



FORD INTRODUCES NEW VALUE/MOMENTUM MODEL

September 30, 1997

Ford is introducing a new Value/Momentum Model based on earnings yield, earnings momentum and price momentum. The model produced excellent results in 100, 50, and 25 stock portfolios using both six-month and 1 year holding periods. For those interested in implementing the new model, the weightings or additional custom testing to tailor it to a specific investment process can be provided. For EPIC subscribers, new software that can generate the model results is available upon request. The model ranking will also be added to the Ford data base publications in early 1998.

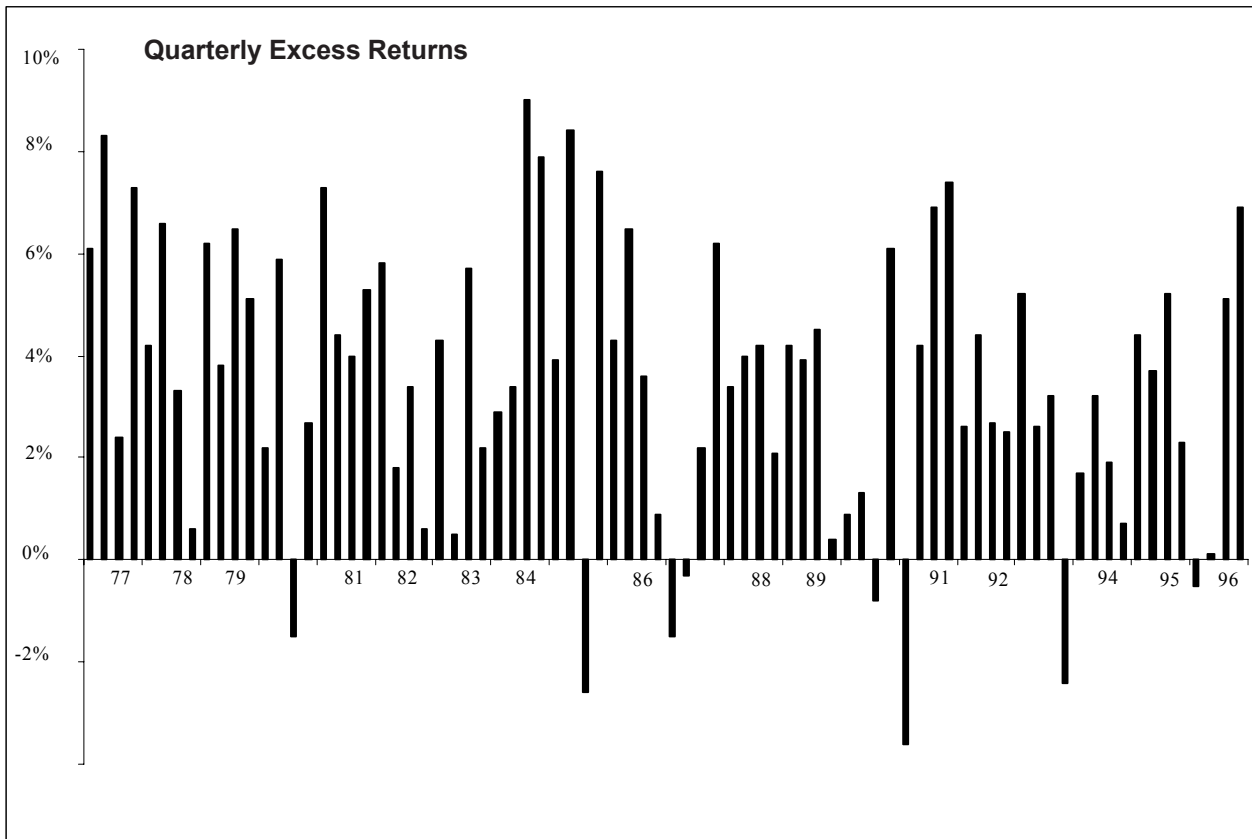
The research to develop the new model involved multiple regression analysis using Ford's MicroHIPER software. Ten variables including common and proprietary measures of value, sales and earnings momentum, and price momentum were used separately to rank the stocks in the Ford universe. These variable rankings, in various logical combinations, were regressed against the dependent variable future quarterly return ranking (FRQ) over a 20-year time period ending December, 1996. Over 45 regressions were performed to find a set of variables that had little overlap (low correlation between independent variables) and which fit the regression line relatively well as described by the R-squared.

The resulting Ford Value/Momentum Model is the weighted average of the ranking of three variables; earnings yield based on the trailing three quarters of operating earnings plus the current quarter estimate, Ford's Earnings Momentum (EMO), and Ford's Price Momentum (PRM). It is not surprising that these variables should rise to the top in this analysis. The April, 1997 Special Study highlighted the improved effectiveness of earnings yield based on the trailing three quarters of operating earnings plus the current quarter estimate versus other earnings yield calculations based on historical earnings or earnings estimates figures. EMO, which adjusts Ford's earnings trend (SED) variable for the volatility of earnings has historically been a good compliment to value and growth strategies. In addition, Ford's Price Momentum compares very favorably as a trading model with other relative strength and price change models. The model in its final form comprises an expression containing the ranking value of each of the three variables multiplied by coefficients obtained from the regression analysis.

Stocks in the Ford Universe with a quality rating of B- or better were divided into deciles based on the model rankings with the best rankings in decile one. In addition, the Ford B- or better universe was divided into three groups based on market capitalization and decile performance was run on each of these groups. Top decile performance was excellent for the total universe of B- or better quality stocks as well as for each of the three subgroups sector by capitalization. From 12/76 to 12/96, the average annual excess return for the top decile of the model was 16.1% for the total universe and 8.6%, 14.6%, and 24.1% for the large, mid and small cap groups, respectively. The

information coefficient for the model (a measure of how predictive the model is on individual stocks) was 9.3 with a T-stat of 3.62 indicating strong correlation between the model rankings and future monthly performance of individual stocks.

While the decile performance numbers are impressive, the turnover associated with the model is substantial due to its momentum aspects. In order to make the model useful, we worked to apply it in a portfolio context with hold criteria to reduce turnover while maintaining performance results. Three 25-stock portfolios with varying hold criteria were created within each of the universes (total, large cap, mid cap, and small cap). In each universe, the portfolios were created to hold the best 25 model stocks, which resulted in very high turnover rates in each case. The 25-stock portfolios were then constructed with hold criteria to approximate 6 month and 1 year holding periods. Approximating a 6 month holding period produced the best transaction adjusted results for large and mid cap stocks. For the small cap stocks, the 1-year time horizon was more successful. In the 6-month portfolio of the total B- or better quality stocks, annual excess returns after transaction costs were 9.5% over the universe. The best portfolios of large, mid and small cap stocks posted excess returns over their universes of 6.7%, 5.6% and 8.8%, respectively. Note that round-trip transaction costs are stepped up from 1% for the total universe and large caps to 2% for the mid cap stocks and 3% for the small cap stocks.



The model exhibited remarkable consistency across the 20-year test period. The top decile of B- or better quality Value/Momentum stocks posted quarterly returns in excess of the corresponding universe in 90% of the quarterly time periods covered.

VALUE/MOMENTUM MODEL

Ford Universe B- or better

Decile performance, monthly rebalancing

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>ALL</u>
12/76-12/81	39.2	29.4	28.1	23.6	19.1	14.4	13.2	10.0	3.8	-3.4	17.3
12/81-12/86	40.3	33.3	29.9	27.2	24.8	19.9	18.6	16.0	11.0	1.1	21.9
12/86-12/91	24.0	21.7	19.0	15.9	15.5	14.4	9.9	10.2	5.3	-1.5	13.3
12/91-12/96	30.0	24.8	20.6	20.8	17.0	12.8	12.0	11.2	8.1	5.0	16.1
12/76-12/96	33.2	27.2	24.3	21.8	19.1	15.3	13.4	11.9	7.0	0.3	17.1
12/76-12/96	IC	9.3	T-Stat 3.62								

Best 25 Stock Portfolio Performance, monthly rebalancing

	Held Best 25	Held Best 500	Held Best 1000
Annualized Performance	39.4	32.0	25.3
Perf after 1% trans cost	18.5	26.6	23.4
% Turnover	829.3	211.1	74.4
Ann. Standard Dev.	21.1	19.8	19.2
Universe Performance	17.1	17.1	17.1
Ann. Standard Dev.	15.7	15.7	15.7

Large Capitalization, B- or better quality (Top Third of Ford Universe by Capitalization)

Decile performance, monthly rebalancing

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>ALL</u>
12/76-12/81	26.2	19.4	19.5	13.0	14.8	9.8	9.9	3.9	2.4	-5.7	11.1
12/81-12/86	28.5	27.2	23.8	23.1	21.2	20.4	15.6	17.2	10.5	6.5	19.4
12/86-12/91	16.9	16.9	18.4	13.7	15.2	14.6	15.6	13.7	12.4	7.3	14.6
12/91-12/96	22.4	20.7	20.7	17.8	15.5	13.5	10.3	11.2	7.5	8.4	14.8
12/76-12/96	23.5	21.0	20.6	16.8	16.6	14.5	12.8	11.4	8.1	3.9	14.9

Best 25 Stock Portfolio Performance, monthly rebalancing

	Held Best 25	Held Best 200	Held Best 300
Annualized Performance	24.2	23.5	20.2
Perf after 1% trans cost	16.1	21.6	19.3
% Turnover	682.1	158.5	75.5
Ann. Standard Dev.	17.4	16.7	16.7
Universe Performance	14.9	14.9	14.9
Ann. Standard Dev.	14.9	14.9	14.9

VALUE/MOMENTUM MODEL

Middle Capitalization, B- or better quality (Middle Third of Ford Universe by Cap)

Decile performance, monthly rebalancing

	1	2	3	4	5	6	7	8	9	10	ALL
12/76-12/81	34.1	27.9	27.8	22.7	21.4	17.4	14.9	10.8	5.1	-2.4	17.7
12/81-12/86	37.8	35.0	30.3	28.8	26.7	18.6	18.6	14.7	8.2	-0.7	21.5
12/86-12/91	24.5	18.2	18.3	13.8	17.3	13.7	7.6	10.8	6.1	0.4	13.1
12/91-12/96	29.9	22.8	18.4	19.9	16.3	14.7	14.0	9.2	6.5	6.8	15.8
12/76-12/96	31.5	25.8	23.6	21.2	20.4	16.1	13.7	11.4	6.5	1.0	16.9

Best 25 Stock Portfolio Performance, monthly rebalancing

	Held Best 25	Held Best 200	Held Best 300
Annualized Performance	32.3	27.0	23.9
Perf after 2% trans cost	14.3	22.5	21.5
% Turnover	742.8	181.8	98.4
Ann. Standard Dev.	18.7	18.1	18.1
Universe Performance	16.9	16.9	16.9
Ann. Standard Dev.	16.1	16.1	16.1

Small Capitalization, B- or better quality (Bottom Third of Ford Universe by Cap)

Decile performance, monthly rebalancing

	1	2	3	4	5	6	7	8	9	10	ALL
12/76-12/81	48.3	41.3	33.6	34.6	25.9	18.1	15.4	14.4	8.2	-2.9	23.0
12/81-12/86	57.5	37.8	37.5	27.2	25.8	22.9	19.4	16.4	7.8	0.8	24.7
12/86-12/91	32.3	28.0	20.6	16.4	13.5	12.8	7.0	6.2	-3.3	-8.3	12.1
12/91-12/96	36.5	30.2	23.2	23.5	16.3	12.2	13.1	12.4	8.1	1.9	17.5
12/76-12/96	43.3	34.2	28.6	25.3	20.2	16.4	13.7	12.3	5.1	-2	19.2

Best 25 Stock Portfolio Performance, monthly rebalancing

	Held Best 25	Held Best 200	Held Best 300
Annualized Performance	48.3	33.9	32.1
Perf after 3% trans cost	18.9	25.8	28.0
% Turnover	753.8	211.4	107.8
Ann. Standard Dev.	20.5	18.8	18.2
Universe Performance	19.2	19.2	19.2
Ann. Standard Dev.	17.1	17.1	17.1