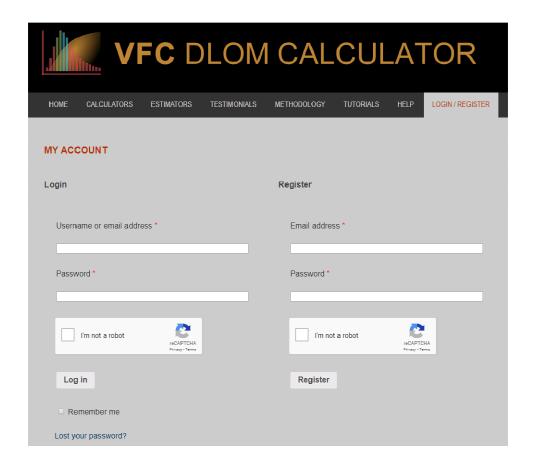
# VFC DLOM CALCULATOR USER'S GUIDE

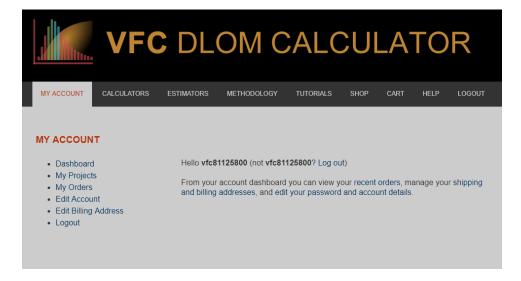
(April 2019)

# Registration

Enter your email address, password, complete the captcha and click "Register." Registration is free.



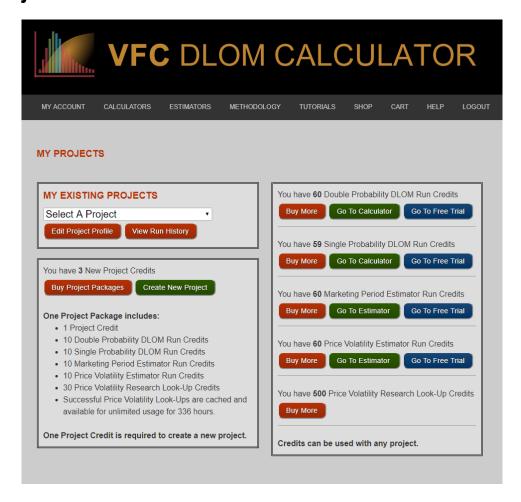
# My Account



On this page you can manage your account or log out. The following navigation options are available:

- Dashboard
  - The current page.
- My Projects
  - You can manage your Projects from this page.
  - You may also access this page by hovering your mouse over the "My Account" panel in the navigation bar.
- My Orders
  - You can view your order history and receipts at this page.
- Edit Account
  - You can change your first name, last name, display name, email address, and password at this page.
- Edit Billing Address
  - You can modify your billing address at this page.

# **My Projects**

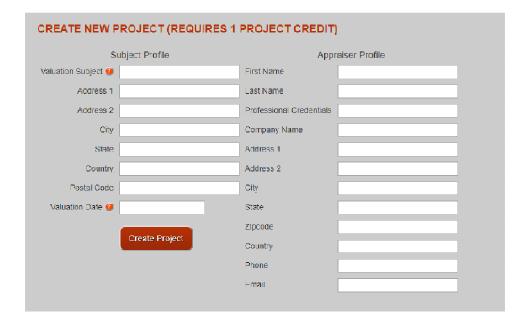


To use the complete version of any of the Calculators and Estimators you must have both a Project and specific credits for the calculations you want to conduct. From this page you can navigate to any of the Calculators, Estimators and their respective free trials. Use the links labeled "Buy More" to navigate to the Shop page to add credits to your cart.

You can view and edit any of your Projects by selecting them from the dropdown located in the "My Existing Projects" box. You can then edit Project information by clicking the corresponding "Edit Project Profile" button. To view all of the prior calculations performed and saved for a Project, click "View Run History."

# **Creating a New Project**

On the My Projects page, you may click "Create New Project" to navigate to a page where you can fill in a form describing your subject and appraiser Profiles.



The "Subject Profile" corresponds to the information of a company or other asset being evaluated. The "Appraiser Profile" corresponds to the appraiser conducting the evaluation. The "Valuation Subject" and "Valuation Date" are required and can only be set once, **they cannot be changed after a Project is created**. All other details may be edited. This profile information will be displayed along with your calculation results, and in any report that you print.

The "Valuation Date" is particularly important for the Price Volatility tool. If you want to use a custom price volatility period, you will be limited to 180 days before and after the valuation date, as shown below:

Price Volatility Period
O Get All Price Volatility Days
O Look Forward From Valuation Date
O Look Backward From Valuation Date
Use A Custom Price Volatility Period (Limited to 180 days before and after the valuation date.)

Here is an example of a completed New Project page:

CREATE NEW PROJECT (REQUIRES 1 PROJECT CREDIT)							
S	ubject Profile	Аррі	raiser Profile				
Valuation Subject 😢	VFC Guide Company Name	First Name	Marc				
Address 1	1234 First Street	Last Name	Vianello				
Address 2	Suite 100	Professional Credentials	CPA, ABV, CFF				
City	Kansas City Missouri United States	Company Name					
State		Address 1	8826 Santa Fe Drive				
Country		Address 2	Suite 217				
Postal Code	64114	City	Overland Park				
Valuation Date 🥝	03/11/2014	State	Kansas				
	Create Project	Zipcode	G6212				
		Country	US				
		Phone	913-432-1331				
		Email	vianello@vianello.biz				

The screenshot below corresponds to the aspects of your Project to be displayed when your results are calculated.



The next screenshot demonstrates the aspects of your Project to be displayed on the first page of every report that you print.



# DOUBLE PROBABILITY DLOM

Based on Marketing Period and Price Volatility Probabilities
Valuation Date: 03/11/2014
For: VFC Guide Company Name

# DOUBLE PROBABILITY DISCOUNT FOR LACK OF MARKETABILITY **Based on Marketing Period and Price Volatility Probabilities**

# **Appraiser**

Marc Vianello CPA, ABV, CFF

8826 Santa Fe Drive Suite 217, Overland Park, Kansas US 913-432-1331 vianello@vianello.biz

# **Valuation Subject**

VFC Guide Company Name 1234 First Street Suite 100 Kansas City, Missouri 64114 United States

# **Valuation Date**

03 / 11 / 2014

# **Report Date**

03 / 12 / 2019

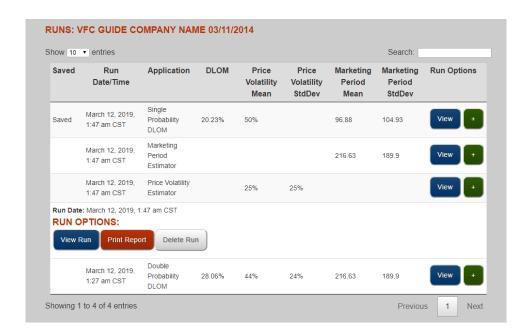
# **Updating Your Projects**

PROJECT: VFC GUIDE COMPANY NAME 03/11/2014								
Select a calculator or estimator to work with this project								
Subject Profile Appraiser Profile								
Valuation Subject 2	VFC Guide Company Name	First Name	Marc					
Address 1	2234 First Street	Last Name	Vianello					
Address 2	Suite 100	Professional Credentials	CPA, ABV, CFF					
City	Kansas City Missouri United States	Company Name						
State		Address 1	8826 Santa Fe Drive					
Country		Address 2	Suite 217					
Postal Code	64114	City	Overland Park					
Valuation Date 2	03/11/2014  Update Project  Delete Project	State	Kansas					
		Zipcode	66212					
		Country	US					
		Phone	913-432-1331					
		Email	vianello@vianello.biz					

You can change any aspect of the Profiles, except for the "Valuation Subject" and "Valuation Date" by selecting a Project from the dropdown on the "My Projects" page, and clicking "edit Project Profile." After you have made your changes, click "Update Project." If for any reason you wish to delete your Project you may click "Delete Project" and confirm the prompt. Be aware that if you delete a Project, all Runs and associated data will be lost and unrecoverable.

# **Viewing Your Project Runs**

Anytime you initiate a calculation on a Calculator or Estimator, you are executing a "Run." The information generated from the Run is automatically stored for later viewing. On the "My Projects" page, after selecting a Project from the dropdown, click "View Run History" view all Runs associated with the Project.



The Runs table displays all of the archived Runs for a Project. If you want to view the full results of a specific Run, click the blue "View" button that appears on the right side of each row. If you click the green "+" button to the right of the "View" button, you will be given more options. Mobile users may tap the row itself to view these options. Clicking the "View Run" button also allows you to view the full results.

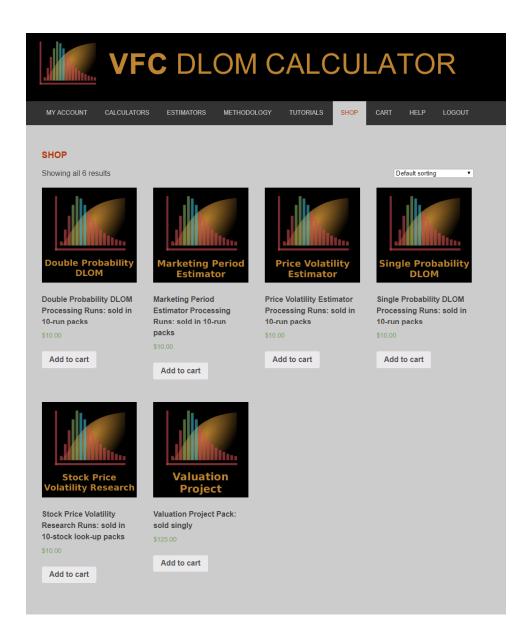
The "Print Report" button will show the PDF report results associated with any particular Run.

The "Delete Run" button will allow you to delete the Run from the archive. After a Run is deleted, it cannot be recovered. If you want to hide these options, you may click the same green "+" button to do so.

All Runs can be "Saved" on their full results page. Run views can be limited to only the "Saved" Runs by typing "Saved" into the search box in the top right corner. The search box can also be used with other text queries to view only Runs that satisfy the query.

# **Purchasing Credits**

Navigate to the Shop page by clicking the "Shop" panel in the horizontal navigation bar.



In the shop you can buy Run credits for the Calculators and Estimators, buy Look-Up credits for Price Volatility Research, and buy Valuation Project Packs. A Valuation Project Pack is a complete use package that contains multiple Run credits, multiple Look-Up credits and a Project credit. Credits are global, meaning that any Run credits or Look-Up credit can be applied

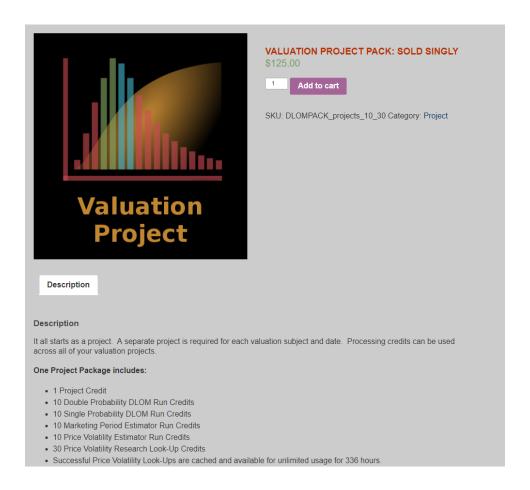
to any Project that you have created.

One Project Package includes:

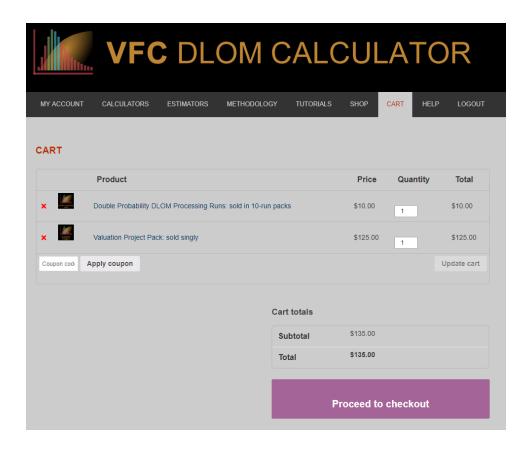
- 1 Project Credit
- 10 Double Probability DLOM Run Credits
- 10 Single Probability DLOM Run Credits
- 10 Marketing Period Estimator Run Credits
- 10 Price Volatility Estimator Run Credits
- 30 Price Volatility Research Look-Up Credits

Successful Price Volatility Look-Ups are cached and available for unlimited usage for 336 hours.

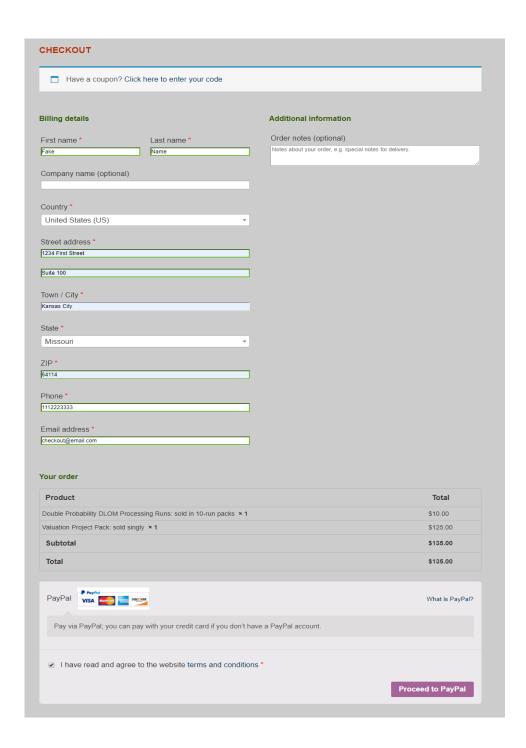
Click a product image on the Shop page to get more information about the particular product. Click the "Add to cart" button to add products your shopping cart.



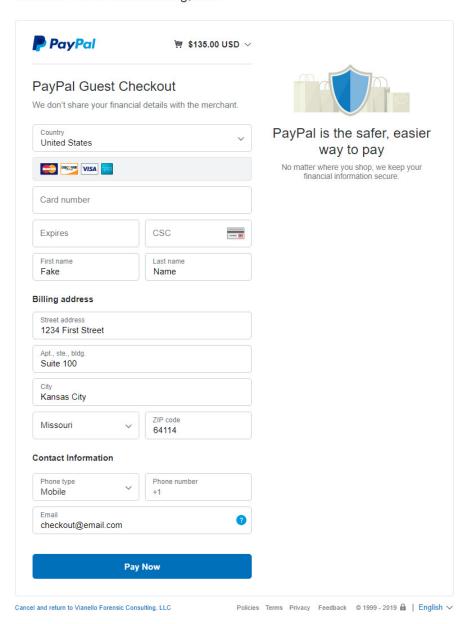
To view your shopping cart, click the "Cart" panel in the horizontal navigation bar. On this page you can remove items from your Cart, apply coupon codes, and to set the quantity of items you wish to purchase. Once you are ready to purchase click the "Proceed to checkout" button.



On the checkout page you need to fill in your billing information and check the box signifying that you have read the Terms and Conditions. Click the "Proceed to PayPal" button when you are ready to pay. Once you have completed entering your information and click the "Pay Now" button, credits will be immediately available for use on any of your Projects, assuming no transaction failures. You can check your "My Projects" page to confirm that your purchased credits were properly added to your account. You can also access your receipts by navigating to the "My Account" page and clicking "My Orders."



# Vianello Forensic Consulting, LLC



# **Using DLOM Calculators and Estimators**

Each DLOM Calculator and Estimator serves a unique purpose while utilizing a common set of tools. A variable marketing period requires a mean and standard deviation, while a static marketing period requires just a mean. Variable price volatility requires a mean and standard deviation, while a static price volatility requires just a mean. VFC DLOM Calculator provides specialized tools to generate marketing period and price volatility means and standard deviations for calculating DLOMs and estimating parameters. This guide will first explain the common set of tools used by the Calculators and Estimators, and how to use them. Afterwards, this guide will explain what tool each Calculator and Estimator uses, and what results will be provided from a single Run.

# **Probability Based Marketing Period Inputs**

This tool allows users to generate a marketing period mean and standard deviation. Credits are not required to use this tool.



# Private Companies

- This choice bases marketing period estimates on BIZCOMPS® transactions comprising the VFC DLOM Calculator® private company database. There are over 16,000 transactions in our database.
- Successful Public Offerings
  - This choice bases marketing period estimates on benchmarks selected from the
     SEC filings comprising the VFC DLOM Calculator® successful public offering

database. There are over 10,000 SEC filings in our database.

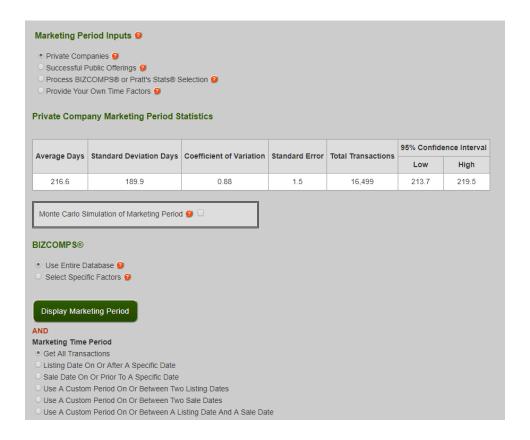
- Process BIZCOMPS® or Stout (formerly Pratt's Stats®) Selection
  - This choice bases marketing period estimates on specific transactions that you select using your BIZCOMPS® or Stout subscription, and upload to the VFC DLOM Calculator®.
- Provide Your Own Time Factors
  - This choice bases marketing period estimates on a marketing period mean and standard distribution that you have developed from other sources.

# **Private Companies**

This choice bases marketing period estimates on the averages of all or subsets of the BIZCOMPS® transactions comprising the VFC DLOM Calculator® private company database. To view the mean and standard deviation your selection generates, click the "Display Marketing Period" button.

# Use Entire Database

This choice utilizes the entire set of BIZCOMPS® transactions in our database, as shown in the screenshot below.

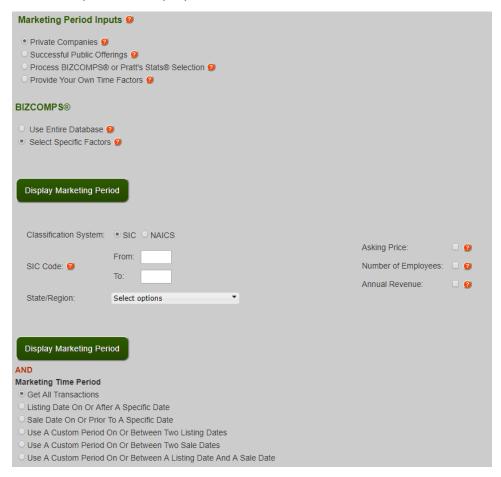


# Select Specific Factors

These factors represent data determined by BIZCOMPS®. To learn more visit <a href="http://bizcomps.com/">http://bizcomps.com/</a>.

- Industry Classification (SIC/NAICS)
  - You can set a range between two SIC or NAICS numbers representing specific business industries. Only one range can be used at a time. All SICs are 4 digits and all NAICS are 6 digits. Industries can be defined broadly (using as few as 1 digit), or narrowly (using all of the available digits). The "From" option is the lower bound while the "To" option is the upper bound. If an input has insufficient digits then in the "From" option "0"s will be automatically appended. In the "To" option "9"s will be automatically appended if fewer than all digits are used in the industry range definition.

- State/Region
  - This factor allows you to set one or multiple geographic locations as a parameter.
     The locations are as reported by BIZCOMPS®.
- Slider Factors. These factors utilize a slider bar representing a range of values allowed for the factor. The slider does not appear unless the factor is checked; if unchecked the slider will disappear.
  - Asking Price. This factor corresponds to the "ASK PRICE" field in BIZCOMPS®.
  - o Annual Gross. This factor corresponds to the "ANN GROSS" field in BIZCOMPS®.
  - Number of Employees. This factor corresponds to the "# of EMPL" field in BIZCOMPS®. BIZCOMPS® reports the number of both full time and part time employees is given, for simplicity these numbers are summed for a total number of employees. We are not able to convert the BIZCOMPS® information to fulltime equivalent employee counts.



## Statistics Table

There are statistics associated with the marketing period factors that you select. The marketing period statistics are: average number of days on the market; the standard deviation of the number of days on the market; the coefficient of variation of the number of days on the market; the standard error of the defined population; the transaction count of the defined population; and the 95% confidence interval for the defined population.

# **Using Multiple Factors**

If you use only a single factor, then you will be given only one standard deviation and average. However, if you use multiple factors you will be given the opportunity to use different methods to generate an ultimate standard deviation and average.

- Weighted Average of Factors.
  - This option is selected by default.
  - This choice bases your marketing period conclusion on the weighted average mean and standard deviation of marketing period days for the defined populations of private sale transactions. Each transaction possesses at least one of the characteristics that you selected. Transactions possessing more than one characteristic are counted in each defined sub-population. This choice results in the broadest measure mean and standard deviation.

# Average of Unique Transactions

This choice bases your marketing period conclusion on the simple average mean and standard deviation of marketing period days for the <u>unique</u> private sale transactions. Each transaction possesses at least one of the characteristics that you selected, but each transaction is considered only once. This choice results in a more restrictive measure of mean and standard deviation than the weighted average choice.

# Transactions With All Factors

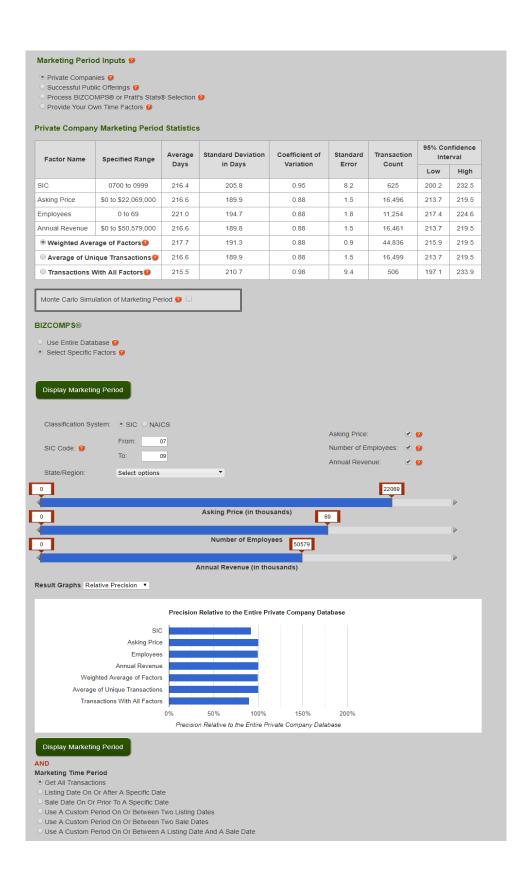
This choice bases your marketing period conclusion on the simple average mean

and standard deviation of marketing period days for the private sale transactions with <u>all</u> the characteristics that you selected. This choice results in the most restrictive measure of mean and standard deviation.

# Results Graphs

You can view graphs that display information about your one or more factors to allow visual comparison of the differences between them.

- Relative Precision
- Mean
- Standard Deviation
- Datapoint Count
- Standard Error



# **Private Companies Marketing Periods**

Defining a time period allows you to further refine the selection of BIZCOMPS® transactions for calculating time period means and standard deviations. This can be done using either Sale Dates or Listing Dates. BIZCOMPS® provides a Sale Date with its transaction data, but does not provide a Listing Date. Nevertheless, the VFC DLOM Calculator® generates Listing Dates by subtracting the number of "DAYS ON MKT" provided in BIZCOMPS® spreadsheets from the Sale Date. The oldest Sale Date in our database is 1/31/1986, and the latest is currently 7/13/2015. The oldest Listing Date is 8/4 /1985 and the latest is currently 6/13/2015. As more BIZCOMPS® transactions are added to our database, the latest Listing and Sale Dates will advance.

# Marketing Time Period ● Get All Transactions ○ Listing Date On Or After A Specific Date ○ Sale Date On Or Prior To A Specific Date ○ Use A Custom Period On Or Between Two Listing Dates ○ Use A Custom Period On Or Between Two Sale Dates ○ Use A Custom Period On Or Between A Listing Date And A Sale Date

- Get All Transactions.
  - This selection uses all available transactions with the selection factors that you defined.
- Listing Date On or After a Specific Date.
  - This selection uses all available transactions with the selection factors that you defined that were listed on or after the Listing Date you specify.
- Sale Date On or Prior to a Specific Date.
  - This selection uses all available transactions with the selection factors that you defined that sold on or before the Sale Date you specify.
- Use a Custom Period On or Between Two Listing Dates.
  - This selection uses all available transactions with the selection factors that you
    defined that were listed on or between the Listing Dates you specify.

- Use a Custom Period On or Between Two Sale Dates.
  - This selection uses all available transactions with the selection factors that you
    defined that were sold on or between the Sale Dates you specify.
- Use a Custom Period On or Between a Listing Date and a Sale Date.
  - This selection uses all available transactions with the selection factors that you
    defined that were listed on or after the Listing Date that you specify and were
    sold on or before the Sale Date that you specify.

# **Successful Public Offerings Marketing Periods**

This option provides you a selection from three different transaction types for estimating marketing periods for larger businesses—those suitable for a public equity offerings—and other types of publicly registered securities. The types of transactions are:

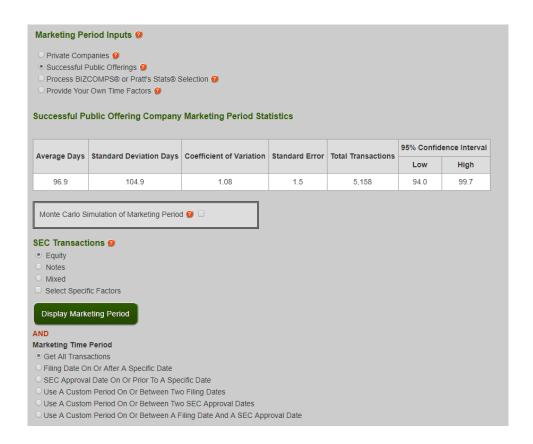
- Equity
- Notes
- Mixed Securities

Once a transaction type has been selected you may further refine you analysis by specifying a specific SIC Code or a range of codes. SIC Code and transaction dates, or ranges thereof, are the only transaction parameters available for estimating Public Offering time periods.

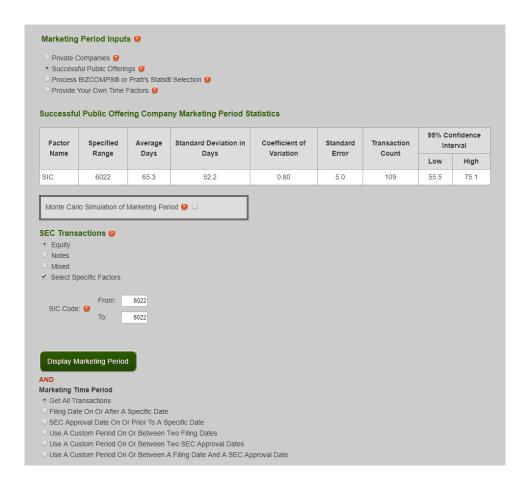
If no SIC Code or range is specified, the VFC DLOM Calculator® will use all of the transactions in the database that satisfy your specified date parameters to calculate the Marketing Period mean and standard deviation. Similarly, f no date or date range is specified, the VFC DLOM Calculator® will use all of the transactions in the database that satisfy your specified SIC Code parameters to calculate the Marketing Period mean and standard deviation.

Marketing Period Inputs ②
<ul> <li>Private Companies </li> <li>Successful Public Offerings </li> <li>Process BIZCOMPS® or Pratt's Stats® Selection </li> <li>Provide Your Own Time Factors </li> </ul>
SEC Transactions   ● Equity  ● Notes  ● Mixed  ● Select Specific Factors
SIC Code: 70:
Display Marketing Period  AND
Marketing Time Period
Get All Transactions
Filing Date On Or After A Specific Date
SEC Approval Date On Or Prior To A Specific Date
Use A Custom Period On Or Between Two Filing Dates
Use A Custom Period On Or Between Two SEC Approval Dates
Use A Custom Period On Or Between A Filing Date And A SEC Approval Date

Click the "Display Marketing Period" button to view the calculation results. The screenshot below demonstrates the presentation.



As previously explained, you can select industry factors by entering SIC codes into the "From" and "To" fields shown in the screen shot below. Note that if a SIC Code has less than 4 digits it will automatically, append "0"s for "From" and "9"s for "To" in order to complete the range.



# Successful Public Offerings Marketing Time Period

A marketing time period allows you to further refine the time frame for when SIC S-1 filings should be counted.

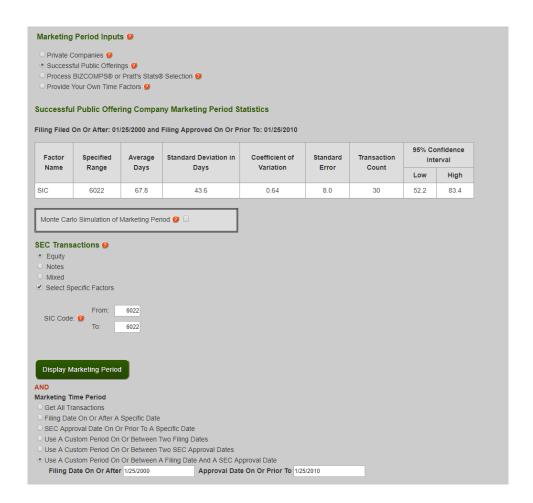


A "Filing Date" falls on the date in which a Form S-1 was filed to the SEC. A "SEC Approval Date" falls on the date on which a 424B1 or 424B4 was filed representing SEC approval. The

Marketing Days then is represented in the number of days falling on and between the two filing dates. A mean and standard deviation is calculated based on the transactions that satisfy all selected requirements. The first Form S-1 filing found is dated 1994-01-07, and the currently latest filing is dated 2015-10-19. The first SEC approval is dated 1994-04-07 and the currently latest SEC approval is dated 2015-10-19. The VFC DLOM Calculator® is updated periodically to capture new Form A-1 filings and SEC approvals. All time periods are inclusive, meaning that they include the days on the "Filing Date" and "SEC Approval Date."

- Get All Transactions.
  - This selection uses all available transactions with the selection factors that you defined.
- Filing Date After a Specific Date.
  - This selection uses all available transactions with the selection factors that you
    defined for which a Form S-1 was filed on or after the Filing Date you specify.
- SEC Approval Date On or Prior to a Specific Date.
  - This selection uses all available transactions with the selection factors that you
    defined for which a Form 424B1 or 424B4 was approved on or before the SEC
    Approval Date you specify.
- Use A Custom Period On or Between Two Filing Dates.
  - This selection uses all available transactions with the selection factors that you
    defined for which a Form S-1 was filed on or between the Filing Dates you
    specify.
- Use A Custom Period On or Between Two SEC Approval Dates.
  - This selection uses all available transactions with the selection factors that you
    defined for which a 424B2 or 424B4 were filed on or between the SEC Approval
    Dates you specify.
- Use A Custom Period On or Between a Filing Date and a SEC Approval Date.
  - O This selection uses all available transactions with the selection factors that you defined for which a Form S-1 was filed on or after the Filing Date that you specify

and for which a Form 424B2 or 424B4 was filed on or before the SEC Approval Date that you specify.



# Monte Carlo Simulation of Marketing Period

Monte Carlo simulation is available for the Marketing Periods of both Private Company transactions and Successful Public Offerings. It allows you to override the "Average Days" of the analytical population using any number within the 95% confidence interval. Standard deviations remain the same. After a Monte Carlo analysis is run, a fourth column titled "User Adjusted Average" will be displayed in the Run results to show the effects of the changed average.

Average Days	Standard Deviation Days	Coefficient of Variation	Standard Error	Total Transactions	95% Confidence Interval	
					Low	High
96.9	104.9	1.08	1.5	5,158	94.0	99.7

# **Process BIZCOMPS® or Stout Selection**

This option allows you to select a BIZCOMPS® or Stout spreadsheet file for use in calculating a marketing mean and standard deviation. You must have a BIZCOMPS® or Stout subscription to use this function. If you do not have a BIZCOMPS®, please click the blue button shown in the screenshot below to navigate to the BIXCOMPS® website.

Processed transactions are not retained by VFC DLOM Calculator. Be sure to save your file. Only XLSX, XLS, and CSV Files are valid. The maximum file size is 2MB (approximately 1000 rows). Please do not put line breaks (new lines) in your cells, as this may result in processing errors.

# CSV Files

CSV files must have values delimited by a comma (,) and text values should be encapsulated with quotes ("").

# Header Row

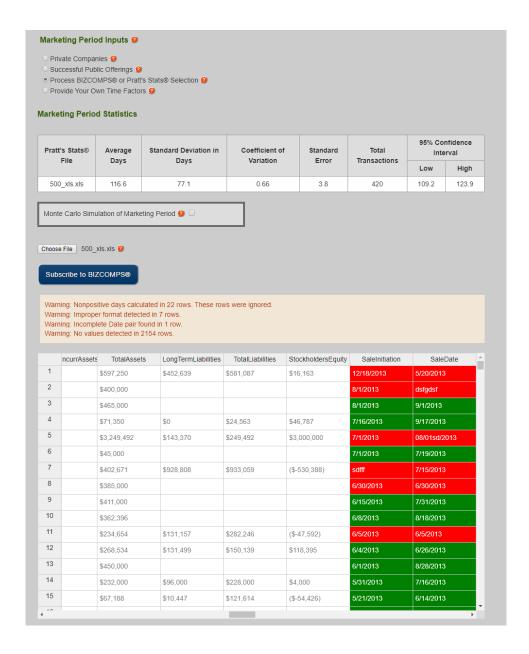
The header row should be included for BIZCOMPS® or Pratt's Stats® selections. For BIZCOMPS® the first row must have a cell with the contents "days on market." For Pratt's Stats® the first row must have two cells with one containing "Sale Initiation" and another containing "Sale Date." Once located, the entire column will be used for Marketing Period calculations.

The header cells are not case sensitive, "days on market" and "DAYS ON MARKET" are both valid.

# Warnings

After the necessary columns are found, each row is processed individually. This processing checks for valid syntax. "Days on market" values must be a number, while "Sale Initiation" and "Sale Date" values must be dates in mm/dd/yyyy format.

If a "Sale Initiation" date occurs after a "Sale Date" it is considered invalid, otherwise the marketing period calculated for that row is the difference in days between "Sale Date" and "Sale Initiation."



# **Provide Your Own Time Factors**

This option allows you to enter your own Marketing Period mean and standard deviation.



# **Probability Based Price Volatility Inputs**

This tool is provided to generate a price volatility mean and standard deviation.



- Use Publicly Traded Stocks or Indexes to Determine Price Volatility
  - This choice bases price volatility estimates on user-specified stocks and indexes.
     The VFC DLOM Calculator® automatically calculates the price volatility characteristics of the specified stocks and indexes.
- Provide Your Own Price Volatility Factors
  - This choice bases price volatility estimates on a distribution (mean and standard deviation) that you developed from other sources.

Using Publicly Traded Stocks or Indexes to Determine Price Volatility

Using Price Volatility Guideline Companies and Indexes requires the use of "Look-up" credits. After price data is retrieved for a company's ticker, it is cached for 336 hours (2 weeks) and all subsequent Look-Ups that use the cache do not cost any "Look-up" credits. Users who want to view their cache can click the checkbox "View Cached Price Data." Users who want to clear a cache prior to its expiration can click the "Clear Cache" button next to the ticker symbol they want to clear.

Up to 10 ticker symbols can be used at once for stock price look-ups. The ticker symbols must be separated by commas AND/OR spaces. The "Overall" average value is determined by averaging all the guideline companies, each company is treated equally. Please note that some special characters such as ^ do not work with the "Look-up" function.

## Price Data Source

There are two sources securities price sources available through the VFC DLOM Calculator®: Alpha Vantage and NASDAQ. Alpha Vantage provides both Adjusted Closing Prices and Reported Closing Prices. NASDAQ provides only Reported Closing Prices.

When "Reported Closing Prices" is selected, the VFC DLOM Calculator® allows you to do a "Price Check." This function allows comparison of the retrieved price data from NASDAQ and Alpha Vantage. Discrepancies are highlighted in red. If there are no numbers highlighted in red, then the NASDAQ and Alpha Vantage prices are identical, and the price data they report is more likely to be accurate. Users should review the reported prices if errors are detected in this test.

# Price Volatility Period

This option represents the time period for which price data is gathered to calculate a price volatility mean and standard deviation. Keep in mind that price volatility days represent the number of trade days necessary to get the number of daily volatility metrics. That is, price volatility days equals trade days plus one. "Trade days" means the number of days with price data. Trade days do not correspond to actual calendar days. Available price volatility time

# parameters include:

- Get All Price Volatility Data
  - This retrieves all available price data for the tickers
- Look Forward From Valuation Date
  - This retrieves a user specified amount of price volatility days that occur after and on the valuation date
- Look Backward From Valuation Date
  - This retrieves a user specified amount of price volatility days that occur prior and on the valuation date
- Use a Custom Price Volatility Period
  - This allows a user to specify dates in which price data needs to be either between or on. This option is limited by the valuation date. The "From" field cannot be further than 180 days prior to the valuation date and the "To" field cannot be further than 180 days after the valuation date.

### Price Volatility Inputs 9

- Use Publicly Traded Stocks or Indexes to Determine Price Volatility
- Provide Your Own Price Volatility Factors 🥝

### Price Volatility Statistics: AV Reported Closing Price

Ticker	cker Average	Standard Deviation	Price Volatility Days	Coefficient of Variation	Standard Error	From Date	To Date	95% Confidence Interval	
								Low	High
IBM	13.4%	10.7%	65	0.8	1.3%	2014-03-12	2014-06-13	10.8%	16.0%
Т	9.9%	11.2%	65	1.1	1.4%	2014-03-12	2014-06-13	7.2%	12.6%
F	14.2%	12.4%	65	0.9	1.5%	2014-03-12	2014-06-13	11.2%	17.2%
Overall	12.5%	11.4%	195	0.9	0.8%	2014-03-12	2014-06-13	10.9%	14.1%

### Price Data

### Export to CSV

Date	AV: IBM	NASDAQ: IBM	AV: T	NASDAQ: T	AV: F	NASDAQ: F
2014-03-12	186.2200	186.2200	32.3800	32.3800	15.4000	15.4000
2014-03-13	183.9000	183.9000	32.3500	32.3500	15.1800	15.1800
2014-03-14	182.2100	182.2100	32.4900	32.4900	15.0800	15.0800
2014-03-17	185.8100	185.8100	32.8900	32.8900	15.2800	15.2800
2014-03-18	186.8100	186.8100	32.9800	32.9800	15.4900	15.4900
2014-03-19	184.7100	184.7100	32.9600	32.9600	15.4800	15.4800
2014-03-20	187.9000	187.9000	34.0900	34.0900	15.5500	15.5500
2014-03-21	186.6700	186.6700	34.3000	34.3000	15.4700	15.4700
2014-03-24	188.2500	188.2500	34.4600	34.4600	15.3900	15.3900
2014-03-25	195.0400	195.0400	34.7200	34.7200	15.3300	15.3300
2014-03-26	192.6200	192.6200	34.6100	34.6100	15.2500	15.2500
2014-03-27	189.8300	189.8300	34.9600	34.9600	15.2500	15.2500
2014-03-28	190.4500	190.4500	35.0700	35.0700	15.4500	15.4500
2014-03-31	192.4900	192.4900	35.0700	35.0700	15.6000	15.6000
2014-04-01	194 5000	194 5000	35 0900	35 0900	16.3200	16 3200

Monte Carlo Simulation of Price Volatility 2

### Price Volatility Guideline Companies and Indexes

- List up to 10 ticker symbols separated by commas AND/OR spaces.
- Some special characters such as ^ used to represent indexes will not work.
- Your available Price Volatility Look-Up Credits are only charged for successful look-ups that are added to your cache.
   Check the box View Cached Price Data, below, to see the contents of your cache.

(Example: IBM, T, F) Confirm the average and standard deviation of price volatility using an independent price source. Ticker symbols that are not currently in use, or have not been in continuous use by the same public company, may yield inaccurate price data and erroneous price volatility statistics.

Price Data Source (Your choice of Alpha Vantage or NASDAQ is what will be used in your report.)

Use Adjusted Closing Prices. Price Data From: Alpha Vantage (20 years of available data.)

- Use Reported Closing Prices. Price Data From: Alpha Vantage (20 years of available data.) Ouse Reported Closing Prices. Price Data From: NASDAQ (10 years of available data.)
- Price Check (Presents both Alpha Vantage and NASDAQ price volatility tables. Costs two price volatility look-up credits per ticker)

☐ View Cached Price Data

You have 493 Price Volatility Look-Up Credits Buy More Here

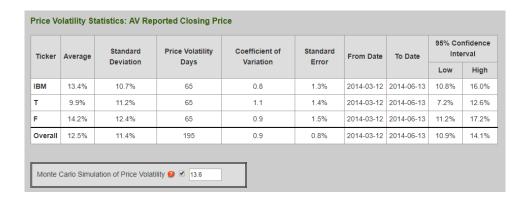
## Price Volatility Period

- Get All Price Volatility Days
- Look Forward From Valuation Date
- Look Backward From Valuation Date
- Use A Custom Price Volatility Period (Limited to 180 days before and after the valuation date.) To 6/15/2014 From 3/12/2014

Display Price Volatility

# Monte Carlo Simulation of Price Volatility

This option is available only when using Publicly Traded Stocks or Indexes to Determine Price Volatility. It allows you to override the average generated by the tool with any number within the 95% Confidence interval. After you run a report, a fourth report column (not shown) titled "User Adjusted Average" will be displayed to you showing you the effects of your changes.



# Provide Your Own Price Volatility Factors

This option allows users to enter independently determined Price Volatility means and standard deviations.



# **DLOM Formula Selection**

This is an option available in both DLOM Calculators, it allows users to select from three types of formulas to calculate a DLOM.

DLOM Formula Selection	
<ul><li>Longstaff ②</li><li>Black-Scholes ②</li><li>Finnerty ②</li></ul>	

# Longstaff formula inputs:

- Price volatility mean (required)
- Price volatility standard deviation (optional)
- Marketability restriction period mean (required)
- Marketability restriction period standard deviation (optional)

# Black-Scholes

- Price volatility mean (required)
- Price volatility standard deviation (optional)
- Marketability restriction period mean (required)
- Marketability restriction period standard deviation (optional)
- Underlying asset price (optional)
- Strike price (optional)
- Risk-free rate (optional)
- Dividend yield (optional)

# Finnerty

- Price volatility mean (required)
- o Price volatility standard deviation (optional)
- Marketability restriction period mean (required)
- Marketability restriction period standard deviation (optional)
- Risk-free rate (optional)
- Dividend yield (optional)

# Marketing Period Carrying Cost

Simple

- o Compound
- Cost of Money (Annual Percentage Rate)

### **Calculators and Estimators**

There are two Calculators and two Estimators available to users. Each Calculator and Estimator requires a payment using a Run credit.

# **Calculators**

- Double Probability DLOM Calculator
  - This Calculator utilizes both the Marketing Period Input and Price Volatility tools to get two sets of mean and standard deviations to calculate a double probability DLOM.
- Single Probability DLOM Calculator
  - This Calculator has two modes both of which are accessible on the same
     Calculator page.
    - Static Marketing Period with a Price Volatility mean and standard deviation to calculate a single probability DLOM
    - Static Price Volatility with a Marketing Period mean and standard deviation to calculate a single probability DLOM

#### **Estimators**

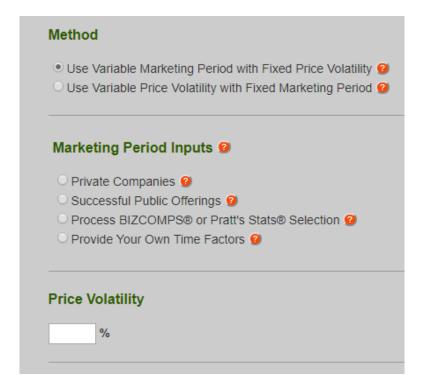
- Marketing Period Estimator
  - Uses only the Marketing Period Tools
- Price Volatility Estimator
  - Uses only the Price Volatility Tools

# Single Probability DLOM Calculator Static Tools

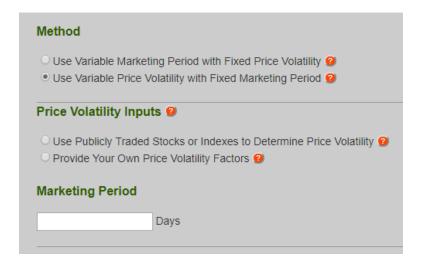
This Calculator has two modes both, which are accessible on the same Calculator page. You can select the "Method" to set the mode of the Calculator.

# Method Use Variable Marketing Period with Fixed Price Volatility Use Variable Price Volatility with Fixed Marketing Period

The "Use Variable Marketing Period with Fixed Price Volatility" option allows users to (a) use the Marketing Period Input tool to generate marketing period values, and (b) input a number that represents the average Price Volatility.



The "Use Variable Price Volatility with Fixed Marketing Period" option allows users to (a) use the Price Volatility tool to generate price volatility values, and (b) input a number that represents the number of marketing days.



# **Limited Free Trial Mode**

The current mode of the Calculator or Estimator is displayed at the top of the page. All Calculators and Estimators have a free trial mode available. Click the "Explore Free Trial" button to activate the trial mode.



During the trial mode users cannot change their Project and cannot use some parts of the Marketing Period Inputs and Price Volatility tools. However, during trial mode users will not be charged any credits for using the Calculators or Estimators. Use these free trials to get acquainted with how the Calculators and Estimators work and view the results they generate.

Click the "Exit Free Trial" button located at the top of the screen to exit limited free trial mode



# **Understanding Calculator and Estimator Results**

All Calculators and Estimators require specific Run credits to be utilized. After a Calculator or Estimator is run, a Run credit is spent and all data required to regenerate the results is saved in our database. This allows you to access previous Runs of the Calculators and Estimators and review the results. If you would like to change some inputs and Run again, you may click the "Modify Options?" button.

Each Run gives you access to four types of results.

#### Result Tables

These tables display the generated results from users' variable and static inputs along with their original inputs. When variable inputs are used, the results are reported with low bound, average, and high bound values. The bounds represent the 95% confidence interval. "Low Bound" DLOMs are calculated by using the low bound of the 95% confidence interval of the variable inputs. "High Bound" DLOMs are calculated by using the high bound of the 95% confidence interval of the variable inputs. "Average" DLOMs are calculated using the average values of the variable inputs. If the user checks the "Monte Carlo Simulation" option for any of the variable inputs, a fourth column designated as "User Adjusted Average" will be displayed in the Results tables that utilizes the specified "Monte Carlo Simulation" value.

#### Graphs

O Graphs can be generated by clicking the "Show Graphs" button. Each Calculator and Estimator has a specific set of graphs. All graphs can be downloaded at the same time by pressing the "Download All Graphs" button. Otherwise, when an individual graph is clicked the "Download Graph" command can be used.

#### Spreadsheets

An interactive spreadsheet of numeric data supporting the VFC DLOM Calculator® calculations is provided when the "Show Spreadsheets" button is clicked.
 Estimators have a tab for "Other Graph Datapoints." Calculators additionally

have tabs for "Probability Distribution Matrix" and "DLOM Distribution Matrix." To download the contents of any tab, select your target tab and then click the "Export to CSV" button.

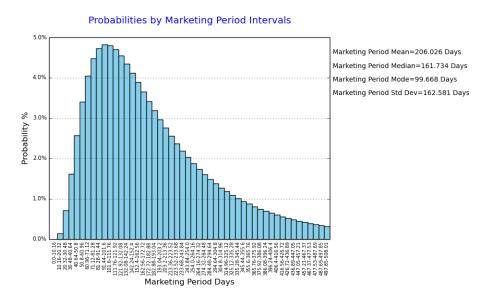
# Report

This is a PDF file that is generated when the "Print Report" button is clicked. It combines all Project information, result tables, and graphs into a single document. Please be patient while the report is being generated. You can view sample reports on the Home page of DLOMCalculator.com.

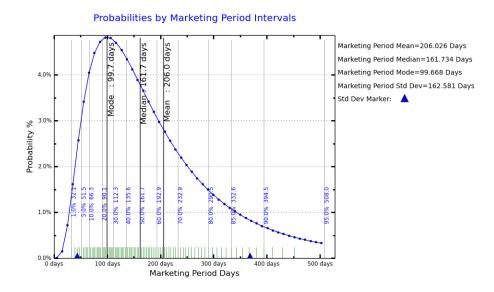
# Marketing Period Input Tool Graphs

Any Calculator or Estimator that uses a variable marketing period will generate these graphs. These graphs can be used to estimate the time needed to see a business or other asset.

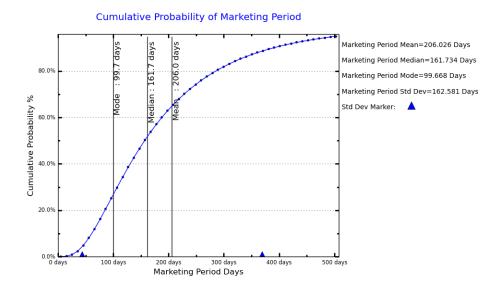
• A graph of the probability distribution of the marketing period intervals. This graph allows the user to estimate the probability of a sale occurring in a particular time period.



 A log normal probability density function graph showing the probability distribution of the marketing period. This graph also presents the mean, median, and mode of the range of marketing period probabilities, provides an indication of the relative concentration of anticipated sale events, and provides a means of estimating the percentage of sales events predicted to have occurred after a particular number of marketing days have elapsed.



 A graph of the increase in the cumulative probability of the marketing period as the marketing period increases. This graph also presents the mean, median, and mode of the range of marketing period probabilities.

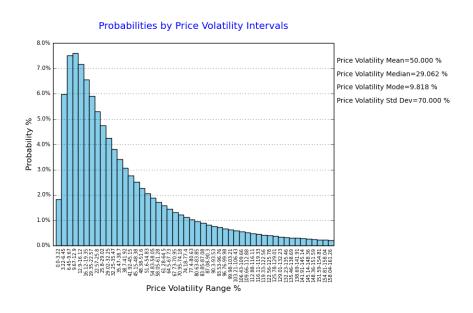


# Price Volatility Tool Graphs

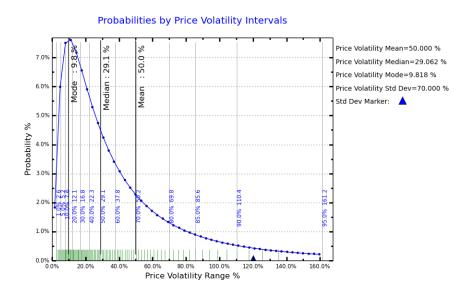
Any Calculator or Estimator that uses variable price volatility will generate these graphs.

These graphs can be used to estimate the price risk associated with a particular marketing period of an asset offered for sale or associated with the anticipated holding period of an asset

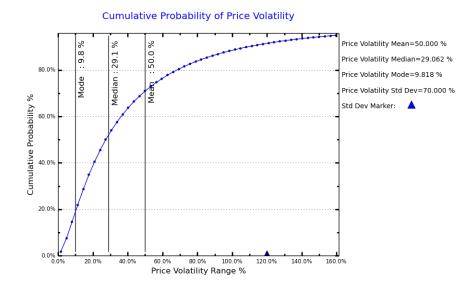
 A graph of the probability distribution of price volatility. This graph allows the user to estimate the probability of a particular range of price volatility.



 A log normal probability density function graph showing the probability distribution of the range of price volatility. This graph also presents the mean, median, and mode of the range of price volatility probabilities, and provides an indication of the relative concentration of potential volatility events.



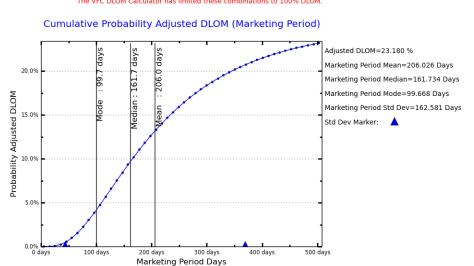
 A graph of the increase in the cumulative probability of price volatility as the range of volatility increases. This graph also presents the mean, median, and mode of the range of price volatility probabilities.



Single Probability DLOM Calculator using Marketing Period Probability

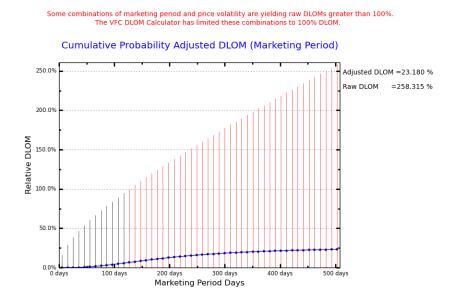
Two marketing period graphs will be generated when DLOM calculations are run using the Single Probability DLOM Calculator with Marketing Period Probability. No price volatility graphs can be generated in this mode. The available marketing period graphs are:

 A graph showing the cumulative probability-adjusted of DLOM as the marketing period increases. This graph also presents the mean, median, and mode of estimated DLOM over the range of marketing period probabilities.



Some combinations of marketing period and price volatility are yielding raw DLOMs greater than 100%. The VFC DLOM Calculator has limited these combinations to 100% DLOM.

• A graph that compares (a) the cumulative growth of the VFC Probability-Based DLOM and (b) the raw Longstaff DLOM value that would result from applying the Longstaff formula for the particular marketing period without adjusting for the probability of occurrence or limiting the calculated DLOM to 100%. Marketing periods resulting in greater than 100% DLOM for a fixed volatility are shown in red.

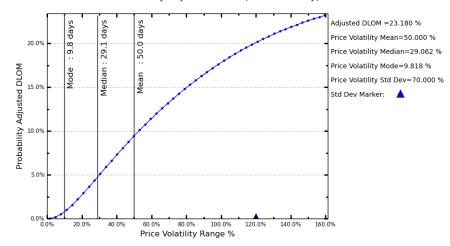


Single Probability DLOM Calculator using Price Volatility Probability

Two price volatility graphs will be generated when DLOM calculations are run using the Single Probability DLOM Calculator with Price Volatility Probability. No price marketing period graphs can be generated in this mode. The available price volatility graphs are:

A graph showing cumulative probability-adjusted DLOM as the price volatility increases.
 This graph also presents the mean, median, and mode of estimated DLOM over the range of price volatility probabilities.

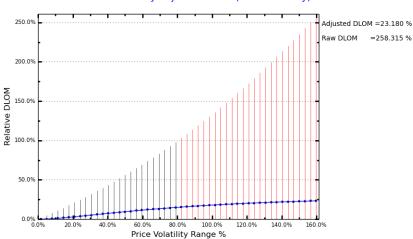
#### Cumulative Probability Adjusted DLOM (Price Volatility)



• A graph that compares (a) the cumulative growth of probability adjusted, value limited DLOM and (b) the raw Longstaff DLOM values that would result from applying the Longstaff formula for the particular price volatility event without adjusting for the probability of occurrence or limiting the calculated DLOM to 100%. Price volatilities resulting in greater than 100% DLOM for a fixed marketing period are shown in red.

Some combinations of marketing period and price volatility are yielding raw DLOMs greater than 100%. The VFC DLOM Calculator has limited these combinations to 100% DLOM.

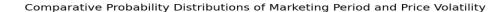
Cumulative Probability Adjusted DLOM (Price Volatility)



Double Probability DLOM Using Marketing Period and Price Volatility Probabilities

The Double Probability DLOM Calculator uses both variable Marketing Period and Price Volatility, so their respective graphs will be generated. Furthermore, Double Probability DLOM specific graphs will also be generated.

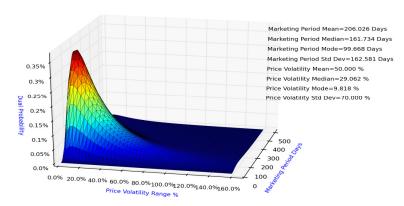
 A graph comparing the probability distributions of the predicted marketing periods and price volatilities. This graph allows the user to visualize the relative distribution of marketing period and price volatility probabilities.



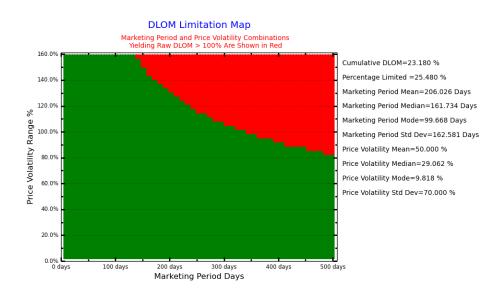


A three-dimensional graph showing the distribution of the combinations of price
volatilities and marketing periods. This graph allows the user to visualize the
interaction of the determined marketing period and price volatility ranges of probability.
This graph also reports the mean, median, mode, and standard deviations of the
marketing period and price volatility probabilities.

#### **Combined Probabilities**

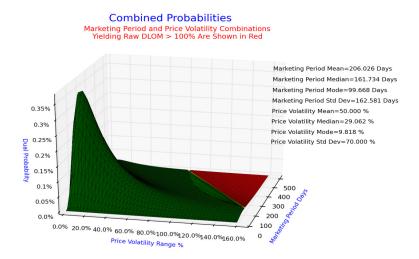


• A 2-dimensional matrix graph of the probability events color coded in red to show events for which the raw Longstaff DLOM value exceeds 100%. This graph displays and reports the percentage of marketing period and price volatility combinations that result in raw Longstaff DLOM values greater than 100%. The VFC Double Probability DLOM Calculator limits such events to 100% DLOM.



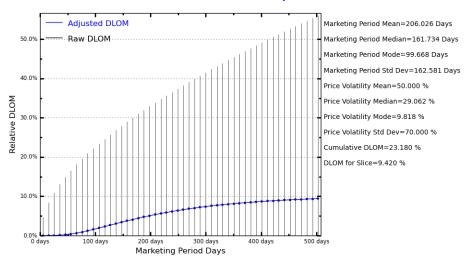
• A 3-dimensional graph of the probability events color coded in red to show events for which the raw Longstaff DLOM values exceed 100%. This graph allows the user to

visualize the overall influence of marketing period and price volatility combinations that have been limited by the VFC DLOM Calculator.

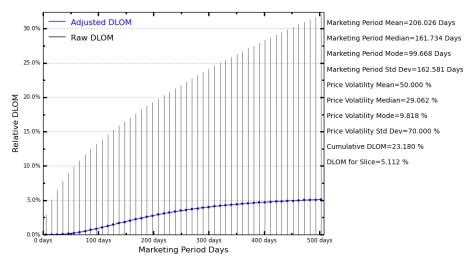


• A series of graphs that compare (a) the cumulative growth of probability adjusted and value limited DLOM over time measured at the mean, median, and mode of price volatility; and (b) the raw Longstaff DLOM value that would result from applying the Longstaff formula for the particular marketing period without adjusting for the probability of occurrence or limiting the calculated DLOM to 100%. Marketing periods resulting in greater than 100% DLOM for a fixed volatility are shown in red if they occur.

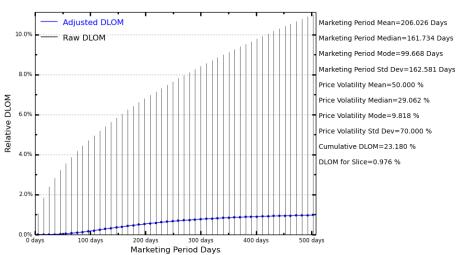
Cumulative DLOM
At the Mean of 50.00 Percent Price Volatility







Cumulative DLOM
At the Mode of 9.82 Percent Price Volatility

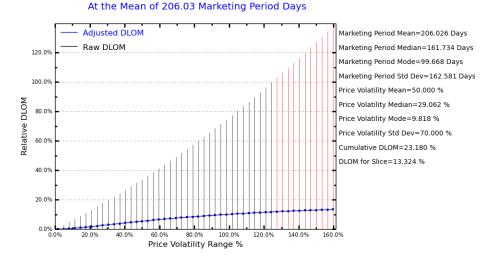


•

A series of graphs that compare (a) the cumulative growth of probability adjusted and value limited DLOM over the predicted range of price volatility measured at the mean, median, and mode of marketing period probabilities; and (b) the raw Longstaff DLOM value that would result from applying the Longstaff formula for the particular price volatility without adjusting for the probability of occurrence or limiting the calculated DLOM to 100%. Price volatilities resulting in greater than 100% DLOM for a fixed marketing period are shown in red if they occur.

Some combinations of marketing period and price volatility are yielding raw DLOMs greater than 100%. The VFC DLOM Calculator has limited these combinations to 100% DLOM.

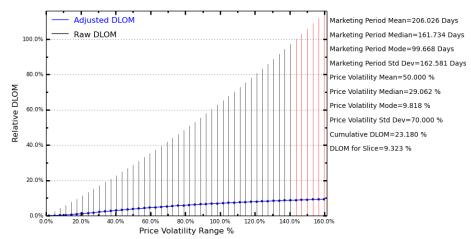
Cumulative DLOM



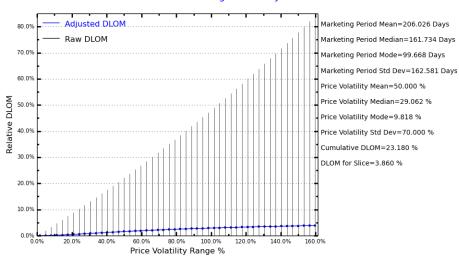
Some combinations of marketing period and price volatility are yielding raw DLOMs greater than 100%. The VFC DLOM Calculator has limited these combinations to 100% DLOM.

Cumulative DLOM

# At the Median of 161.73 Marketing Period Days







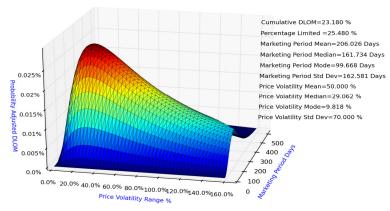
 A graph comparing the distributions of DLOM based on the predicted marketing period and price volatility trends. This graph allows the user to visualize the different influences of marketing period and price volatility on the VFC Probability-Based DLOM.

# Separate DLOM Distributions of Marketing Period and Price Volatility (Before Combining the Probabilities)



A three-dimensional graph showing the distribution of the VFC Probability-Based DLOM.
 This graph allows the user to visualize how DLOM is influenced by the combination of the range of marketing period and price volatility probabilities.

# Distribution of Probability Adjusted DLOM



 A three-dimensional graph showing cumulative growth of the double probability distribution of DLOM.

