



The figures below show the simulated P/Ls for 36M and 18M ATM options under different volatility and spot change scenarios after one-year has passed. The price sensitivity to spot moves does tend to dominate any volatility P/L. Also, you can see for the 36M trade that if fixed strike vols and spot are unchanged then your option loses a fifth of its value due to time decay (the 18M option loses almost half its value in the same situation). A 5% up move in spot and a 100 bps decline in vol leaves the 36M ATM call option holder relatively flat.

Figure 25: Simulated P/L of 36M ATM options after 12M have passed under different volatility and spot change scenarios (all else held the same)

Change in Vol	% Change in Spot				
	-10%	-5%	0%	5%	10%
-5.00	-81%	-67%	-48%	-22%	8%
-4.50	-79%	-65%	-45%	-20%	11%
-4.00	-77%	-63%	-42%	-17%	13%
-3.50	-76%	-60%	-40%	-14%	16%
-3.00	-74%	-58%	-37%	-11%	19%
-2.50	-72%	-55%	-34%	-9%	21%
-2.00	-70%	-53%	-32%	-6%	24%
-1.50	-68%	-51%	-29%	-3%	27%
-1.00	-65%	-48%	-27%	-1%	29%
-0.50	-63%	-46%	-24%	2%	32%
0.00	-61%	-43%	-21%	5%	35%
0.50	-59%	-41%	-19%	8%	38%
1.00	-57%	-38%	-16%	10%	40%
1.50	-55%	-36%	-13%	13%	43%
2.00	-53%	-34%	-11%	16%	46%
2.50	-50%	-31%	-8%	19%	48%
3.00	-48%	-29%	-5%	21%	51%
3.50	-46%	-26%	-3%	24%	54%
4.00	-44%	-24%	0%	27%	57%
4.50	-41%	-21%	3%	29%	59%
5.00	-39%	-19%	5%	32%	62%

Source: Deutsche Bank

Figure 26: Simulated P/L of 18M ATM options after 12M have passed under different volatility and spot change scenarios (all else held the same)

Change in Vol	% Change in Spot				
	-10%	-5%	0%	5%	10%
-5.00	-99%	-91%	-68%	-23%	39%
-4.50	-98%	-90%	-66%	-21%	40%
-4.00	-98%	-88%	-64%	-20%	41%
-3.50	-97%	-87%	-62%	-18%	42%
-3.00	-96%	-85%	-60%	-16%	43%
-2.50	-96%	-84%	-58%	-14%	44%
-2.00	-95%	-82%	-56%	-12%	45%
-1.50	-94%	-81%	-54%	-10%	47%
-1.00	-93%	-79%	-51%	-8%	48%
-0.50	-92%	-78%	-49%	-6%	49%
0.00	-91%	-76%	-47%	-4%	51%
0.50	-90%	-74%	-45%	-3%	52%
1.00	-89%	-72%	-43%	-1%	54%
1.50	-88%	-71%	-41%	1%	56%
2.00	-87%	-69%	-39%	3%	57%
2.50	-86%	-67%	-37%	5%	59%
3.00	-84%	-66%	-35%	7%	60%
3.50	-83%	-64%	-33%	9%	62%
4.00	-82%	-62%	-31%	11%	64%
4.50	-81%	-60%	-29%	13%	66%
5.00	-79%	-58%	-27%	15%	67%

Source: Deutsche Bank