Users Guide for Price Wizard™ on Bloomberg

Parallax Financial Research

5/24/2021

Parallax Financial Research, Inc. Price Wizard™

Users Guide for Price Wizard™ on Bloomberg

- **What is Price Wizard?** **Page 2**
- **What is a Neural Network?** **Page 3**
- **What Factors are used in Price Wizard?** **Page 4**
- **How do I use Price Wizard?** **Page 5**
- **The Application *APPS PRICEWIZ <Go>*** **Page 6**
  - **Security & Filter Selection** **Page 7**
  - **Performing Valuation** **Page 10**
  - **Price Wizard Results List** **Page 11**
  - **Price Wizard Output Options** **Page 13**
  - **Results Analysis** **Page 22**
  - **Price Wizard is International** **Page 30**
- **FAQ** **Page 32**

What is Price Wizard?

Price Wizard is a suite of industry-scoped multi-factor neural network equity models that were pre-trained to convert recently reported company fundamentals into a current estimated market price. It uses no future growth expectations, analyst estimates, or price momentum. In fact, Price Wizard input factors do not include price in any form, past or present. This program automatically performs an appraisal by simultaneously using common stores of value like earnings, cash flow, book, and dividends, along with critical modifiers such as industry, margins, debt, interest rates, and inflation, to determine a price.

Price Wizard was first invented in 1990 to estimate the pre-offering value of IPOs, and has since been incorporated in several money management programs. To our surprise, stocks that were undervalued by some amount tended to drift toward value at 400-500 basis points per year in excess of the overall market. Marque Millennium Capital Management used Price Wizard to manage its large cap value portfolios from 1991-2008, and achieved those numbers.

Price Wizard has been rebuilt for Bloomberg users, and version 5 is even more powerful. It was recently run on the Russell 3000 stock list. Over an 11.35-year period ending Sep-2013, the average annual return of rolling monthly portfolios for all stocks was 21.57%, with a risk of 19.87%, for a Return/Risk ratio of 1.08. Portfolios constructed using the top decile of Price-Wizard-ranked stocks showed a return of 41.28% with a risk of 23.41%, for an excess return of 1971 basis points, and a Return/Risk ratio of 1.76 (see Pages 17-18).

The Price Wizard application allows users to value equities on any global exchange, display those results on weekly, monthly, or quarterly scale charts, and then see an analysis of aggregate valuation and past performance.

Price Wizard uses neural network technology, which means that it had to be trained on how to price stocks using fundamentals. Neural nets learn from example. The benefit is that our networks have found interrelationships between the fundamental factors that are not obvious using simpler modeling schemes or ranking methods. The downside is that they don't tell us exactly why a price is found to be a certain number. Our users have learned to trust the consistency and wisdom of Price Wizard valuations. We hope you will too.

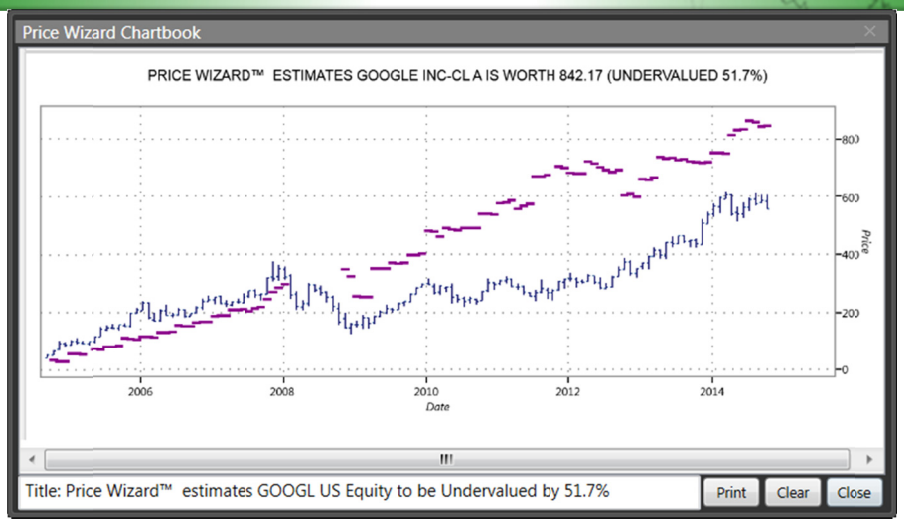


Figure 1. This is an example of valuations (dark magenta) on a monthly chart of Google

What is a Neural Network?

A neural network is a mathematical modeling tool which has the capacity to learn by example. This is an extraordinarily useful ability, especially in financial modeling, where the inputs & outputs are usually well documented, and there are countless examples. Networks are "trained" by being presented with thousands of facts, each fact consisting of inputs and corresponding outputs. Through a unique feedback process, the network learns how those inputs are related to the outputs, and develops a general model to describe the relationship.

In our case, fundamentals were fed in, and the corresponding current stock price was used as the output. Significant sources of bias and data error had to be dealt with, and so our proprietary data preparation, training, and price reconstruction steps were critical to the success of the model.

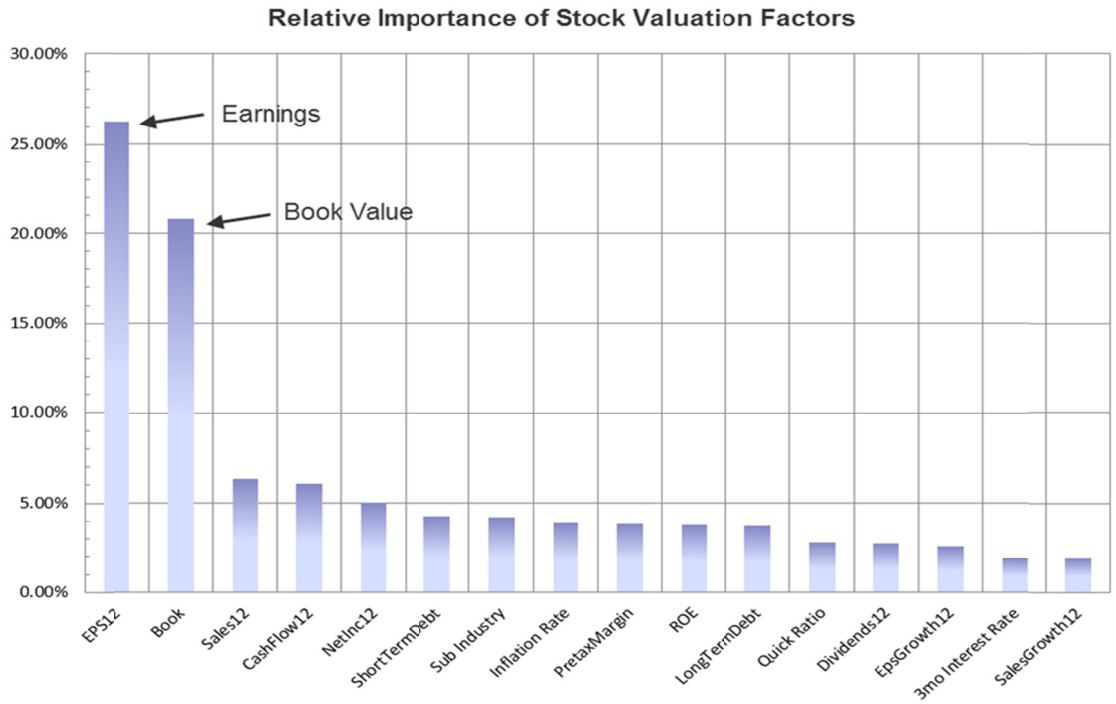
The training data for Price Wizard Version 5.0 ended in 2000, so all of the results you see in this guide and while running the application, are "out-of-sample" after that year.

What Factors are used in Price Wizard?

Here is the list of factors used in Price Wizard:

Earnings
Sales
Net Income
Dividends
Cash Flow
Industry Group
Book Value
Debt
Margins
Inflation Rate
Interest Rate

Here is the relative importance of each factor used in Price Wizard version 5:



How do I use Price Wizard?

The efficient market theory would have us believe that stocks are always at or very near fair value. We don't see that. The cycles of optimism and pessimism regularly cause price to swing away from value. Our other product, ExtremeHurst (APPS EHURST<go>), attempts to detect the crowd effect, while Price Wizard attempts to bring us a value that is absent any crowd expectations or biases. The chart below represents a new way to judge risk and reward in your portfolios. The amount that a stock is overpriced IS the downside risk, while the amount which is underpriced, the potential reward. The best way to use Price Wizard is to modify your portfolios to stay on the right side of value….or the wrong side if you have short portfolios.

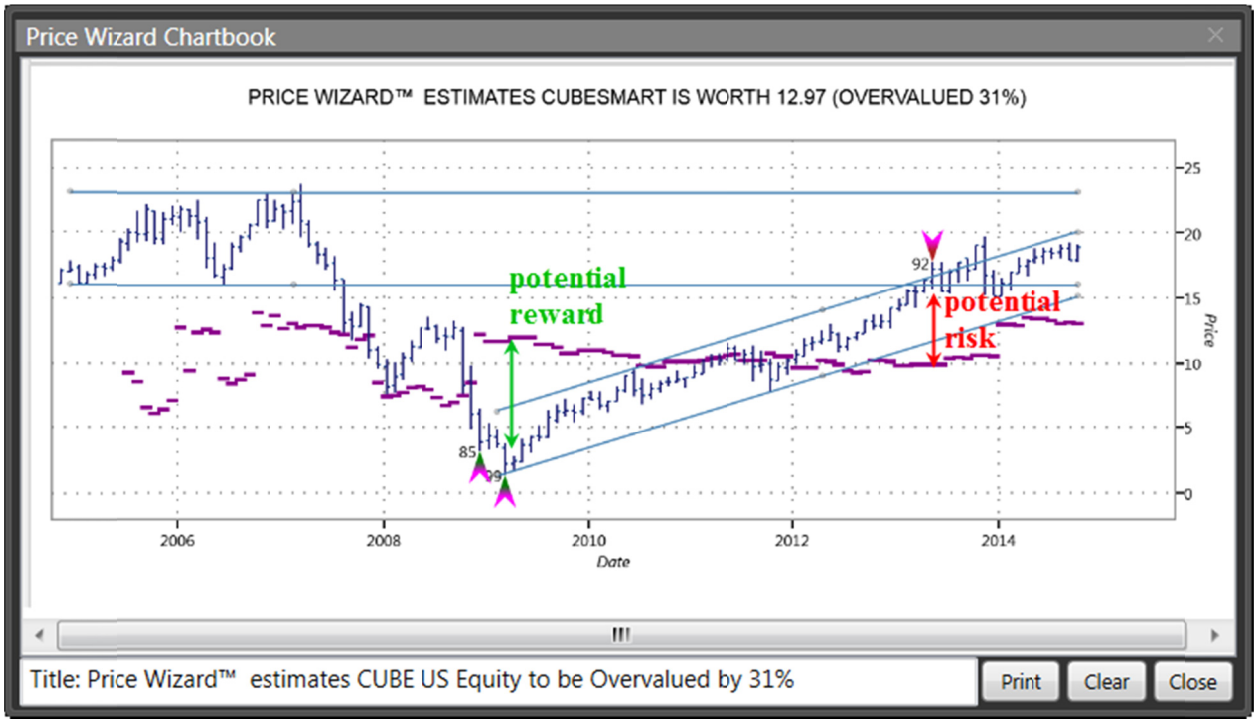
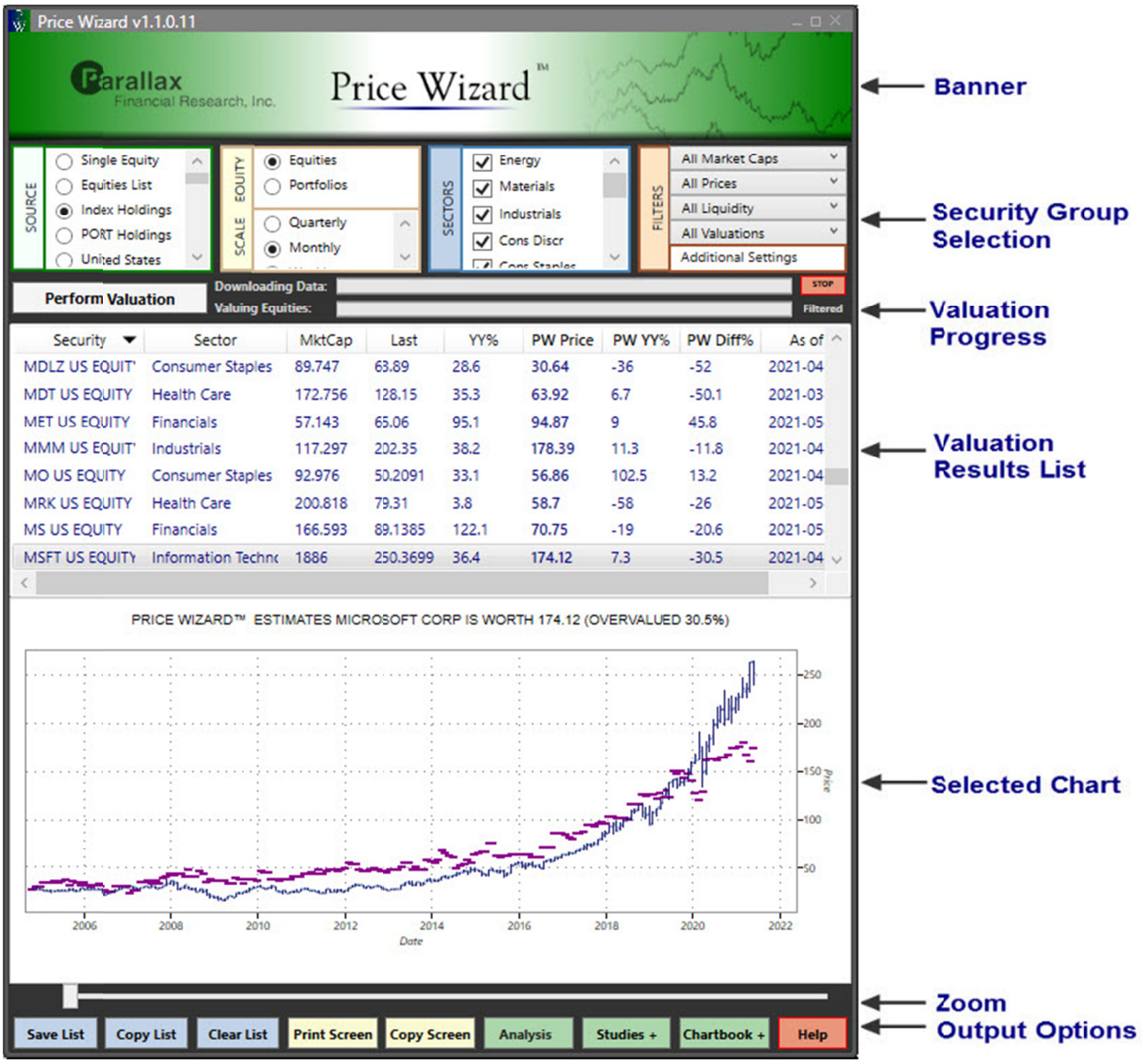


Figure 2. Price Wizard redefines risk and reward

It is recommended that managers use Price Wizard at least to rank stocks in their universe. We recognize that most managers have to match their holdings to a benchmark, so it isn't possible to exclude an entire sector just because it's overvalued. In this case, use Price Wizard to rank stocks in overvalued sectors or industries.

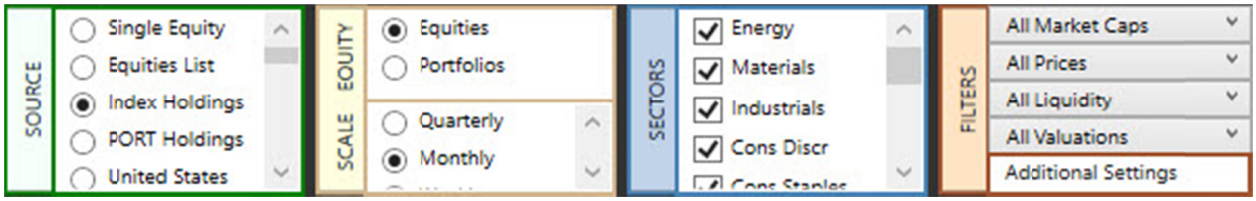
The Application on Bloomberg (at APPS PRICEWIZ <Go>)



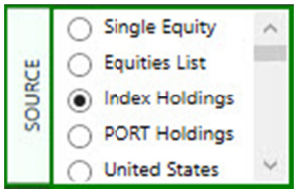
Price Wizard App Window	Price Wizard is a single Windows dialog box. It is divided into seven sections from top to bottom that correspond to the workflow sequence. These sections include security and filter selection, the run button and progress bars, the results list, the chart area, zoom control, and the output options. Please press the "Help" button for more information on how to use Price Wizard or to contact sales/technical support.
CPU Usage	Price Wizard performs millions of mathematical calculations including neural network math during each run. You will notice a sharp increase in CPU usage during searches

Bloomberg Data Limits	**Bloomberg clients have monthly data usage limitations. We recommend that you carefully select a security universe and run valuations as needed. Price Wizard reads about thirty data time series for each symbol that makes it through the filters.**

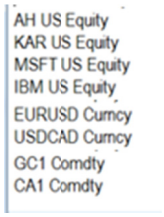
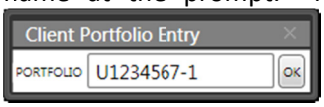
Security & Filter Selection

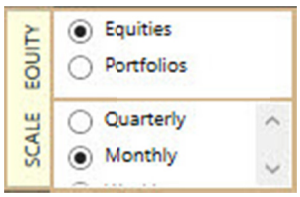


Let's take a closer look at security and filter selection: The user can select which securities to search by either selecting a single security, reading in a text file with one security name per line, retrieving each security holding from an index (SPX for S&P 500, NKY for Nikkei, CAC, DAX, etc.), reading securities from a Bloomberg client portfolio (PRTU <Go>), or by selecting a region or country to access all their respective securities. The next step is to select the type of security, and time scale desired for display. In Price Wizard, only equity-related securities are allowed. To process equity ETFs and Indices, select "Portfolios" in the EQUITY menu. Note that you must be subscribed to the service that provides components and weights for selected portfolios. The next menu has a list of GICS sectors for your search. The final menu has an additional list of filters to apply. The market cap filter passes stocks through according to their size. The liquidity filter ensures that securities with volume actually have volume on every trading day and trade enough dollar volume on an average day. The price filter sets a minimum price level. Checking "Recently Updated Valuations" in the Additional Filters menu, will ensure that valuations are based on recent data. The program will remember which securities were excluded and not search them again if "Remember Filtered" is checked.



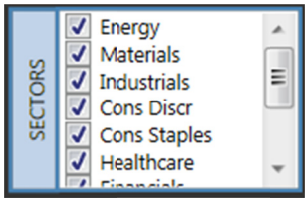
Single Security	Select this to value a single equity. Be sure to enter the full name e.g., "MSFT US Equity"

Securities List	A text file created using NotePad or other text editor with a list of securities, one per line, in the following format: <security name> space <exchange code> space <yellow-key>. For example: 
Index Holdings	Search just the securities that make up an equity index by typing the Bloomberg index name at the prompt. For example, SPX for the S&P 500 index:
Portfolio (PRTU)	Bloomberg offers clients the ability to keep portfolios on their system using PRTU <go>. If you wish to search only your portfolio securities then enter your portfolio name at the prompt. It should be in the following format: U1234567-1  where the "1234567" is your Bloomberg UUID and the "-1" is the portfolio number.
Country	Search all equities by country.
Region	Search all equities by region.

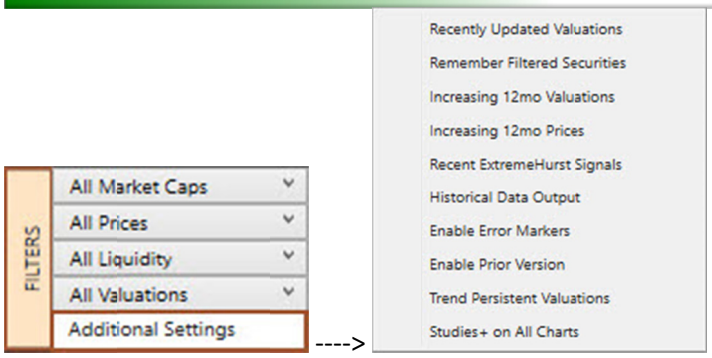


or if you select Portfolios:

Security	Select which type of equity or equity portfolio for valuation. Also select the background time interval for plotting historical valuations. Note that these time periods are evenly spaced so that a "Month" may be from July 20th to August 20th.

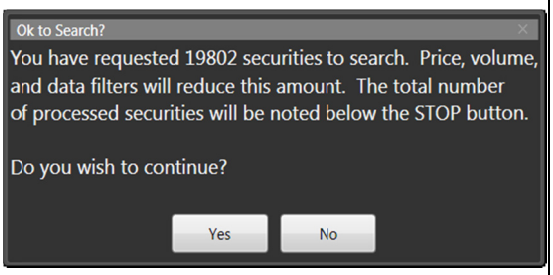


Sectors	Select which GICS economic sectors to process. By default all are selected.



Market Cap Filter	Select the market capitalization range to limit your valuation search.
Price Filter	Select the minimum allowable equity price to limit your valuation search
Liquidity Filter	Select the minimum average dollar volume to limit your valuation search
Valuation Filter	Select the valuation threshold to limit your valuation results
Recently Updated Valuations	Check this option to search for new signals only. If it is unchecked the search will find all signals that are still active….but it will take longer.
Remember Filtered	Check this option for the program to remember all the securities that have been disqualified for signal search. This memory will persist even when the program is closed
Increasing 12mo Valuations	Select this option to find only signals that have the highest possible quality
Increasing 12mo Prices	This is our recommended setting for finding signals
Recent ExtremeHurst™ Signals	Select this option to limit valuations to only those equities that have active ExtremeHurst signals. For more information on ExtremeHurst, type APPS EHURST <go> on your Bloomberg terminal
Historical Data Output	Check this option to enable all of the valuation history to be saved to CSV. If unchecked, only the most recent valuations will be saved to file
Enable Prior Version	Select this if you were a client for Version 3 of Price Wizard (on another platform) and wish to read in that valuation history. Contact Parallax for further information
Trend Persistent Valuations	Check this to search for stocks that have trend-persistent valuations over a number of years (as determined by the Hurst Exponent applied to the valuation series being greater than 0.52)
Studies+ on All Charts	Check this if you would like to overlay quantitative studies on all charts in the list when “Studies+” is pressed

Performing Valuation

Perform Valuation	Press the "Perform Valuation" button to download historical price & fundamental data from Bloomberg for the selected equities and then process that data for Price Wizard valuations. The download procedure first checks that the average daily dollar volume is greater than the limit before requesting additional data. Look at the "Filtered" section below the STOP button to find out how many securities passed all the filters and have finished being run through the processor. In the example above, we show the search section before and during a search of Nasdaq 100 stocks. Note that the search button is grayed-out until all downloading and calculations are complete.
STOP	The search procedure gathers data in chunks and then processes that data before gathering the next chunk. Press STOP to break the cycle and stop the processor from gathering additional data. It will complete the valuation using the data already downloaded however.
CPU Usage	Price Wizard performs millions of complex mathematical calculations including neural network math, during each run. You will notice a sharp increase in CPU usage.
Data Usage	Bloomberg clients have monthly data usage limitations. We recommend that you carefully select a security universe and then perform valuations as needed when the fundamental data changes. If you hit your limit you'll see a message.
Data Warning	If you ask for more than 1000 securities then this message comes up. As an example, In the US, the almost 20,000 listed equities are cut down to less than 2,000 by even modest filter settings. If you are unsure, press the STOP button part way through, or just make a security list in a text file and read it in. 

Price Wizard Results List

Valuation results are listed in the window as the search progresses. The list has one equity per line that is described by its symbol name, GICS sector, market capitalization (in billions), last price, year-over-year percent change, Price Wizard estimated price, Price Wizard year-over-year valuation growth, the percentage difference between the Price Wizard price and the last market price, and the effective valuation date. Use the scroll bars to move through the signal list. Right click on any equity to see more menu options. You may also sort each column by clicking the column header.

Security	Sector	MktCap	Last	YY%	PW Price	PW YY%	PW Diff%	As of
AHT LN Equity	Industrials	8.01	15.91398	67.4	15.65	24.5	-1.6	2014-09-03
LEG GR Equity	Financials	2.305	43.53012	22.4	42.83	36.8	-1.6	2014-08-12
RAND NA Equity	Industrials	55.462	307.93271	-5.4	306.06	94.8	-0.6	2014-08-01
SU FP Equity	Industrials	27.896	47.80224	-13.7	47.85	-0.6	0.1	2014-07-30
GXI GR Equity	Health Care	1.755	55.89	23.3	56.16	-2.9	0.5	2014-07-15
LG FP Equity	Materials	12.645	43.97775	-0.8	44.37	-17.8	0.9	2014-07-28
ZOT SM Equity	Industrials	3.412	7.84532	-18.5	7.93	-29.3	1	2014-07-30
LRE LN Equity	Financials	1.18	6.23	-17.9	6.3	-13.3	1.1	2014-07-24

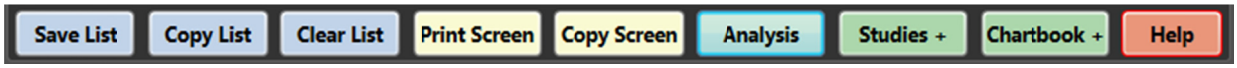
Security	The Bloomberg symbol for this security
Sector	The GICS sector name for the stock
MktCap	Market Capitalization in billions
Last	Last market price (PX_LAST)
YY%	year-over-year %change in market price
PW Price	Price Wizard price estimate based only on the fundamentals reported through Bloomberg
PW YY%	year-over-year %change in Price Wizard's price estimate
PW Diff%	Percent difference between the last market price and Price Wizard's price.
As of	This is the Date of the last Bloomberg fundamental database update or the last valuation, whichever is older

You can also right click on each line to bring up a convenient Bloomberg terminal task menu:

GP: Display Bloomberg Chart

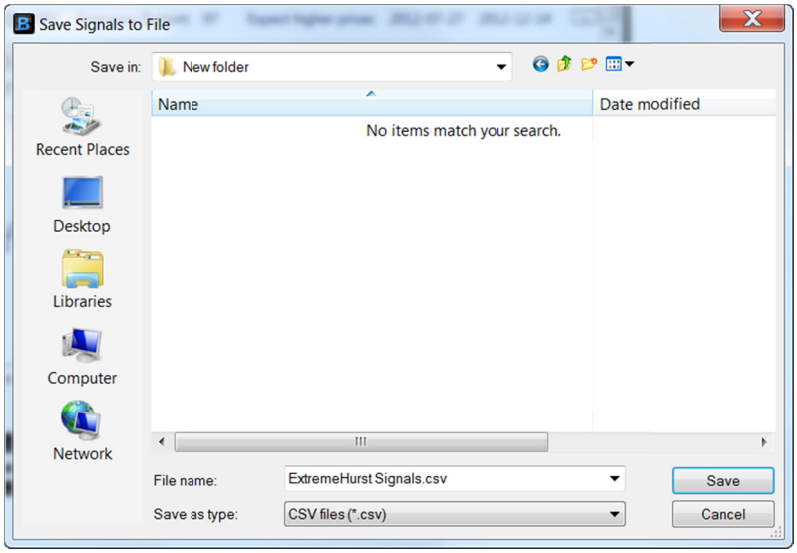
DES: Security Description

Price Wizard Output Options



There are seven output-related buttons across the bottom. "Save List" allows the user to write the signals to a CSV file. The "Copy List" button places the same results data in the clipboard, so it can be pasted in a spreadsheet or other compatible document. "Clear List" wipes the results list clean. The "Print Screen" button sends an image of the current dialog box to the printer. It does not save all the results. "Copy Screen" sends an image of the current dialog box to the clipboard. "Analysis" performs two functions, aggregate valuation analysis and past performance analysis. The "Studies+" button adds other Parallax technical studies to the current chart. Note that these studies are available individually from the Bloomberg APP store. Finally, the "ChartBook+" button accumulates the user's favorite chart images for later printing and viewing.

Press this button to save the signal list to a comma delimited text file.



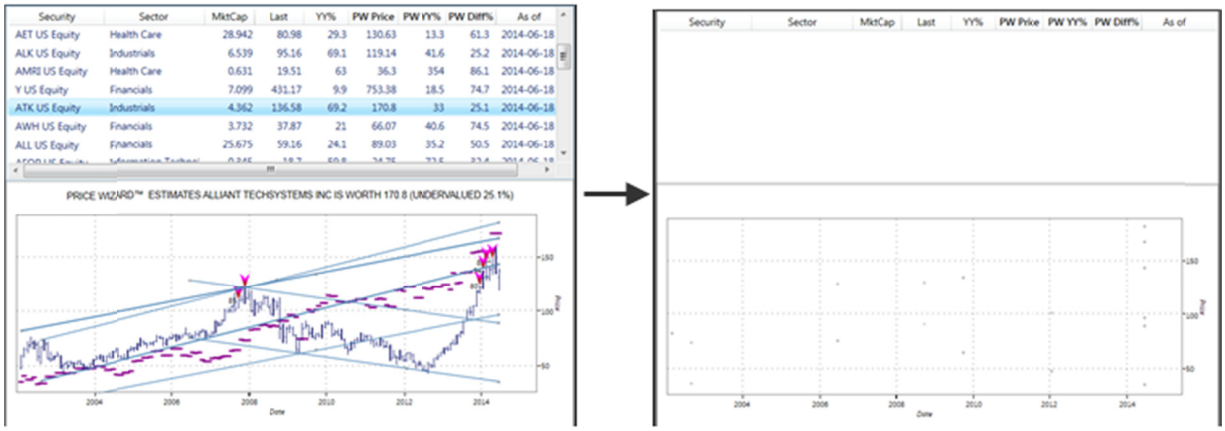
Here is the CSV file format:

Header	Description	Example	Bloomberg Fields Used-1	Bloomberg Fields Used-2
Record No	Signal counter starting at 0	7		
Run Date	Database query date (for histories this will reflect point in time)	5/15/2021		
Security	Full security name	MSFT US EQUITY	TICKER	
Description	Security description	MICROSOFT CORP	NAME	
Sector	Company economic sector	Information Technology	GICS_SECTOR_NAME	
Industry	Company industry sub-group	Systems Software	GICS_SUB_INDUSTRY_NAME	
Region	Geographic region	United States		
Country	Security description	US	COUNTRY_ISO	
State	Economic sector from GICS code	WA	STATE_CODE	
Exchange Info	Economic sub industry from GICS code	NASDAQ GS	PRIMARY_EXCHANGE_NAME	
TypeName	Security type	COMMON STOCK	SECURITY_TYP	
Symbol	Security symbol	MSFT		
Exchange	Common exchange code	US		
Type	Bloomberg "Yellow key"	EQ		
ADR Underlying	ADR underlying security (blank if none)	none	ADR_UNDL_TICKER	
MktCap	Market Capitalization = Shares X Price (billions)	1870		
Last Price	Market last price as of run date	248.15	PX_LAST	
PriceYYPct	Year over year percent change in market price	35.5	CHG_PCT_1YR	
PriceHurst	Hurst exponent approximation for past 3 years of market prices	0.507729286		
Plot Scale	Valuation sampling frequency	MO		
Signal	not used	PW Valuation		
PWRank	Neural net fundamental rank	31		
Forecast	Undervalued or Overvalued	Overvalued		
AsOf	Most recent Bloomberg database update date	4/28/2021	FUNDAMENTAL_DATABASE_DATE	
PrcVsPWCorrel	r-value of price vs valuation series over past 36 months	0.957578333		
PWPrice	Price Wizard estimated security price (valuation) using AI	175.65		
PWError	Std deviation of valuation price	24.91		
PWPrcYYPct	Year over year percent change in valuation price	8.1		
PWDiffPct	Percent change required for market price to reach valuation	-29.2		
PWDiffZ	distance from valuation to market price expressed in std deviations (Z)	-2.9		
PWValueGrowth	Annual valuation growth rate over the past 3 years	13.6		
PWHurst	Hurst exponent approximation for 3 years of valuation prices	0.527627856		
PWValueAccel	Quarterly change in valuation growth rate	-1.538961039		
Action	used for color coding	0		
GICS	Full GICS code	45103020	GICS_SUB_INDUSTRY	
Shares	Shares outstanding in millions	7534	ECY_SH_OUT	BS_SH_OUT
Book	Book value	17.8531	BOOK_VAL_PER_SH	
Dividends12	Dividends per share over 12 months	2.14	DVD_SH_12M	
EPS12	Earnings per share over last 12 months	7.2595	TRAIL_12M_EST_COMPARABLE_EPS_ADJ	T12M_DIL_EPS_BEF_XO
EPSQtr	Earnings per share for quarter	1.95	IS_COMP_EPS_ADJUSTED	IS_DIL_EPS_BEF_XO
LongTermDebt	Long term debt	9.368197505	BS_LT_BORROW	
ShortTermDebt	Short term debt	9.582293602	BS_CUR_LIAB	BS_ST_BORROW
PretaxMargin12	Pretax margin for trailing 12 months	40.7073	T12_PRETAX_MARGIN	
CashFlow12	Cash flow for trailing 12 months	9.6175	TRAIL_12M_CASH_FLOW_PER_SH	
NetInc12	Net income for trailing 12 months	7.352667905	TRAIL_12M_EST_COMP_NET_INC_ADJ	
Sales12	Sales for trailing 12 months	21.1619	TRAIL_12M_SALES_PER_SH	
QuickRatio	Quick Ratio	2.1335	QUICK_RATIO	CUR_RATIO
IntRate3m	3 month treasury rate (*varies by country)	-0.0025	USGG3M*	
Inflation	Inflation rate (*varies by country)	4.2	CPI YOY*	

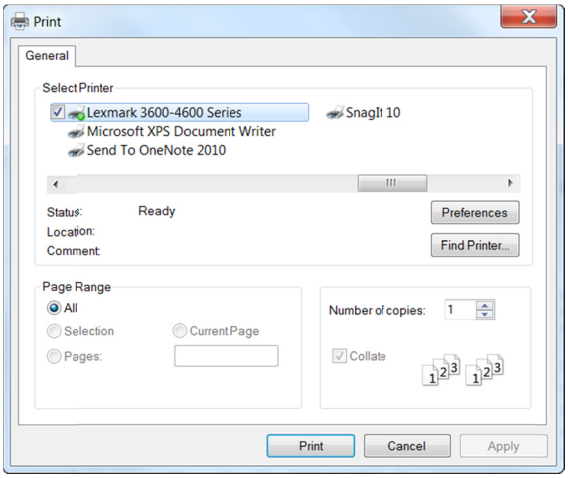
Copy List Press this button to save the signal list to the Windows clipboard. Below is the signal list pasted into EXCEL.

Security	Date	Description	Sector	Industry	MktCap	LastPrice	PWPrice	DiffPct	PriceYYPct	PWPrcYYPct
AAPL UW Equity	7/18/2014	APPLE INC	Information Technology	Technology Hardware Storage &	569.381	94.43	76.49	-19	53.1	0
AAPL UW Equity	6/18/2014	APPLE INC	Information Technology	Technology Hardware Storage &	555.815	92.18	87.22	-5.4	49.4	-8.2
AAPL UW Equity	5/18/2014	APPLE INC	Information Technology	Technology Hardware Storage &	514.684	85.3586	88.96	4.2	37.9	-7
AAPL UW Equity	4/18/2014	APPLE INC	Information Technology	Technology Hardware Storage &	468.241	74.9914	97.47	30	33.9	11.2
AAPL UW Equity	3/18/2014	APPLE INC	Information Technology	Technology Hardware Storage &	474.003	75.9143	104.32	37.4	16.6	8.5
AAPL UW Equity	2/18/2014	APPLE INC	Information Technology	Technology Hardware Storage &	487.017	77.9986	100.04	28.3	18.6	-0.9
AAPL UW Equity	1/18/2014	APPLE INC	Information Technology	Technology Hardware Storage &	482.515	77.2286	101.24	31.1	8.1	6.3
AAPL UW Equity	12/18/2013	APPLE INC	Information Technology	Technology Hardware Storage &	495.549	78.6814	83.74	6.4	3.1	5.8
AAPL UW Equity	11/18/2013	APPLE INC	Information Technology	Technology Hardware Storage &	466.649	74.0929	83.74	13	-1.7	9.8

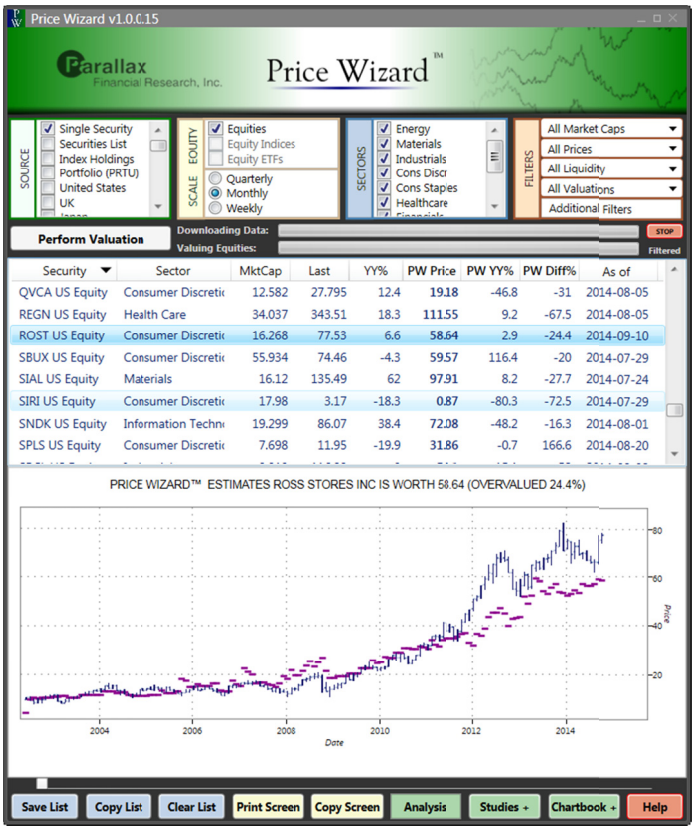
Clear List Press this button to clear the results list and chart.



Print Screen Press this button to print a copy of the screen image.

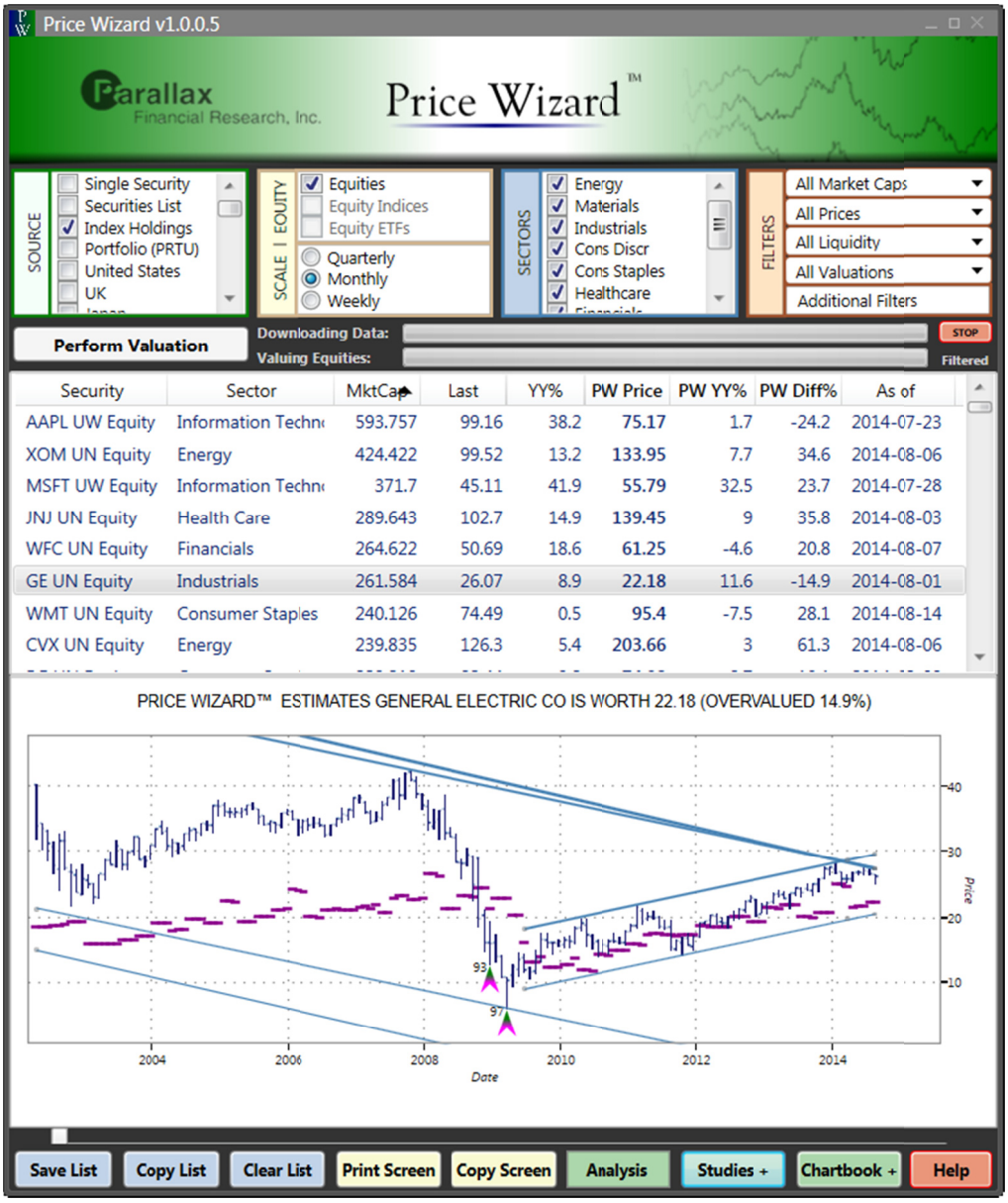


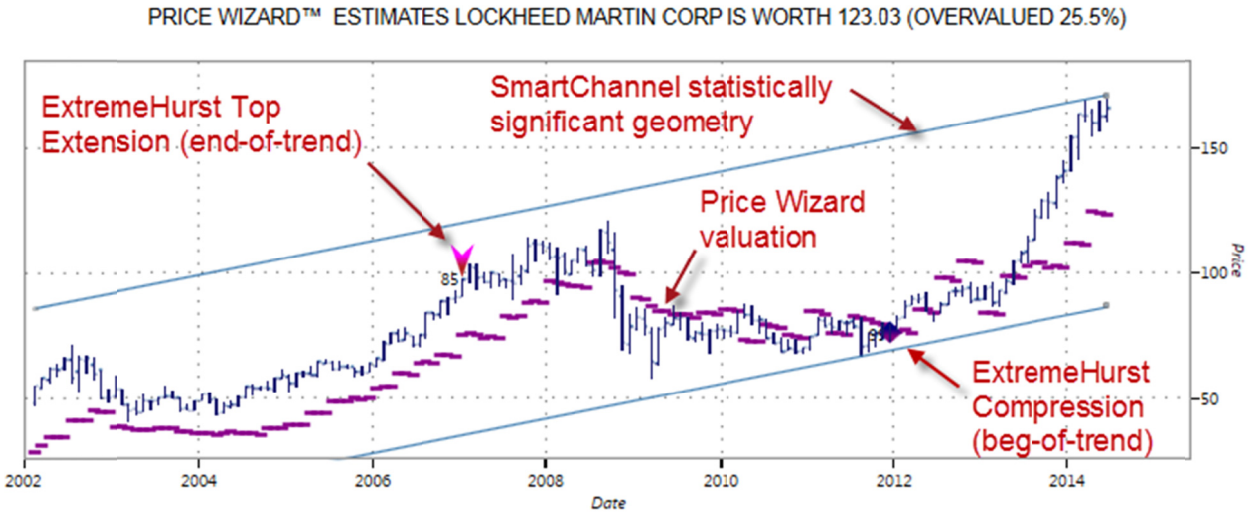
Copy Screen Press this button to copy an image of the screen to the windows clipboard. This allows you to paste the image in a report or email.



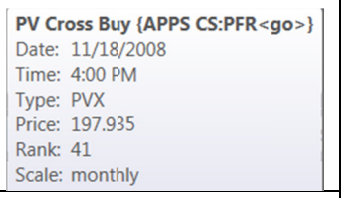
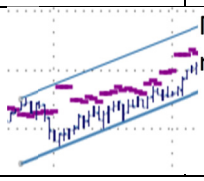
Studies + Press the "Studies+" button to add additional studies to the selected chart. Once pressed, we run ExtremeHurst (Custom Study "PFEH"), SmartChannel (Custom Study "PFSC") and Price-Volume Crossover (Custom Study "PFPVC") studies. These studies are available through the Bloomberg app store at either APPS EHURST <go> or APPS CS:PFR <go>.

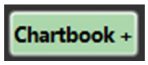
Chart with Parallax Studies added



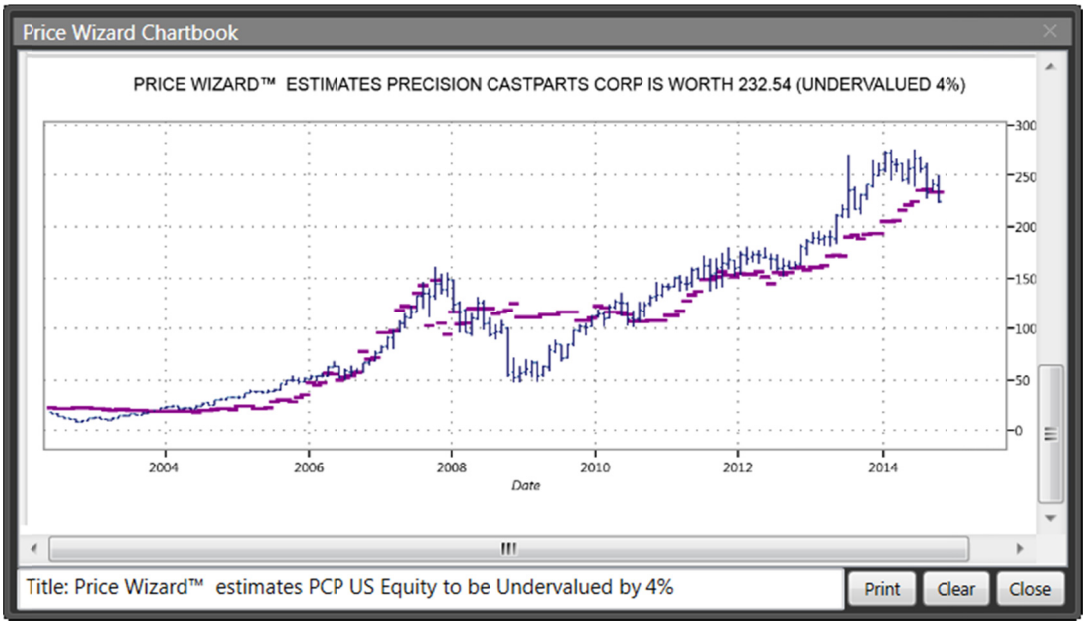


Study Marker Name	Symbol	Forecast	Float over
Extension Top marker		Marks the end of an uptrend for up to 20 bars. Optimal spot to redeploy capital, especially if overvalued	**ExtremeHurst {APPS EHURST<go>}** Date: 11/18/2007 Time: 4:00 PM Type: Extension Top Price: 120.9 Rank: 83 Scale: monthly Mc: 7
Compression marker		Marks the start of a new trend either up or down that may persist for up to 20 bars. Option straddles are recommended	**ExtremeHurst {APPS EHURST<go>}** Date: 9/3/2011 Time: 4:00 PM Type: Compression Price: 23.73225 Rank: 91 Scale: monthly Mc: 6.8
Extension Bottom marker		Marks the end of a downtrend for up to 20 bars. Optimal spot to begin allocating capital, especially if undervalued	**ExtremeHurst {APPS EHURST<go>}** Date: 11/3/2008 Time: 4:00 PM Type: Extension Bottom Price: 12.5 Rank: 98 Scale: monthly Mc: 6.8
Price Volume Cross Sell		Marks a short-term top that may persist for up to 5 bars	**PV Cross Sell {APPS CS:PFR<go>}** Date: 7/3/2014 Time: 4:00 PM Type: PVX Price: 23.21 Rank: 94 Scale: monthly

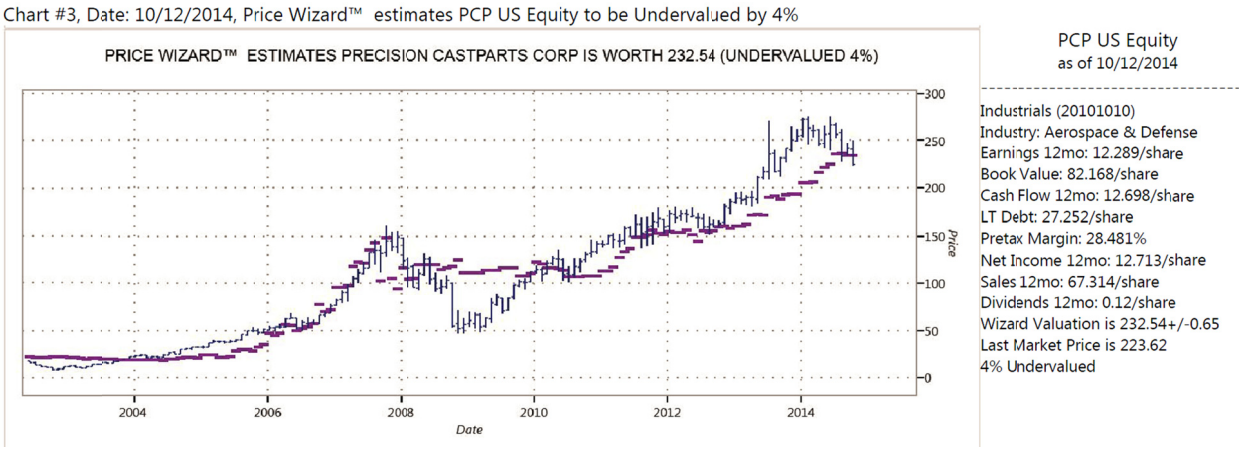
Price Volume Cross Buy		Marks a short-term bottom that may persist for up to 5 bars	
SmartChannel Lines		Marks support and resistance	



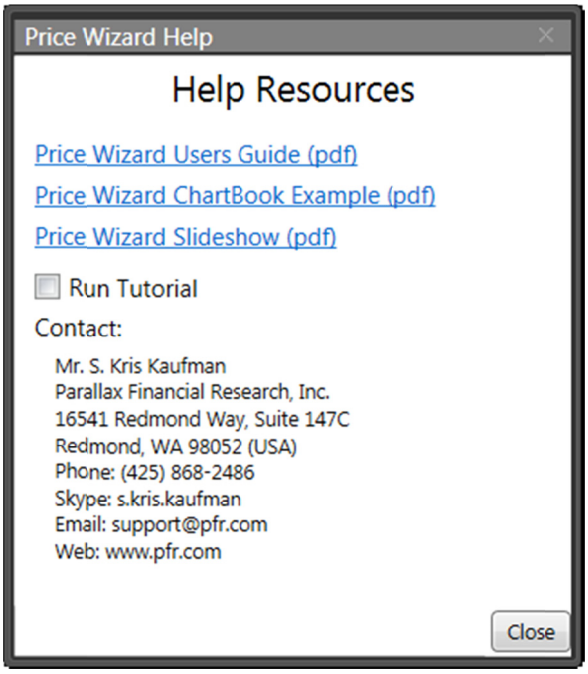
Press this button to save the current chart image to a book for later printing and review.



On the printout, we also include current fundamental data:

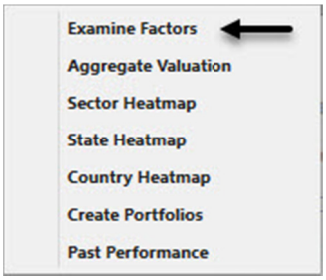


Help Our Help screen is shown below. Our links were not allowed to be live.

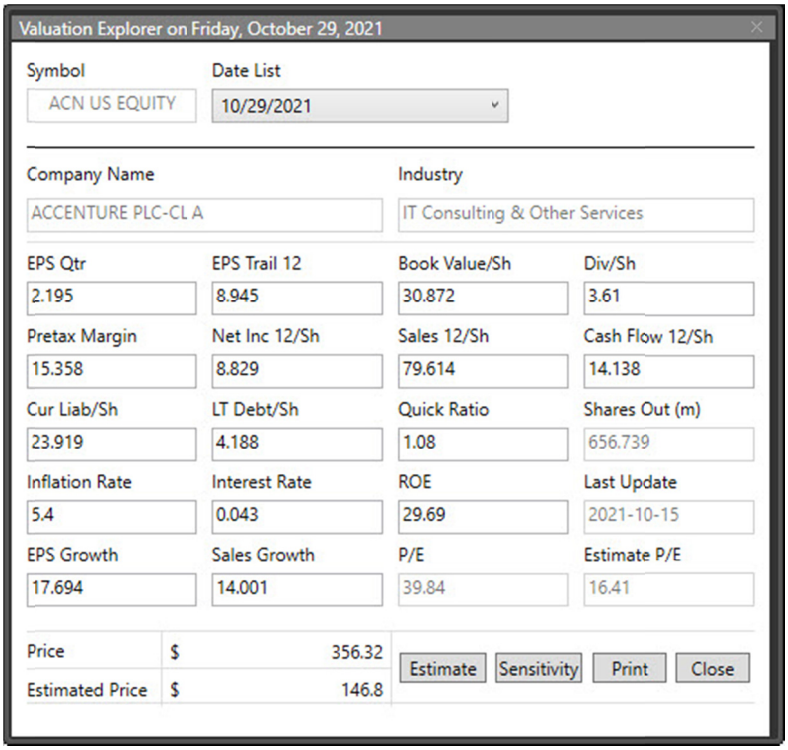


Parallax Financial Research, Inc. is a small scientific research boutique in Redmond, WA. The firm empowers professional money managers with a distinct edge through its unique fundamental and quantitative stock and commodity models. Our models are composed of individual "predictors" which are based on the financial application of both chaos and complexity theories, and presented in clear visualizations. These predictors are blended into forecasting models using genetically-enhanced neural networks. Our careful application of these mathematical modeling techniques yields unique and powerful solutions to enhance manager performance. Visit our website at www.pfr.com

Results Analysis

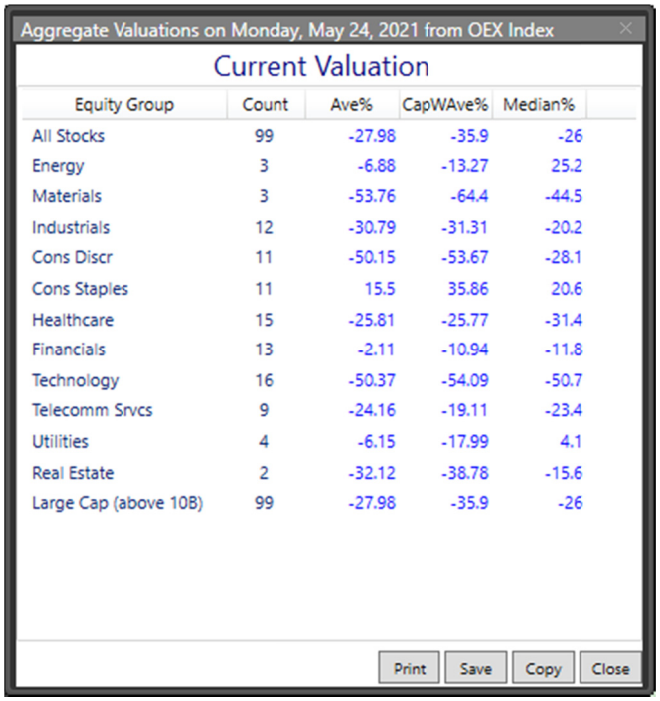


Press this button to analyze the list of equities that you have valued. The first menu item is called "Examine Factors" and brings up a box with all factors that were used to estimate price:



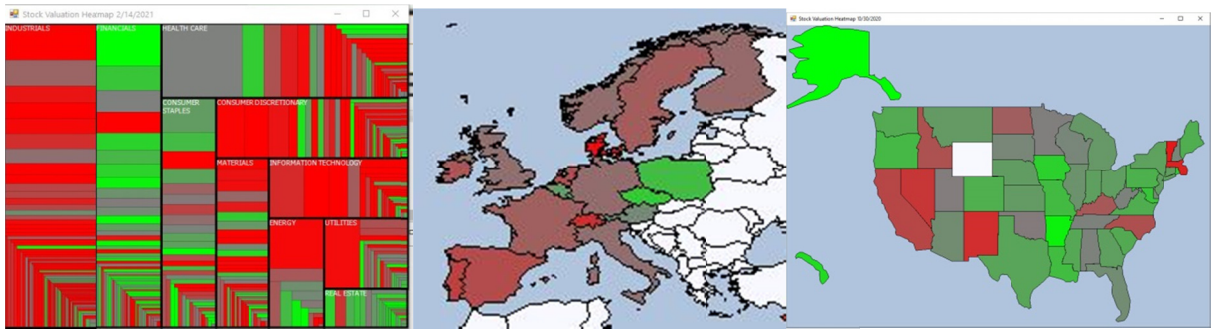
This is also an interactive tool, try editing one of the factors and press "Estimate" to see what effect your change had on price. The Date List also allows you to see the factors from past periods. The Sensitivity button provides a comma delimited (EXCEL) report on how much estimated price changes by varying each factor individually by 10%

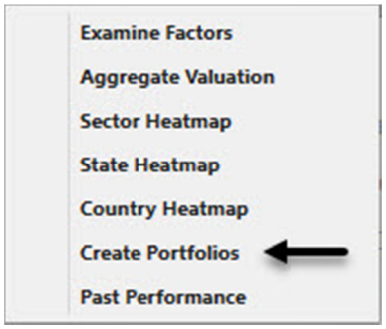
The second analysis option is called “Aggregate Valuation”. Choose this to see the valuation of all the listed stocks together if they were equally weighted, cap-weighted, or just get the median valuation.



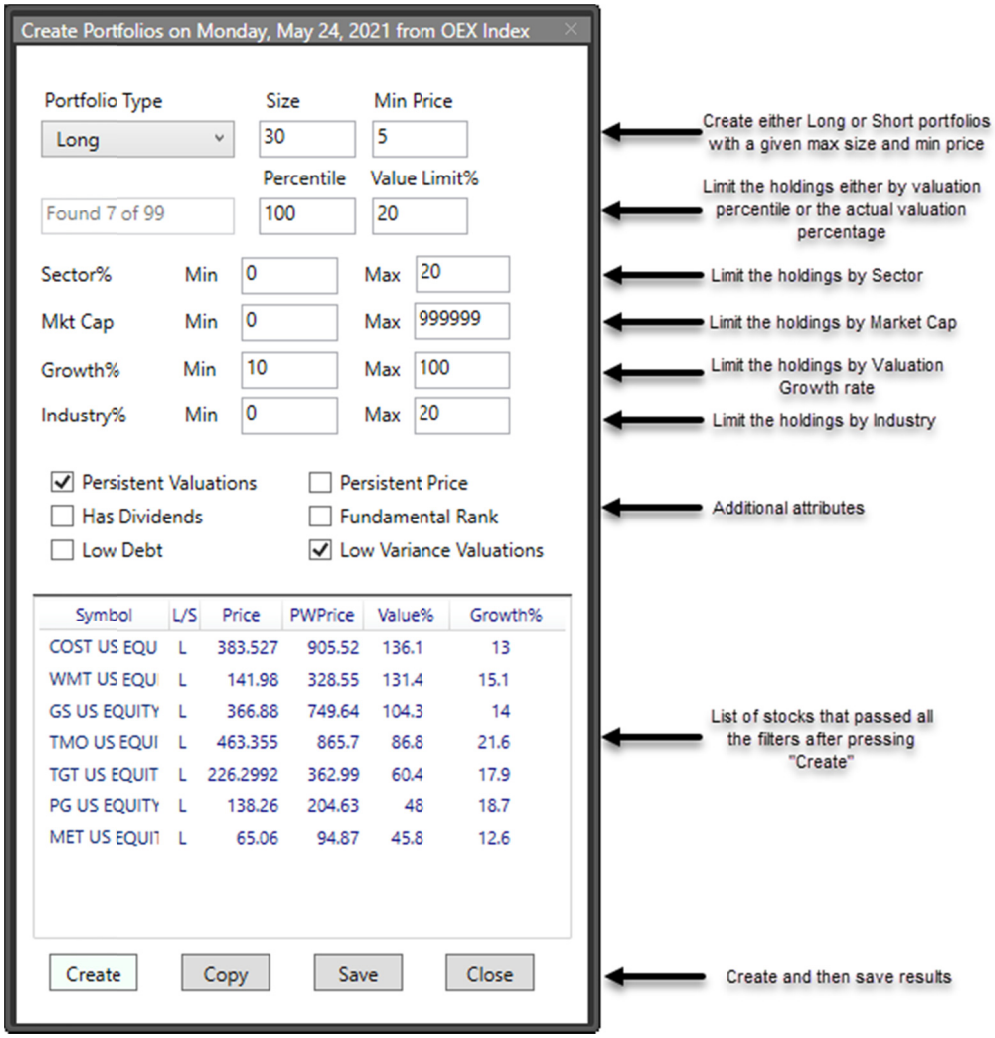
Equity Group	Count	Ave%	CapWAve%	Median%
All Stocks	99	-27.98	-35.9	-26
Energy	3	-6.88	-13.27	25.2
Materials	3	-53.76	-64.4	-44.5
Industrials	12	-30.79	-31.31	-20.2
Cons Discr	11	-50.15	-53.67	-28.1
Cons Staples	11	15.5	35.86	20.6
Healthcare	15	-25.81	-25.77	-31.4
Financials	13	-2.11	-10.94	-11.8
Technology	16	-50.37	-54.09	-50.7
Telecomm Srvcs	9	-24.16	-19.11	-23.4
Utilities	4	-6.15	-17.99	4.1
Real Estate	2	-32.12	-38.78	-15.6
Large Cap (above 10B)	99	-27.98	-35.9	-26

Heatmaps are a great time saver for finding selections quickly. We have three different heatmaps available; by sector, on a US map, or on a world map. Just hover your cursor over a region to see individual stocks or aggregate valuations by region.

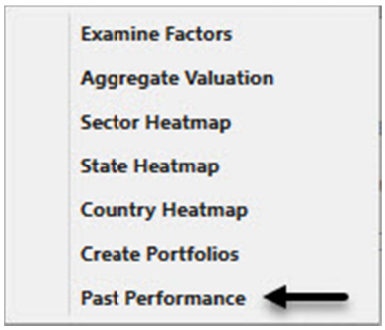




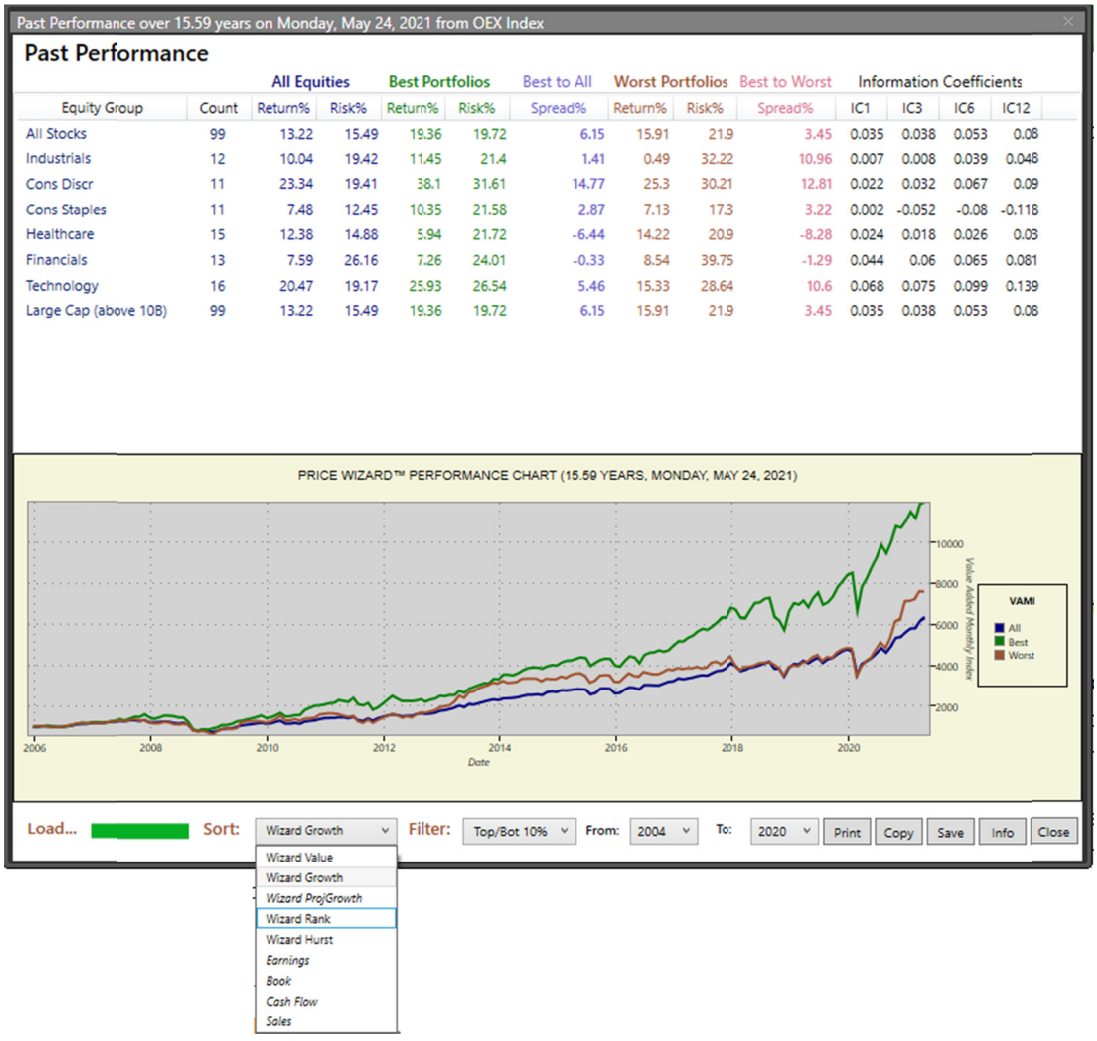
We added a tool to help create portfolios. It allows you to search your list of stocks for those matching selected criteria.



Our back test module takes a long time to run, but is a great way to visualize how different valuation factors effect performance.



For our OEX list sorted by valuation growth rates and then picking the top 10% each month, we get a nice outperformance:



		All Equities		Best Portfolios		Best to All	Worst Portfolios		Best to Worst	Information Coefficients			
Equity Group	Count	Return%	Risk%	Return%	Risk%	Spread%	Return%	Risk%	Spread%	IC1	IC3	IC6	IC12
All Stocks	99	13.22	15.49	19.36	19.72	6.15	15.91	21.9	3.45	0.035	0.038	0.053	0.08
Industrials	12	10.04	19.42	11.45	21.4	1.41	0.49	32.22	10.96	0.007	0.008	0.039	0.048
Cons Discr	11	23.34	19.41	38.1	31.61	14.77	25.3	30.21	12.81	0.022	0.032	0.067	0.09
Cons Staples	11	7.48	12.45	10.35	21.58	2.87	7.13	17.3	3.22	0.002	-0.052	-0.08	-0.118
Healthcare	15	12.38	14.88	5.94	21.72	-6.44	14.22	20.9	-8.28	0.024	0.018	0.026	0.03
Financials	13	7.59	26.16	7.26	24.01	-0.33	8.54	39.75	-1.29	0.044	0.06	0.065	0.081
Technology	16	20.47	19.17	25.93	26.54	5.46	15.33	28.64	10.6	0.068	0.075	0.099	0.139
Large Cap (above 108)	99	13.22	15.49	19.36	19.72	6.15	15.91	21.9	3.45	0.035	0.038	0.053	0.08

These examples were run in 2014, and since that time value growth rate has outperformed value alone.

2014 Runs:

We selected a monthly scale when running valuations, so we have 11.34 years of historical valuations to use for past portfolio construction. We assume that a new portfolio following the chosen strategy is constructed each month. We list the average annual total return% for all of these portfolios in each equity grouping that had a sufficient number of stocks for analysis. We also show the standard deviation risk%, which is derived from annualizing the standard deviation of monthly total returns over the year.

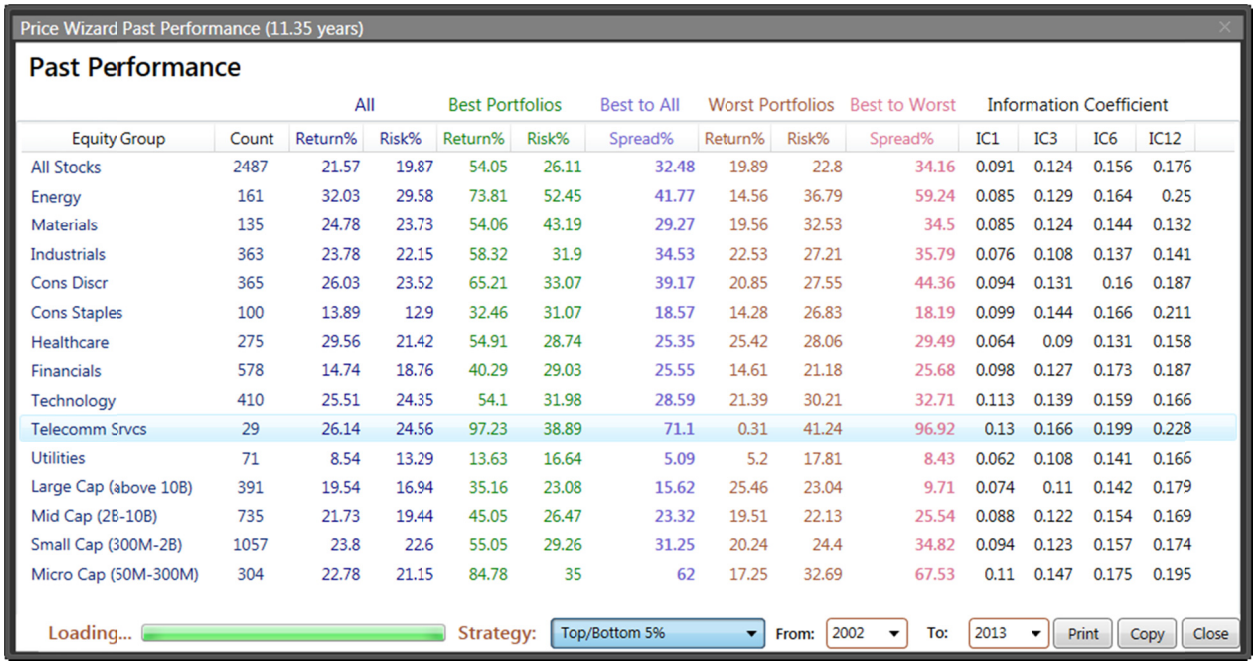
Note that portfolios constructed in this manner are survivor-biased in that the list of stocks obtained today is not the same as those that existed in the past. The results are therefore hypothetical, and should be used for information purposes only. We also list the 1, 3, 6, and 12 month information coefficient numbers.

We show below that for the past 11.35 years ending in September 2013, portfolios constructed from the top 10% of the current Russell 3000 stocks produced an average annual total return of 41.28% with a risk of 23.41%. Contrast that with the performance of the portfolios that were in the bottom 10%. They returned an average annual total return of 19.34%, with a 21.25% risk. The spread between the top and all possible portfolios in this test was 1971 basis points. The spread between the top and bottom decile in this test was 2194 basis points. Our Information Coefficient for a 12 month holding period over the test years was 0.176, where anything over 0.07 is considered exceptional.

Price Wizard Results for top 2500 US Stocks

(using Russell 3000 Index holdings on Aug 19, 2014 – about 2500 had recent valuations)

Top 5%



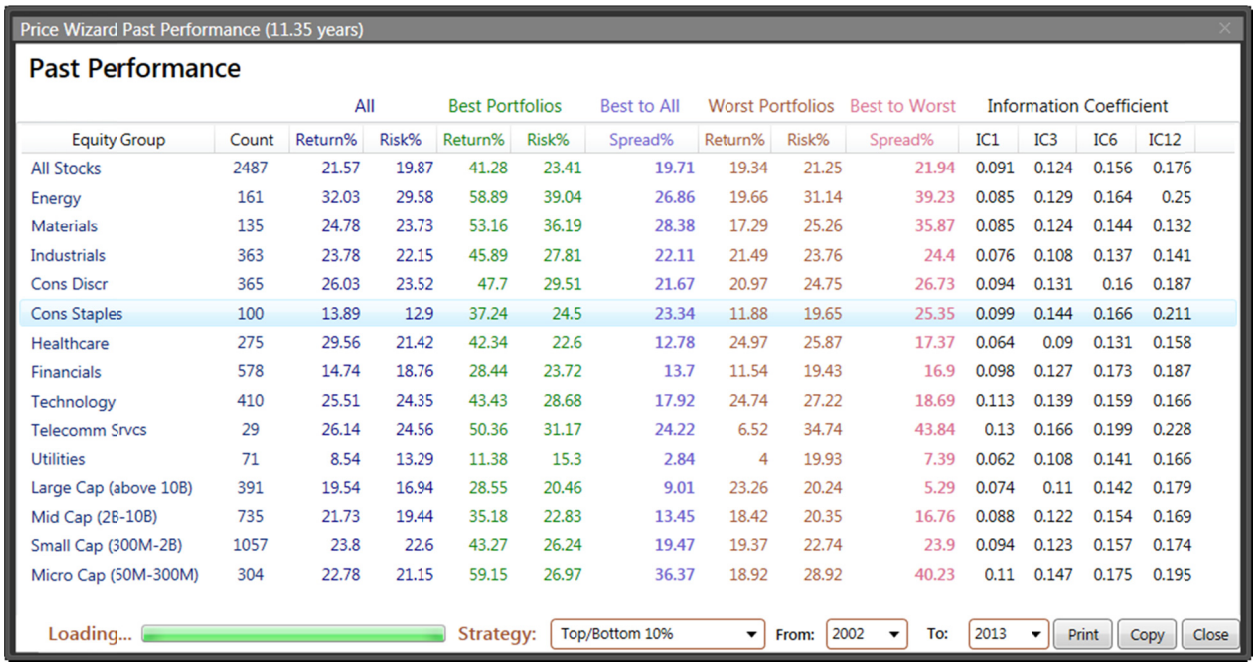
Price Wizard Past Performance (11.35 years)

Past Performance

		All		Best Portfolios		Best to All	Worst Portfolios		Best to Worst	Information Coefficient			
Equity Group	Count	Return%	Risk%	Return%	Risk%	Spread%	Return%	Risk%	Spread%	IC1	IC3	IC6	IC12
All Stocks	2487	21.57	19.87	54.05	26.11	32.48	19.89	22.8	34.16	0.091	0.124	0.156	0.176
Energy	161	32.03	29.58	73.81	52.45	41.77	14.56	36.79	59.24	0.085	0.129	0.164	0.25
Materials	135	24.78	23.73	54.06	43.19	29.27	19.56	32.53	34.5	0.085	0.124	0.144	0.132
Industrials	363	23.78	22.15	58.32	31.9	34.53	22.53	27.21	35.79	0.076	0.108	0.137	0.141
Cons Discr	365	26.03	23.52	65.21	33.07	39.17	20.85	27.55	44.36	0.094	0.131	0.16	0.187
Cons Staples	100	13.89	12.9	32.46	31.07	18.57	14.28	26.83	18.19	0.099	0.144	0.166	0.211
Healthcare	275	29.56	21.42	54.91	28.74	25.35	25.42	28.06	29.49	0.064	0.09	0.131	0.158
Financials	578	14.74	18.76	40.29	29.03	25.55	14.61	21.18	25.68	0.098	0.127	0.173	0.187
Technology	410	25.51	24.35	54.1	31.98	28.59	21.39	30.21	32.71	0.113	0.139	0.159	0.166
Telecomm Srvcs	29	26.14	24.56	97.23	38.89	71.1	0.31	41.24	96.92	0.13	0.166	0.199	0.228
Utilities	71	8.54	13.29	13.63	16.64	5.09	5.2	17.81	8.43	0.062	0.108	0.141	0.166
Large Cap (above 10B)	391	19.54	16.94	35.16	23.08	15.62	25.46	23.04	9.71	0.074	0.11	0.142	0.179
Mid Cap (2B-10B)	735	21.73	19.44	45.05	26.47	23.32	19.51	22.13	25.54	0.088	0.122	0.154	0.169
Small Cap (300M-2B)	1057	23.8	22.6	55.05	29.26	31.25	20.24	24.4	34.82	0.094	0.123	0.157	0.174
Micro Cap (50M-300M)	304	22.78	21.15	84.78	35	62	17.25	32.69	67.53	0.11	0.147	0.175	0.195

Loading... Strategy: Top/Bottom 5% From: 2002 To: 2013 Print Copy Close

Top 10%

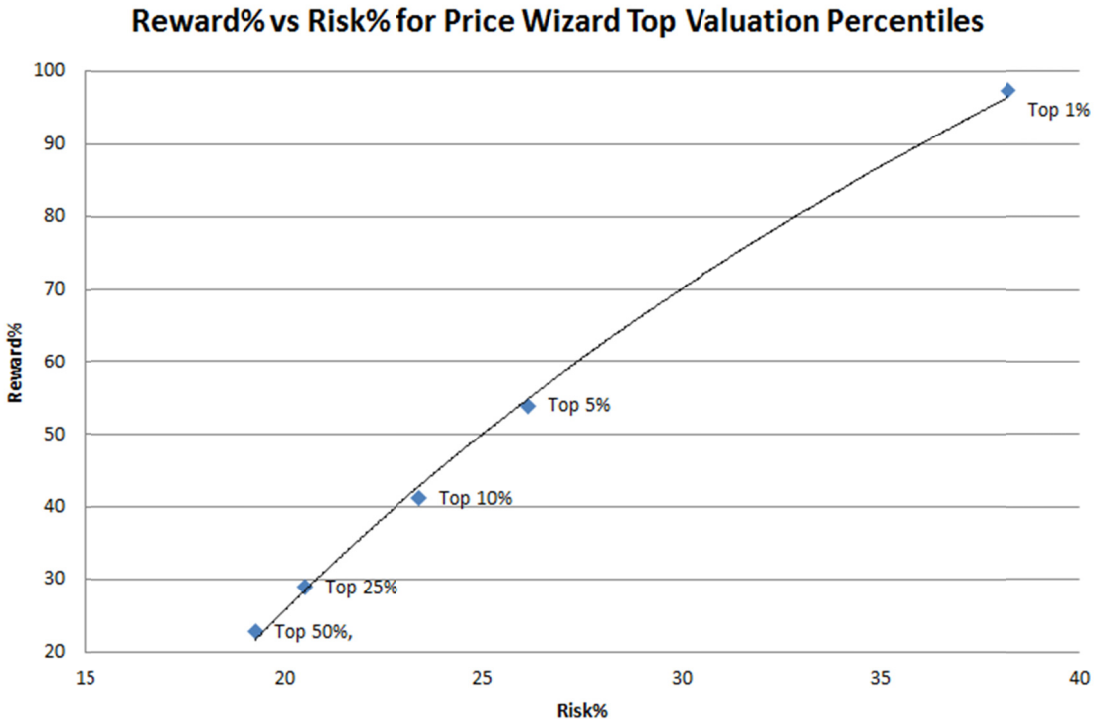


Price Wizard Past Performance (11.35 years)

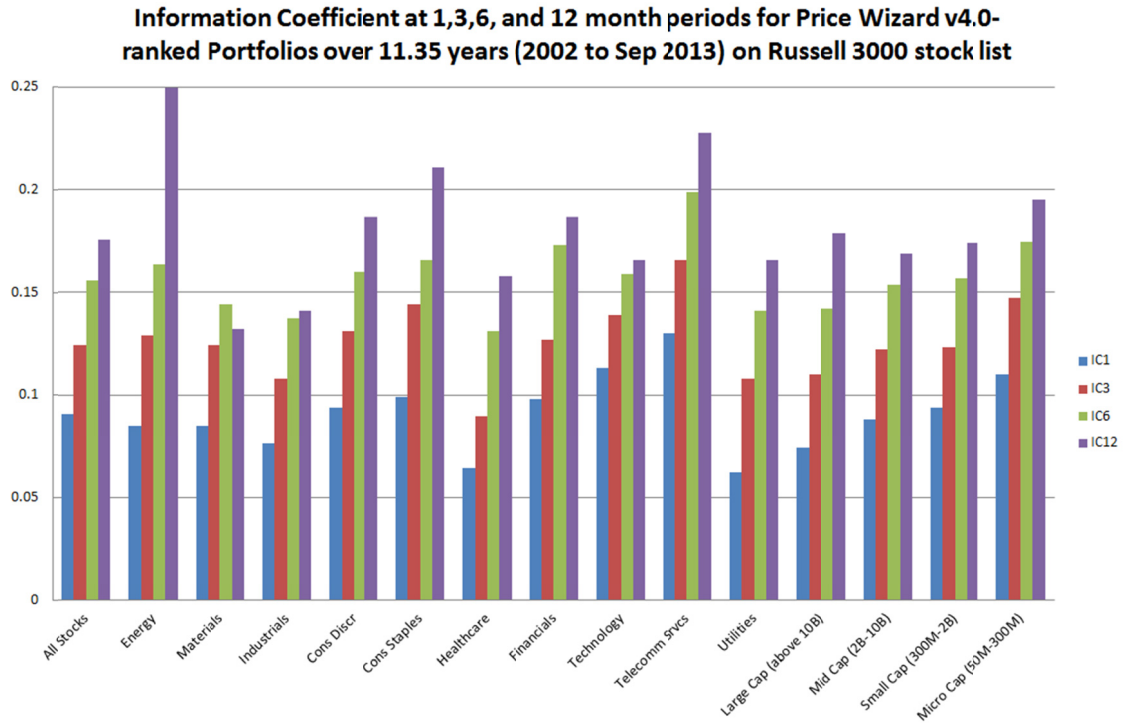
Past Performance

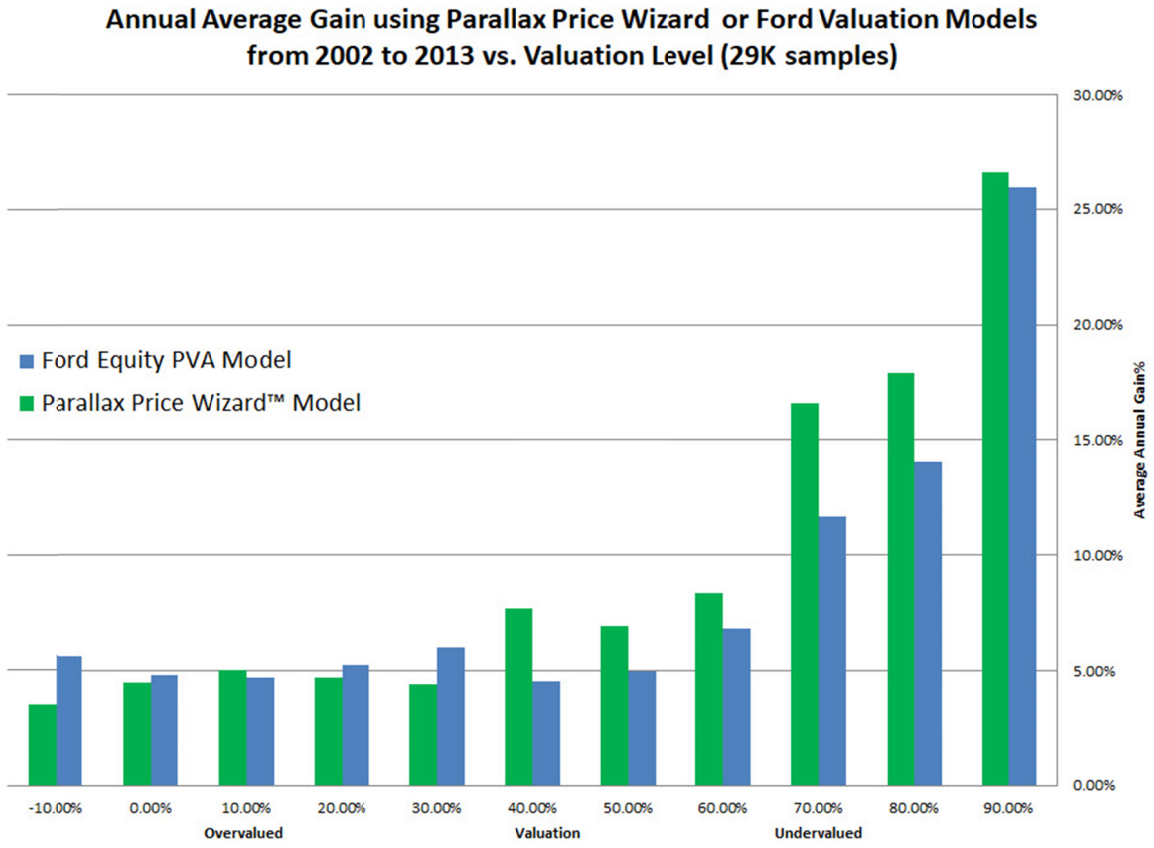
		All		Best Portfolios		Best to All	Worst Portfolios		Best to Worst	Information Coefficient			
Equity Group	Count	Return%	Risk%	Return%	Risk%	Spread%	Return%	Risk%	Spread%	IC1	IC3	IC6	IC12
All Stocks	2487	21.57	19.87	41.28	23.41	19.71	19.34	21.25	21.94	0.091	0.124	0.156	0.176
Energy	161	32.03	29.58	58.89	39.04	26.86	19.66	31.14	39.23	0.085	0.129	0.164	0.25
Materials	135	24.78	23.73	53.16	36.19	28.38	17.29	25.26	35.87	0.085	0.124	0.144	0.132
Industrials	363	23.78	22.15	45.89	27.81	22.11	21.49	23.76	24.4	0.076	0.108	0.137	0.141
Cons Discr	365	26.03	23.52	47.7	29.51	21.67	20.97	24.75	26.73	0.094	0.131	0.16	0.187
Cons Staples	100	13.89	12.9	37.24	24.5	23.34	11.88	19.65	25.35	0.099	0.144	0.166	0.211
Healthcare	275	29.56	21.42	42.34	22.6	12.78	24.97	25.87	17.37	0.064	0.09	0.131	0.158
Financials	578	14.74	18.76	28.44	23.72	13.7	11.54	19.43	16.9	0.098	0.127	0.173	0.187
Technology	410	25.51	24.35	43.43	28.68	17.92	24.74	27.22	18.69	0.113	0.139	0.159	0.166
Telecomm Srvcs	29	26.14	24.56	50.36	31.17	24.22	6.52	34.74	43.84	0.13	0.166	0.199	0.228
Utilities	71	8.54	13.29	11.38	15.3	2.84	4	19.93	7.39	0.062	0.108	0.141	0.166
Large Cap (above 10B)	391	19.54	16.94	28.55	20.46	9.01	23.26	20.24	5.29	0.074	0.11	0.142	0.179
Mid Cap (2B-10B)	735	21.73	19.44	35.18	22.83	13.45	18.42	20.35	16.76	0.088	0.122	0.154	0.169
Small Cap (300M-2B)	1057	23.8	22.6	43.27	26.24	19.47	19.37	22.74	23.9	0.094	0.123	0.157	0.174
Micro Cap (50M-300M)	304	22.78	21.15	59.15	26.97	36.37	18.92	28.92	40.23	0.11	0.147	0.175	0.195

Loading... Strategy: Top/Bottom 10% From: 2002 To: 2013 Print Copy Close

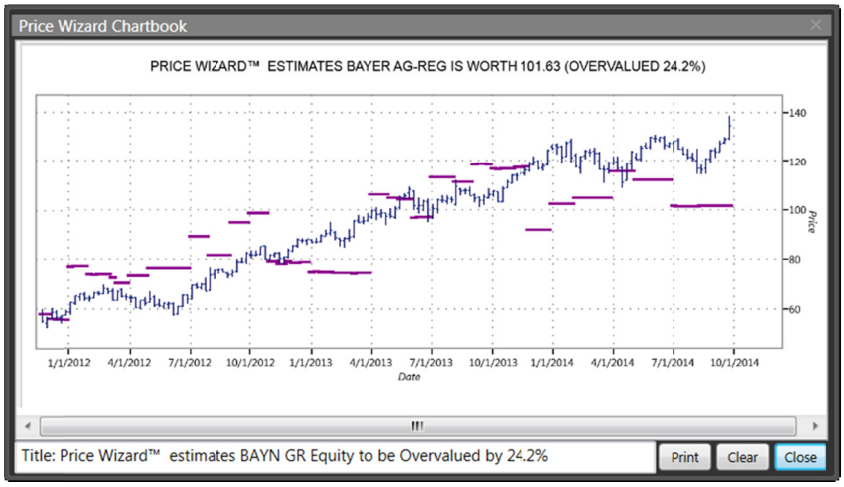


The picture below is a graph of the information coefficient from the table above:




Annual Average Gain using Parallax Price Wizard or Ford Valuation Models from 2002 to 2013 vs. Valuation Level (29K samples)
Ford Equity PVA Model
Parallax Price Wizard™ Model
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
Average Annual Gain%
-10.00%
0.00%
10.00%
20.00%
30.00%
40.00%
50.00%
60.00%
70.00%
80.00%
90.00%
Overvalued
Valuation
Undervalued

Price Wizard™ is International



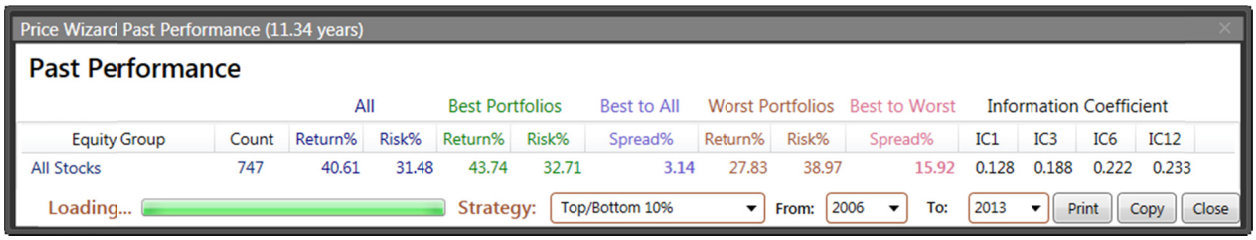
Price Wizard works world-wide too! Below are analyses of several international stock groupings that were run on Sept 23th, 2014.

European Stocks (SXXP Index since 2008)

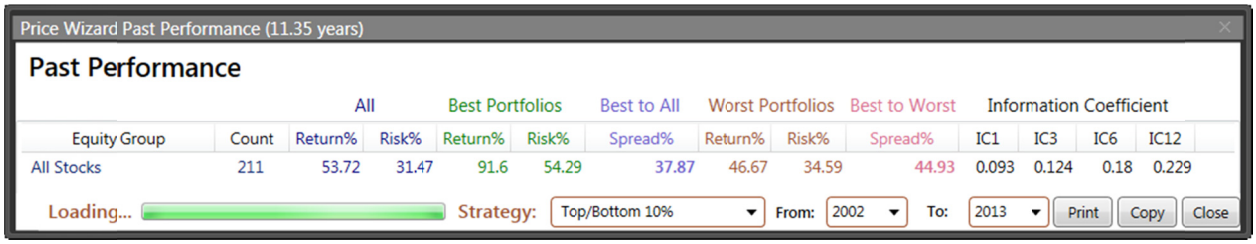
Japanese Stocks (NKY Index since 2008)

Canadian Stocks (SPTSX Index since 2008)

Chinese Stocks (SHCOMP Index since 2008)



India Stocks (CNX500 Index)



Price Wizard Hints & FAQs

What does Price Wizard do?	It finds the most reasonable market price for a company's stock, given the reported fundamentals, based on many years of training.
Why does it work?	Unlike other methods, Price Wizard considers all the sources of corporate value at the same time, and in the context of the specific industry. A company with negative earnings may be very valuable, but conventional methods might exclude it from investment searches.
I already have a stock valuation process, so why do I need Price Wizard?	Price Wizard's approach is very different from standard methods. It provides another opinion of value, and our research shows that the top decile, ranked by Price Wizard, significantly outperforms
How can I test Price Wizard?	We have two ways you can do testing. First run valuations for your stock universe. Then, under "Additional Settings", check the "Historical Data Output" and save/copy the list to a file. All of the historic valuations will be available to you for testing. In addition we have an "Analysis" button which will run a number of simple portfolio construction strategies and report annual test results.
How long do signals last?	Fundamental valuation is a long-term utility, meaning 6-12months. Stocks that are significantly undervalued tend to move toward value over time. Company fundamentals tend to move slowly, and are only released quarterly.
Which securities work best?	Any stock should work as long as the required fundamentals have been reported accurately
Where does it run?	Price Wizard runs locally on your computer using your CPU unless you use Bloomberg Anywhere on the web, which runs on Bloomberg servers
Less CPU impact	Price Wizard is compute-intensive and will spike your CPU. Run it at night or when few other programs are running or consider running it over the web at https://bba.bloomberg.net/
Use fewer securities	Hone your universe to only the securities that you need and either place them in a Bloomberg portfolio, use the holdings of an index, or use our security file format where each line contains one security: AH US Equity KAR US Equity MSFT US Equity IBM US Equity
Can I see Price Wizard valuations on Bloomberg charts?	Not yet. Perhaps it will be possible in the future
How well does it work?	**Universe: Russell 3000 Index stocks from 2002-mid 2014** ✓ Top 10% Long-only average annual gain= 41.28% with Rew/Risk of 1.76 ✓ Top/Bottom decile spread return is 21.94% ✓ Ave 1 month IC of 0.091 After 2014 value has underperformed growth, but we have found if you use the valuation growth rate as a search criterion, performance remains excellent. Note that using ExtremeHurst, we have a strong indication that as of the end of 2020 value was poised to overtake growth.
Why is it so expensive?	The signals are highly predictive and will increase your portfolio performance….or you can cancel. Subscriptions are month-to-month

Can you extend my trial period?	Yes, if you are serious about purchasing and are willing to have a one-on-one walkthrough to make sure that you know exactly how it might fit in your workflow. Contact us.
Why are some valuations missing?	Either some data item was missing or our methodology failed to converge on a price. Usually this happens if the fundamentals contain too many negatives.
Why do some valuations appear to jump up or down sometimes?	Either some data items are in error, such as earnings at 120.0 instead of 12.0, or our methodology has converged on an alternate acceptable solution. To check the fundamental inputs, just save the list of valuations with the History option checked.
How does Price Wizard compare to Ford and Holt?	We have done head-to head tests at client request and Price Wizard exceeds both Holt's and Ford's performance.
Can I request some additions to your application?	Yes, we welcome all comments and requests. It helps us plan for upgrades
Can I search BB Monitor Lists	Not at this time, but we have requested this functionality