

Professional B/D Margin & Haircut

The following examples apply to equity and options positions only. The margin requirements for index options, futures, and options on futures are slightly different.

VTrader Pro's non-segregated account structure extends professional B/D margin to our traders. For an equity-only position this margin is *approximately* 6 to 1. The margin can be much greater when an equity position is hedged with options, or when an option-only position is established. In these instances a risk-based capital requirement calculation known as "Haircut" is used to determine the amount of capital required to secure a position. The 6 to 1 overnight margin for equity positions is only a guideline. The risk-based Haircut formula is always used to determine actual capital requirements -- *required account equity will be always be based on the Haircut number.*

What is Haircut?

Haircut is a risk-based capital requirement that varies from one position to another. This is because unlike traditional (or Reg. T) margin, the amount of capital required to secure a position using Haircut is based on the RISK, and not the COST of establishing the position.

Haircut is the margin or difference between the actual market value of a security and the value of the security assessed by the lending side of the transaction (the clearing firm). Haircut is simply:

- The capital requirement associated with holding a position and,
- The amount by which the market value of that security must be reduced for the purposes of providing a capital cushion against adverse market movement. This means that Haircut is based on possible moves in an underlying security.

Be aware that option-only positions (positions without stock) also have a Haircut requirement. In determining the amount of collateral that must be posted, Haircuts are applied to the market value of various types of collateral.

How Haircut Is Calculated

Clearing firms calculate Haircut for established positions by the selecting the *greater* of two scenarios:

1. The first scenario is the greatest risk associated within a 30% range of the current value of the underlying security (15% above and 15% below). Note that the greatest risk could lie at any point *within* the 30% range depending on the nature of the position. For example, a trader with a long straddle will have his greatest risk given a 0% move in the stock – as a result of time decay.
2. The second scenario is the Haircut minimum requirement of \$25 per options contract. For example, a position consisting of 10 contracts would have a minimum requirement of \$250 (10 contracts x \$25).

Be advised that the clearing corporation may adjust the Haircut rate of a particular security at any time if it determines market conditions warrant such actions.

Sample Haircut Scenarios

Haircut for a Naked Stock Position

A trader is long 1,000 shares of XYZ. The closing price of XYZ is \$60, therefore, the market value of the trader's position is \$60,000. According to the Haircut formula the greatest risk for this position within the 30% range (15% up and 15% down) occurs if the stock moves down 15% -- falling to \$51. Since the trader owns 1000 shares of XYZ, the 15% down move would result in a \$9,000 loss [(60 – 51 = 9) x 1000 shares]. As such, \$9,000 is the required margin to hold the stock position using the Haircut formula with the stock at \$60.

Note that an equity trader with the above position can reduce his required Haircut margin by hedging the equity position with options. In the example provided the trader could purchase 10 puts, which would hedge the risk 1 to 1 (as each option contract represents 100 shares of stock). Out-of-the-money puts, such as the 52.5 level puts, could be purchased to hedge risk. Front-month out-of-the-money puts can usually be purchased for less than \$1 per contract. If the puts in our example were to cost .35 per contract, the total cost for 10 puts would be \$350 (.35 x 100 x 10 = \$350).

Haircut margin would then be calculated in the same way: looking up and down over the 30% range for the maximum loss of the net of stock and options. A loss would still occur if the stock fell to 51. However, the immediate loss and loss at expiration but would be much less due to the increased value of the put options. If the value of the 52.5 level puts is estimated to be \$3.75 with XYZ at 51, the traders risk (net loss) would be \$5250. This was determined by taking the combination of the \$9000 stock loss offset by the \$3750 value of the put position (\$3.75 x 10 contracts x 100 shrs/contract). The Haircut margin required for this hedged position would be \$5250 with XYZ at 60. Note that VTrader Pro allows for the "cross-margining" of stock and options, unlike the typical "Reg. T" retail account.

Example of Haircut for Uncovered Calls & Uncovered Puts

Recall that VTrader Pro calculates Haircut by evaluating the maximum loss within a 30% range (15% increase and 15% decrease in the underlying stock price). Haircut for an uncovered call position or an uncovered put position is determined by looking at the estimated value of the naked position, given an adverse 15% move in the underlying security, minus the amount collected from selling the option. The Haircut may never be less than the options minimum requirement of \$25 per contract.

For example, XYZ is trading \$100. A trader sells 10 contracts of the 95 level puts at \$1.00, naked. The firm calculates Haircut by looking at the estimated value of the 95 level put with the underlying stock trading down 15% from its current price, in this case at \$85. With the stock trading at \$85, the 95-level puts will be trading for approximately \$10 per contract. Using these assumptions, the required Haircut to establish the naked position would be \$9000; calculated as follows:

$$\text{\$10 potential option value} - \text{\$1 premium collected} \times 10 \text{ contracts}$$

Haircut for Covered Calls & Puts

As in the uncovered example above, Haircut for covered positions is determined by looking at the risk of the estimated value of the *NET* option and stock position given the 15% up/down move in the underlying security.

As an example, XYZ is trading \$50. A trader buys 1000 shares of stock for \$50 and then sells 10 XYZ Oct 55 calls at 1.00. The firm calculates Haircut by looking at the estimated value of the net position with a 15% up/down move in the underlying security. In this example, a 15% up would result in profit, and thus presents no Haircut risk. However, a 15% down move to \$42.50 would result in a net loss of \$6500, calculated below:

$$\begin{aligned} \text{Stock Loss: } & 50 \text{ (current stock price)} - 42.50 = 7.50 \times 1000 \text{ shrs} = \$7500 \\ \text{Option Credit: } & \$1 \times 10 \text{ (contracts)} \times 100 = \$1000 \\ \text{Net Loss} & = \$7500 - \$1000 = \$6500 \end{aligned}$$

The \$6500 loss amount would be the calculated Haircut requirement.

Other Examples of Haircut

Other examples of Haircut for various types of positions are listed below. When looking at the examples remember that Haircut will always be the greater of the 15% calculation or the option minimum requirement of \$25/contract.

The following examples assume that IBM is trading at \$88.55:

Example: Long Stock Position

Shares	1000	Min.	0							
		Haircut	-13,275							
	-15%	-12%	-9%	-6%	-3%	3%	6%	9%	12%	15%
	-13292	-10633	-7975	-5317	-2658	2658	5317	7975	10633	13292

Example: Long Stock & Long Puts

Shares	1000	Min.	-250							
Puts (85 strike)	10	Haircut	-4473							
	-15%	-12%	-9%	-6%	-3%	3%	6%	9%	12%	15%
	-4473	-4310	-3893	-3080	-1778	2162	4578	7130	9749	12395

Example: Long Straddle

Calls (85 Strike)	10	Min.	-500							
Puts (85 Strike)	10	Haircut	-868							
	-15%	-12%	-9%	-6%	-3%	3%	6%	9%	12%	15%
	4452	2123	287	-776	-868	1636	3787	6221	8794	11424

Example: Covered Call

Shares	1000	Min.	-250							
Calls (90 strike)	-10	Haircut	-11598							
	-15%	-12%	-9%	-6%	-3%	3%	6%	9%	12%	15%
	-11598	-8967	-6392	-3959	-1785	1329	2209	2724	2993	3116

Example: Call Spread

Calls (90 strike)	10	Min.	-500							
Calls (95 strike)	-10	Haircut	-2691							
	-15%	-12%	-9%	-6%	-3%	3%	6%	9%	12%	15%
	-2691	-2549	-2224	-1662	-878	810	1432	1837	2066	2177

Example: Ratio Put Spread

Puts (80 strike)	30	Min	-1000							
Puts (85 strike)	-10	Haircut	-179							
	-15%	-12%	-9%	-6%	-3%	3%	6%	9%	12%	15%
	6199	2906	871	-26	-179	211	357	434	467	477

Example: Short Stock & Short Puts

Shares	-1000	Min	-250							
Puts (85 strike)	-10	Haircut	-12433							
	-15%	-12%	-9%	-6%	-3%	3%	6%	9%	12%	15%
	4547	4378	3951	3117	1795	-2175	-4601	-7160	-9784	-12433

Example: Short Stock & Long Calls

Shares	-1000	Min	-250							
Calls (90 strike)	10	Haircut	-2954							
	-15%	-12%	-9%	-6%	-3%	3%	6%	9%	12%	15%
	11517	8880	6306	3885	1741	-1277	-2115	-2599	-2841	-2954

Example: Butterfly

Calls (80 strike)	10	Min	-1000							
Calls (85 strike)	-20	Haircut	-1348							
Calls (90 strike)	10									
	-15%	-12%	-9%	-6%	-3%	3%	6%	9%	12%	15%
	-1020	-609	-138	193	236	-396	-796	-1086	-1257	-1348