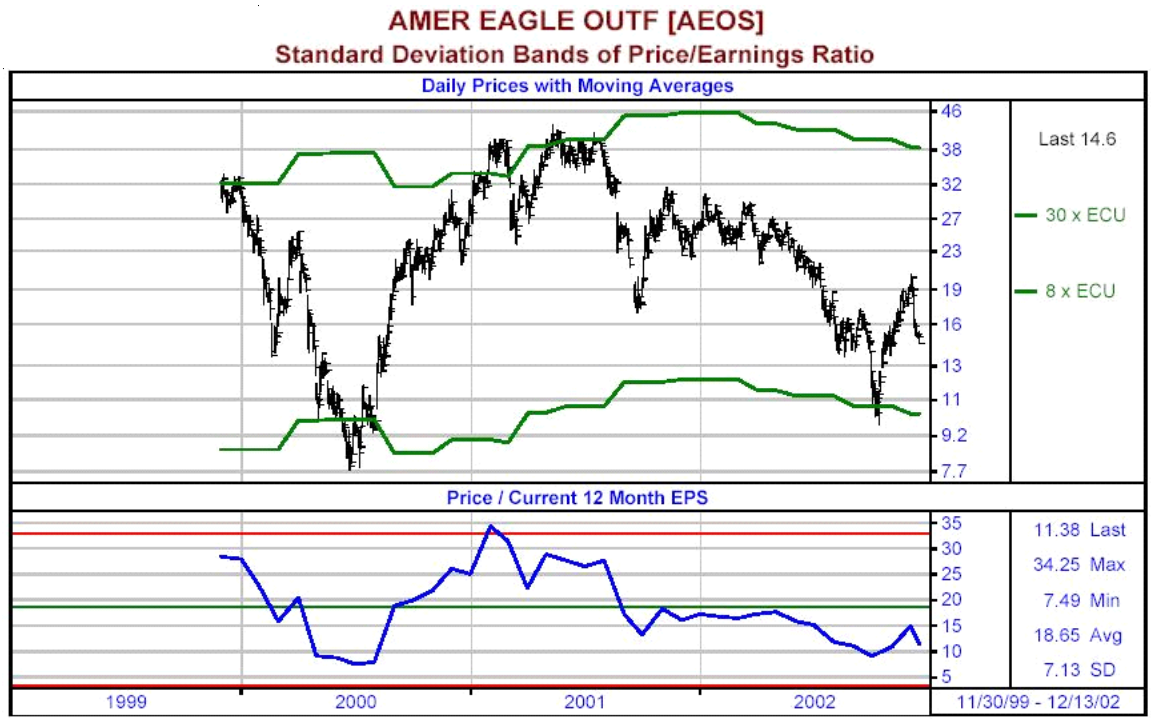
Ford Equity Research Special Study

Using P/E Ratio Standard Deviation Bands to Improve Performance
December 31, 2002



Our recent introduction of Ford Custom Graphs allows for the visual analysis of over 50 variables over a 30 year time frame. Inter-relationships between variables can be studied to investigate an investment theory or confirm an ongoing process. The visual presentation makes this work simple and fast.

One way to use the Ford Custom Graphs is to look at a stock's price level relative to its historical price/earnings ratio. The application facilitates this by plotting a plus and minus two standard deviations band around the mean price/earnings ratio. The standard deviation bands measure the amount of historical variation from the average P/E. The average P/E plus or minus two standard deviations represents the range that P/E ratios will fall 95% of the time. A quick visual inspection shows instances when the stock price is approaching extreme levels of valuation based on its historical price/earnings ratio. As the stock price approaches the upper band limit, the analyst might view the valuation as a possible warning signal. Unless earnings increase or price earnings expansion above historical norms occurs, the stock price is likely to decline. Conversely, as the stock price approaches the lower band limit, it may signal a potential entry point for the stock. In this situation, barring price/earnings contraction below historical norms or earnings deterioration, the stock price would be expected to rise.

In order to support the assertion that this relationship between the price/earnings ratio standard deviation bands and future price performance exists, we used Ford's Historical Performance testing application (HIPER). Three-year averages and standard deviations were computed for each company in the Ford Universe. The current price/earnings ratio was then compared with the average P/E plus or minus two standard deviations (current 12 month reported earnings per share (ECU) was used in the computation of P/E). The stocks that had P/E ratios that equaled or exceeded the limits set by the standard deviation bands were placed into separate portfolios. The average portfolio sizes were 25 and 150 stocks for those hitting the bottom and top bands, respectively. Monthly returns on these portfolios were computed for the time period 12/81 to 12/01.

As the table below shows, screening based on current P/E relative to the P/E standard deviation bands seems to successfully predict future performance when averaged over the twenty year period 12/81 to 12/01. Selecting portfolios of companies hitting the bottom standard deviation band of P/E produced average annual returns that exceeded the Ford universe of stocks return by 8.6%. Similarly, the portfolios of companies hitting the top standard deviation band of P/E posted average annual returns 5.3% lower than the Ford universe of stocks. So, on a relative return basis the bands prove very useful.

Annualized Returns of Stocks Hitting Bottom & Top Bands

Year	Hits Bottom Band	Hits Top Band	Ford Universe Return
1982	42.8	22.1	30.1
1983	-15.6	23.2	33.2
1984	4.1	-5.0	1.2
1985	36.1	31.4	30.5
1986	13.5	13.9	13.1
1987	74.2	-11.5	-2.6
1988	26.8	21.1	25.5
1989	1.7	17.3	17.3
1990	-24.7	-27.3	-16.7
1991	61.9	28.7	42.2
1992	22.3	7.8	19.4
1993	3.3	6.8	18.8
1994	10.7	-6.2	0.9
1995	31.2	33.6	27.4
1996	51.3	16.1	20.5
1997	60.3	23.7	25.9
1998	0.5	-1.4	0.4
1999	18.5	16.2	21.4
2000	49.4	13.5	-0.1
2001	80.3	5.4	22.0
1981-2001			
Annualized	24.2	10.3	15.6
Std. Dev.	22.1	14.9	17.7

We were also able to use HIPER to evaluate the predictive usefulness of the P/E standard deviation bands stock by stock on an absolute basis. For each instance that a stock's P/E ratio hit or exceed the bounds of the P/E band its future performance for 1 month, 3 months, 6 months, and 1 year was measured. The results of this test are shown below. Hitting the bottom standard deviation band is more predictive of price direction than is hitting the top band. As can be seen, 70% of those companies that hit the bottom P/E band had price increases in the one year forward period. In contrast, only 41% of companies posted price decreases one year after hitting their top P/E band. Also interesting to note, as holding period increases, stocks hitting the bottom P/E band have an increased likelihood of showing the expected price move. The opposite is true of those hitting the top band.

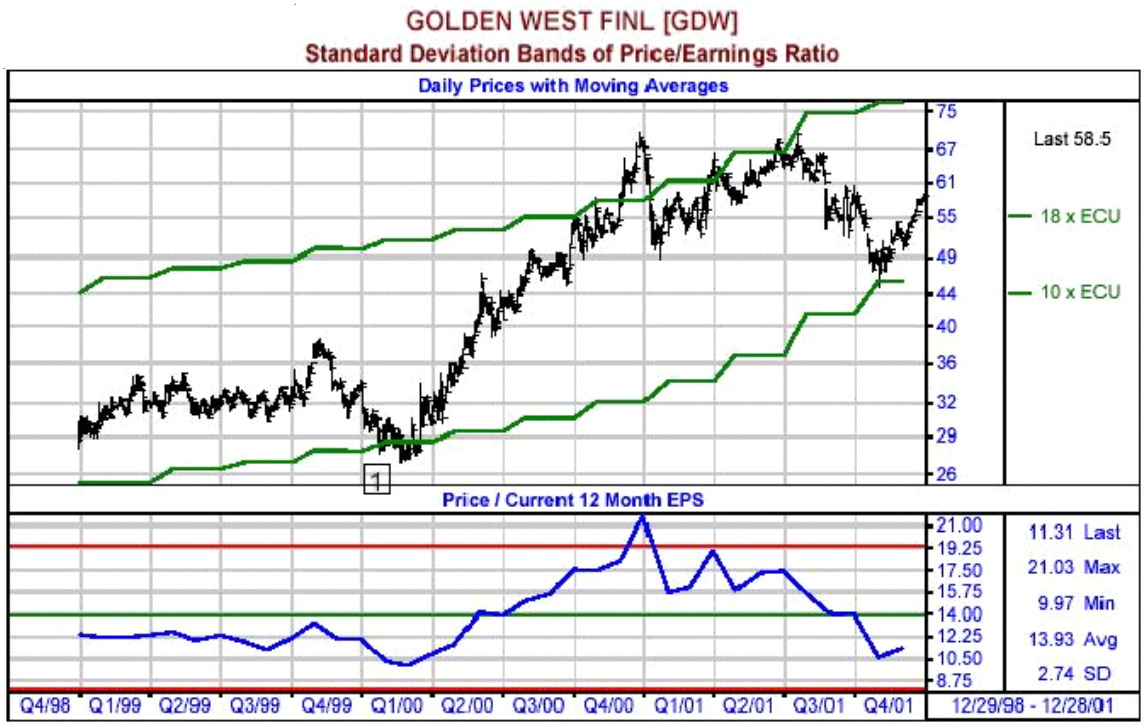
Bottom Band Statistics

% of stocks up following month	60%
% of stocks up following quarter	66%
% of stocks up following 6 months	68%
% of stocks up following year	70%

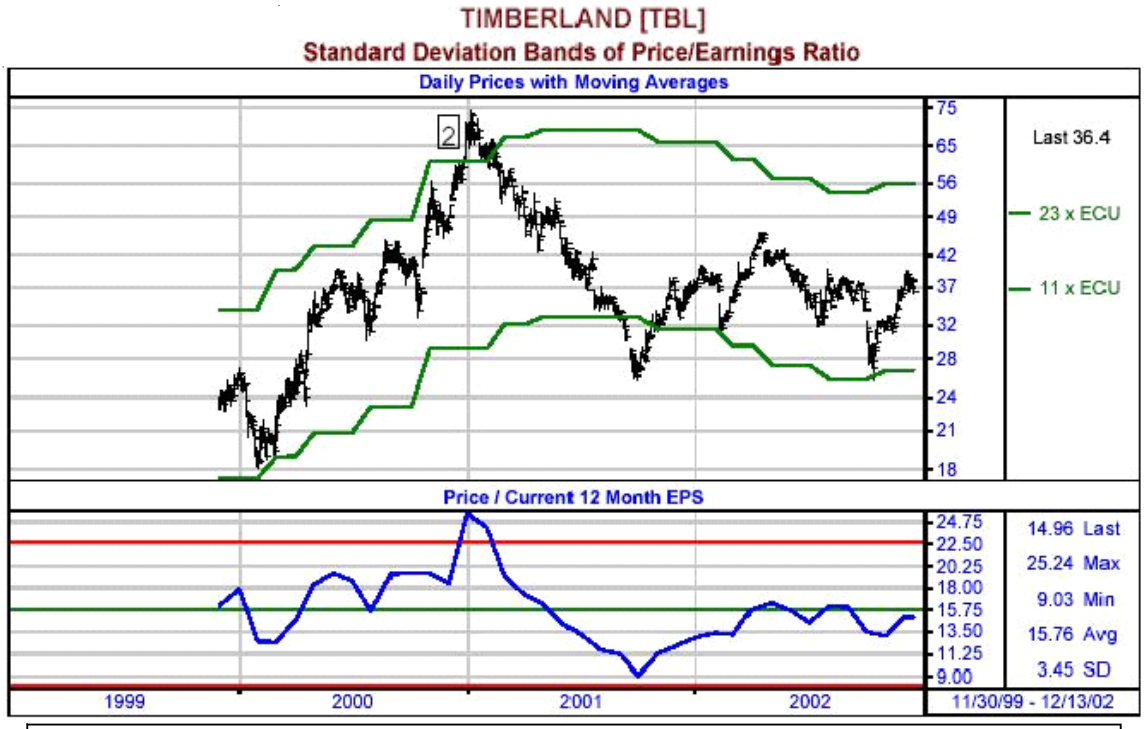
Top Band Statistics

% of stocks down following month	46%
% of stocks down following quarter	43%
% of stocks down following 6 months	41%
% of stocks down following year	41%

The following page shows a couple of examples of instances where the P/E standard deviation bands worked particularly well. There are many more examples that are not shown. However, as the above statistics indicate, this indicator is better at selecting buy candidates than sells. Another item to note is that over the 20-year period studied, companies hitting the top P/E band outnumbered those hitting the lower band by 6 to 1. If you are interested in seeing more examples of the P/E standard deviation bands created by the Ford Custom Graphs, send an e-mail to info@fordequity.com with Special Study 12/2002 in the subject line.



1) The stock hit its lower band of p/e standard deviation on Jan. 20, 2000. It subsequently went on to post a 106% price gain to the point it hits the top band on Nov. 30, 2000.



2) This stock hit its upper band of p/e standard deviation on Dec. 26, 2000. After it hit the band it posted a loss of 45% to the point it broke through its lower band on Aug. 29, 2001.