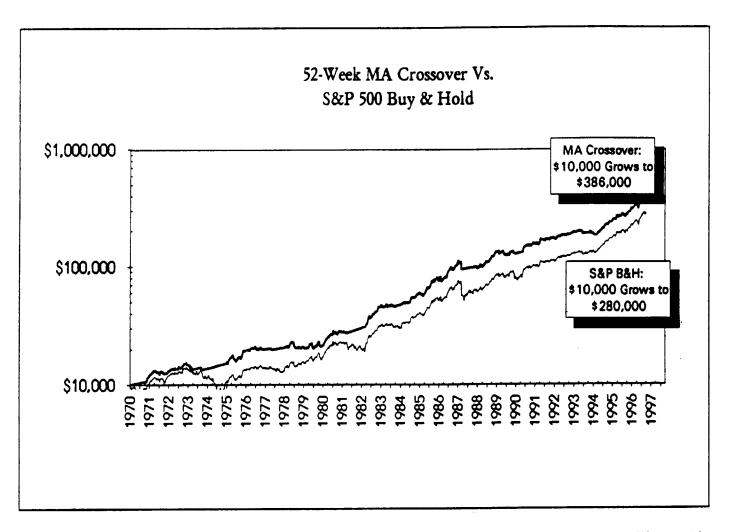


Figure 19

5	2-Week	MA Cross	over vs.	S&P 500), 1970-199)7
	CAR	\$10,000 Grows to	Max DD	No. Trades	No. Winners	Winning Percent
Crossover	14.1%	\$386,000	15.5%	16	35	45%
S&P 500	12.8%	\$280,000	44.7%	n.m.	n.m.	n.m.

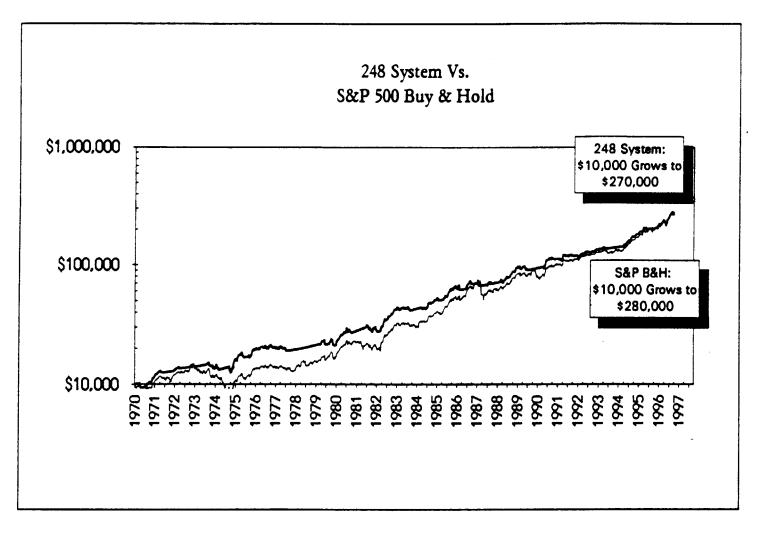


Figure 21

	248 System vs. S&P 500, 1970-1997						
	CAR	\$10,000 Grows to	Max DD	No. Trades	No. Winners	Winning Percent	
248	12.7%	\$270,000	18.6%	17	24	70%	
S&P 500	12.8%	\$280,000	44.7%	n.m.	n.m.	n.m.	

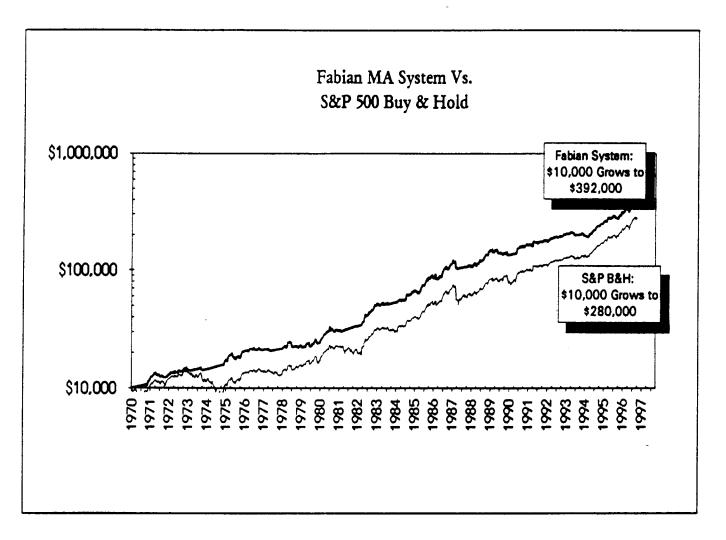


Figure 23

	Fabian System vs. S&P 500, 1970-1997								
	CAR	\$10,000 Grows to	Max DD	No. Trades	No. Winners	Winning Percent			
Fabian	14.2%	\$392,000	15.5%	21	37	56%			
S&P 500	12.8%	\$280,000	44.7%	n.m.	n.m.	n.m.			

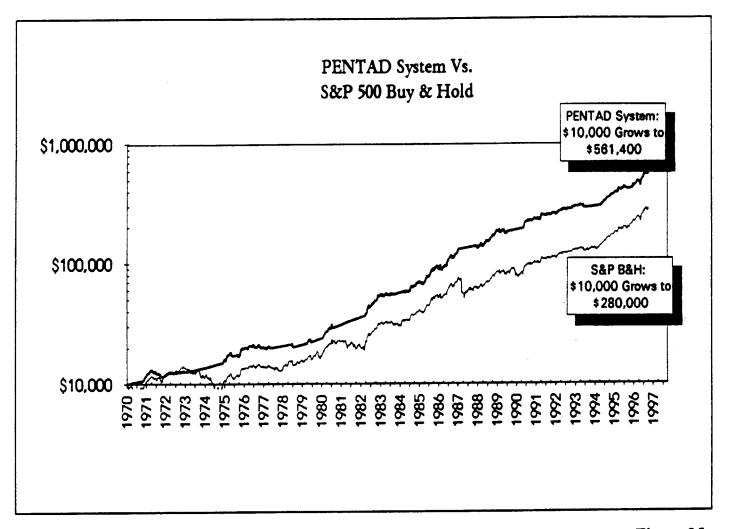


Figure 25

PENTAD System vs. S&P 500, 1970-1997								
	CAR	\$10,000 Grows to	Max DD	No. Trades	No. Winners	Winning Percent		
PENTAD	15.6%	\$561,400	12.3%	12	16	75%		
S&P 500	12.8%	\$280,000	44.7%	n.m.	n.m.	n.m.		

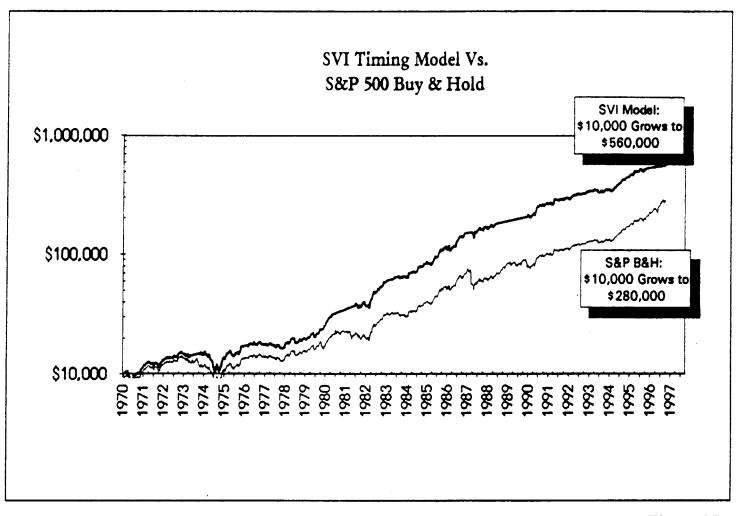


Figure 27

SVI Timing Model vs. S&P 500, 1970-1997							
	CAR	\$10,000 Grows to	Max DD	No. Trades	No. Winners	Winning Percent	
SVI	15.6%	\$560,000	35.7%	12	13	92%	
S&P 500	12.8%	\$280,000	44.7%	n.m.	n.m.	n.m.	

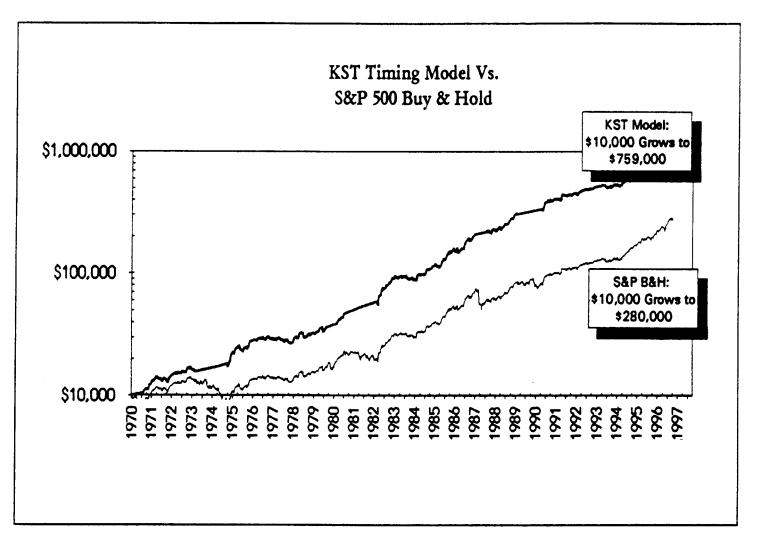


Figure 29

KST Timing Model vs. S&P 500, 1970-1997							
	CAR	\$10,000 Grows to	Max DD	No. Trades	No. Winners	Winning Percent	
KST	16.9%	\$759,000	14.1%	6	6	100%	
S&P 500	12.8%	\$280,000	44.7%	n.m.	n.m.	n.m.	

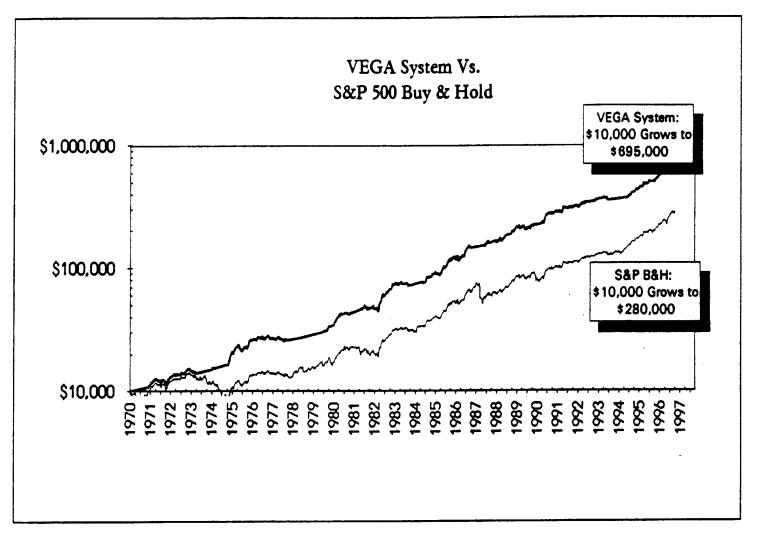


Figure 31

VEGA System vs. S&P 500, 1970-1997							
	CAR	\$10,000 Grows to	Max DD	No. Trades	No. Winners	Winning Percent	
VEGA	16.5%	\$695,000	11.5%	21	24	87%	
S&P 500	12.8%	\$280,000	44.7%	n.m.	n.m.	n.m.	

Perfoi Research N	mance o lodels as				-96
	One-Week Signal Lag			Action on Day of Signal	
Model	GPA	DD		GPA	DD
Vega	24.7	35		23.6	33
Filtered KST	23	32		23.5	32
SVI	21.8	36		21.8	36
Pentad	21.1	35		20.5	35
Fabian	16.2	44		18.4	40
248	14.5	35		17.8	35
Average	20.2	36		20.9	35
Unfiltered Pani	kin Perforn	nance: G	PA:	19.4% D	D: 44%

Figure 33

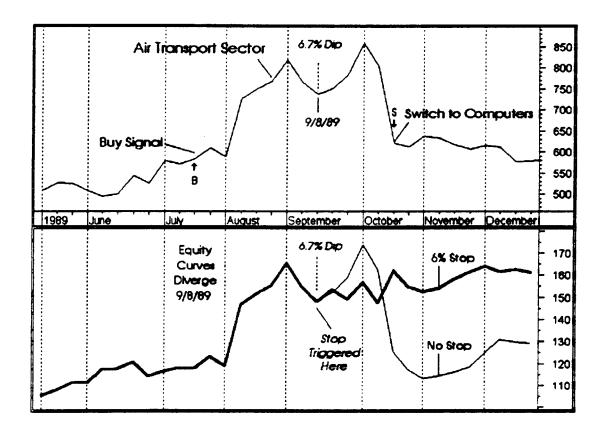


Figure 34

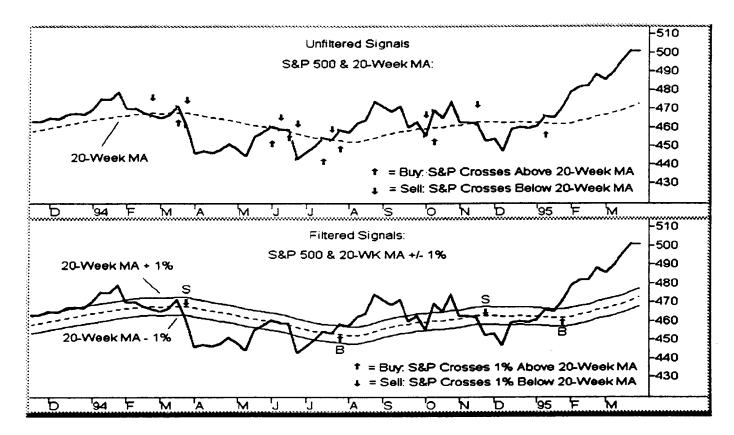


Figure 35

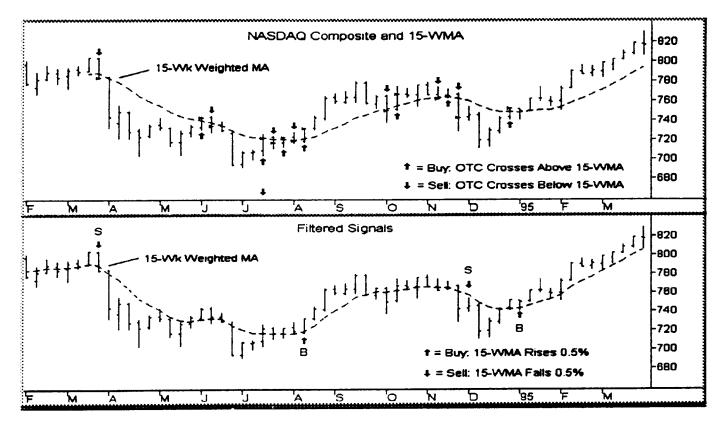


Figure 36

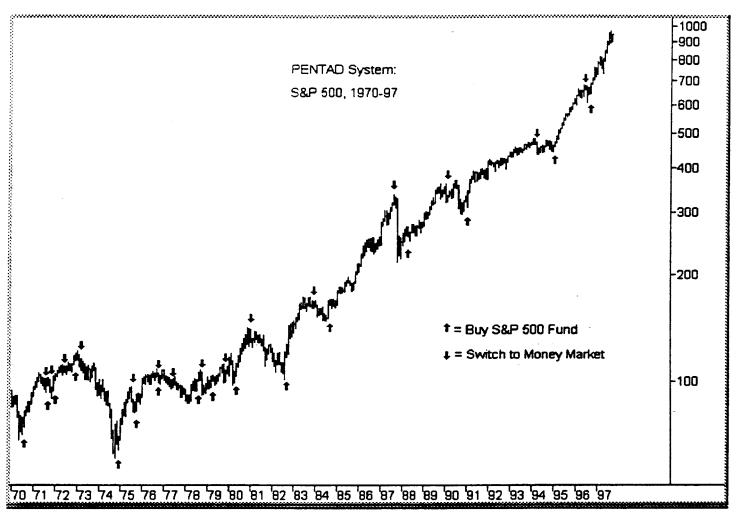


Figure 37

Stock Index	MA Type	MA Length	Signal Mode	Buy Filter	Sell Filter
S&P 500 Cash -	WMA	65 Wks	CR	0%	3%
Weekly Adv/Dec Line -	WMA	14 Wks	CR	.5%	2%
Dow Jones Transports -	SMA	25 Wks	CR	.5%	2.5%
Dow Jones Utilities -	SMA	27 Wks	SL	0%	3%
Dow Jones 20 Bonds -	WMA	38 Wks	CR	1%	2%

¹ SMA = Simple Moving Average. WMA = Weighted Moving Average

² SL = Slope signal. CR = Crossover Signal

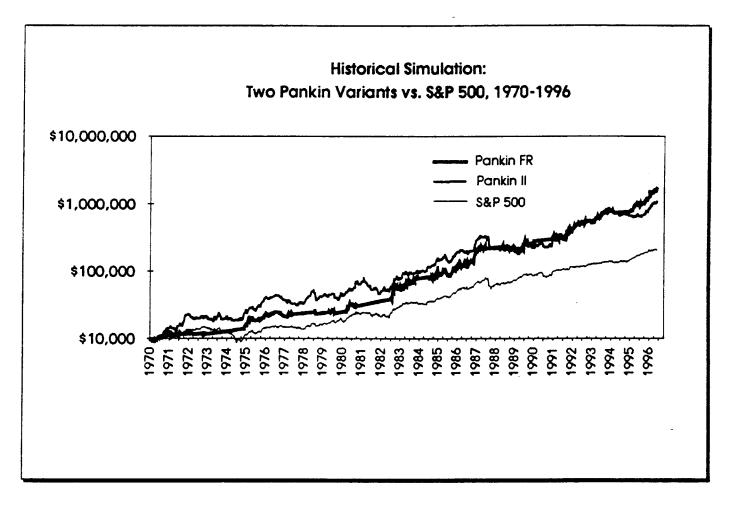
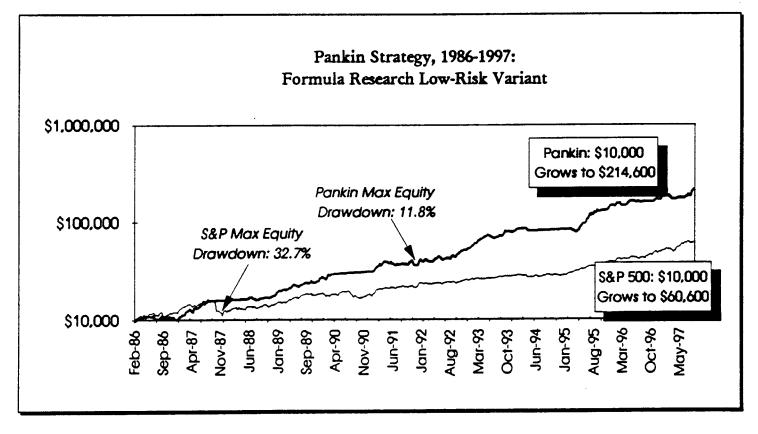


Figure 39

Historical Simulation: Pankin Variants vs. S&P, 1970-1996							
	CAR	\$10,000 Grows to	Max DD	No. Trades	No. Winners	Winning Percent	
Pankin FR	21.4%	\$1,674,600	21.1%	110	156	71%	
Pankin	19.4%	\$1,098,100	44.0%	172	110	63%	
S&P 500	12.1%	\$206,700	44.7%	n.m.	n.m.	n.m.	

Performance with Alternate Stop Values and Timing Filters: Fidelity Selects, 1986-1997.							
Initial Stop	Retrace Stop	Vega GPA	V eg a	Pentad GPA	Pentad DD		
4%	7%	27.2	11.8	30	11.8		
4%	8%	27.2	11.8	30	11.8		
4%	9%	27.2	11.8	29.1	11.8		
5%	7%	30	14.2	30.1	13.1		
5%	8%	30	14.2	30.1	13.1		
5%	9%	30.6	15.7	27.4	15.7		
6%	7%	30.5	14.2	30.2	13.4		
6%	8%	30.5	14.2	30.2	13.4		
6%	9%	28.7	15.7	27.5	15.7		
	Averages	29.1	13.7	29.4	13.3		

Figure 41



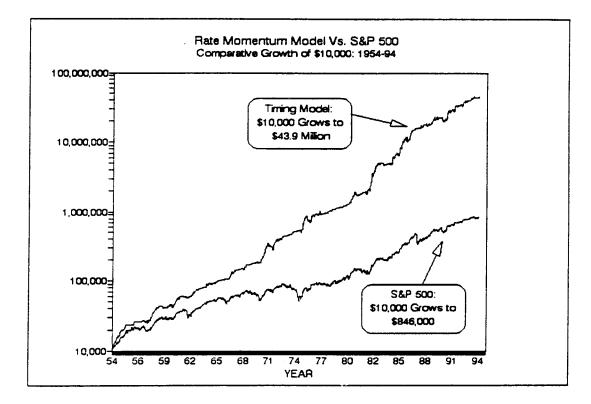
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Sample Charts From Past Reports

Augus<u>t</u> 1994

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Despite its simplicity, this model put you on the right side of the market through most of the past 65 years. During bear markets you would have been largely on the sidelines. During powerful advances, you would have captured most of the gains while deftly avoiding the 1987 Crash and other painful setbacks.

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Nolson Fredy

Nelson Freeburg, Editor

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WALK FORWARD

Using optimization

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Practice your trading skills

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View it as an opportunity 54

INTERVIEW

Jay Kaeppel on devising and implementing a trading *62* strategy

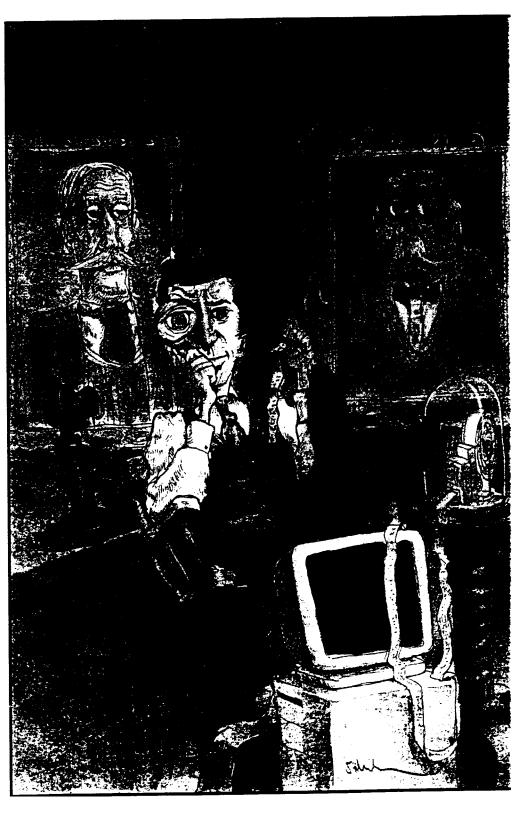
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by Thom Hartle



s a reader of STOCKS & COMMODITIES magazine, you are, by my estimate, a far more serious individual than 95% of the trading popu-

lation. You are looking to hone your trading and investment skills using whatever methods and resources available. One leading resource for you to peruse is the FORMULA RESEARCH newsletter, edited and published by Nelson Freeburg.

Why should I consider Freeburg's work a leading resource? Because I agree with his core philosophy as a viable approach to trading markets. His philosophy is to develop and present trading systems that are documented by rigorous testing via statistical methods. Trading systems that depend on anecdotal evidence or hindsight for feasibility will never appear in Freeburg's work.

Nelson Freeburg's personal history is a rather interesting one. When he was a graduate student in the field of world politics, he worked on developing quantitative models of thermonuclear war. While it may, at first, seem like a big jump from that background to designing a trading system for the Standard & Poor's 500, the mathematical skills necessary to do either successfully do overlap. Consequently, you, as a reader of FORMULA RESEARCH, benefit from his insight into important developmental issues such as in-sample, out-of-sample back-testing and parameter optimization, as well as his refinements of other system developers' work.

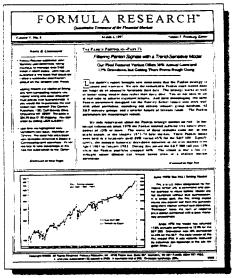
MODELING THE MODEL

A typical issue of FORMULA RESEARCH begins with a short commentary giving the reader a historical review of the genesis of this month's system. His ideas are drawn from his own work, as well as that of others. Freeburg always documents his sources, in case you wish to do further research into any of the timing models discussed. Next, trading rules are explained as well as any important background information. Freeburg always writes in a style that makes you feel as though that you're looking over his shoulder, contemplating right along with him as to whether this particular idea really warrants the work.

Of course, Freeburg would never waste your time with pages of discussion without a point to be made. (In fact, the publication schedule is based on the successful conclusion of research and not necessarily a monthly schedule.) With Freeburg's guidance, you just get a better feel for what is transpiring during the distillation of the trading rules from general concept to a definable strategy. And that's the goal: A clearly defined strategy that can then be tested over different market periods.

POTPOURRI

What are typical models that Freeburg details? How about systems for timing sector funds, or stock index futures? Are you interested in trading Treasury bond futures, or maybe gold stocks? Maybe you're a fan of foreign currency futures. Do you follow various sentiment indicators, or do you want to trade based on intermarket relationships such as the Commodity Research Bureau (CRB) index versus the Treasury bond market? Freeburg has looked at strategies for all of these markets and more. He's up to Volume V, Number 8, which indicates the amount of work that Freeburg has published since 1991, the year that FORMULA RESEARCH began.



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FINIS

The best traders use a sound methodology. Granted, there are traders who use strictly discretionary approaches using insight refined from years of experience, but if you really want to use technical methods, the approach should be based on a set of rules that has been back-tested. Even though the system may not hold up going forward, if it didn't make money under the scrutiny of a historical review, then how could anyone expect success in the future?

But just taking a system and applying it is certainly a challenge under the pressure created from uncertainty about the future, and therein lies a large part of the value of Freeburg's work. Not only do you receive the set of rules, you also witness the development of the system. Your level of comprehension of the method will be high, which should translate into an easier time of following the rules. In fact, I would recommend that you spend time reviewing the track record with a week-by-week or day-byday look at the charts. That way, you're sure to fully understand the system's strengths and weaknesses.

What does it all come down to? If you're working on your own or looking for quality work, then FORMULA RESEARCH is a great value!

Thom Hartle is the Editor of STOCKS & COMMODITIES.