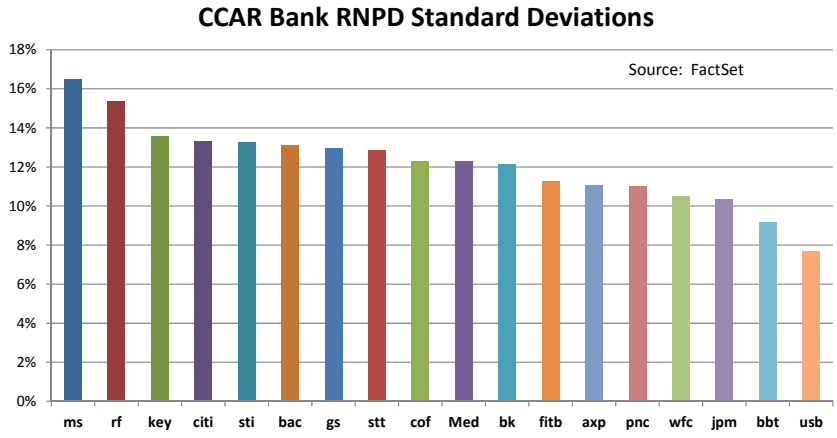
Minneapolis Options Report – July 11th

Banks

Trading was in options on bank stocks was very light as stock market volatility fell and investors waited for earnings announcements. The average stock rose over 3% during the past two weeks, slightly trailing the S&P 500. STI and COF had the strongest performance up 5.17% and 4.98% respectively. RNPD standard deviations were uniformly lower. The median RNPD standard deviation for CCAR firms fell 35 basis points. Consistent with the easing of uncertainty volatility smiles shifted lower in nearly every case (see top panel of individual reports). At the same time, RNPD skews generally rose or became less negative.

Additional notes:

- WFC was the only firm we follow with increased trading volume last week relative to two weeks ago. The firm's RNPD standard deviation was steady and remains one of the lowest in the universe.



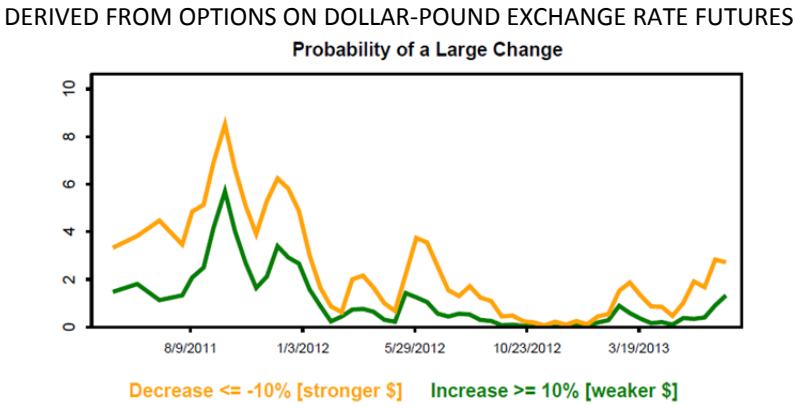
Other Commodity Markets
Volumes for options on the S&P 500 index fell from two weeks ago. At the six month expiry, trading remained at historically high levels, however. We continued to see strong trading in the grains, precious metals, and oil markets. With the exception of oil, we measured declines in tail risk as indicated by RNPD standard deviations.

Additional notes:

- Trading in options on the S&P 500 index was very strong for the 6 month expiry again last week. Tail risks as measured by the RNPD standard deviation fell sharply for both expiries: -1.8% for the 6 month expiry and -2.2% for the 12 month expiry. (*See S&P 500 reports*)

- Trading was heavy for options on WTI and Brent crude futures. Spot prices rose more than 5% relative to two weeks ago. RNPD shapes were largely unchanged. (*See Oil Reports*).

- We are starting to see some signs of increased tail risk in the dollar-pound exchange rate market. Volumes have picked up and risk neutral probabilities of large changes have as well. (*See Pound report*)

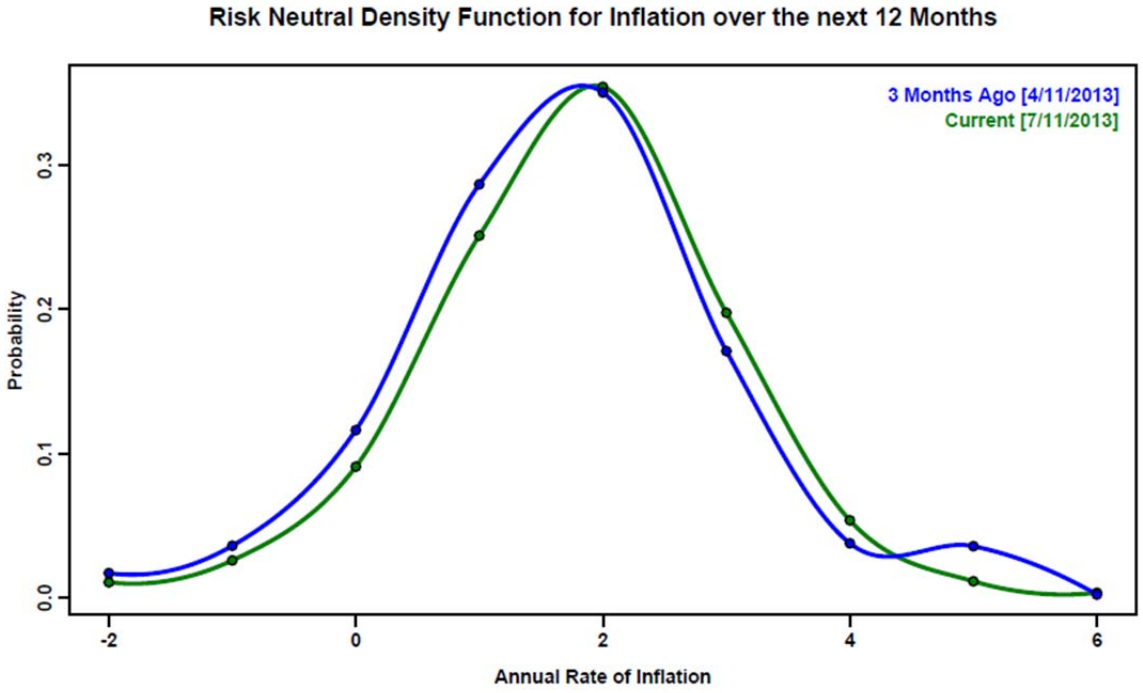


- Options trading on corn, soybean, and wheat futures was brisk. Spot prices were mixed with corn falling -2.14% and soybeans and wheat rising 1.22% and 1.09% respectively. The RNPD skews for corn and wheat remain positive. (*See grain market reports*)

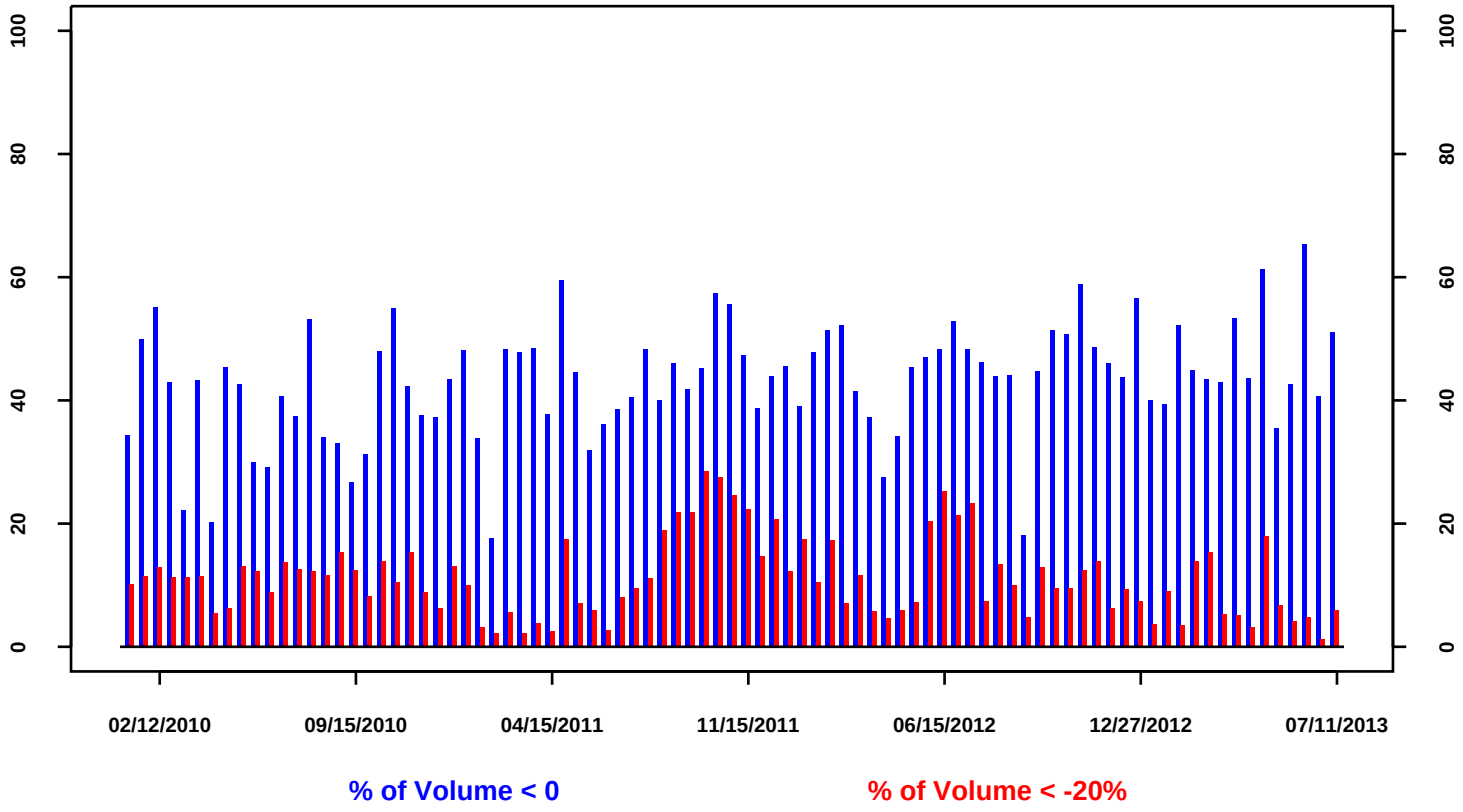
- Trading volumes for options on gold and silver futures remained high. Tail risks retraced some of their recent increases but remain above their recent lows. The RNPD standard deviation derived from options on gold futures dropped -1.4% and the RNPD standard deviation derived from options on silver futures dropped -0.9%. (*See gold and silver reports*)

- The DJ Real Estate Index ETF jumped 5.7% over the past two weeks. Trading was strong. We note some deep out of the money put trading in the top chart of the detail report. (*See Real Estate report*)

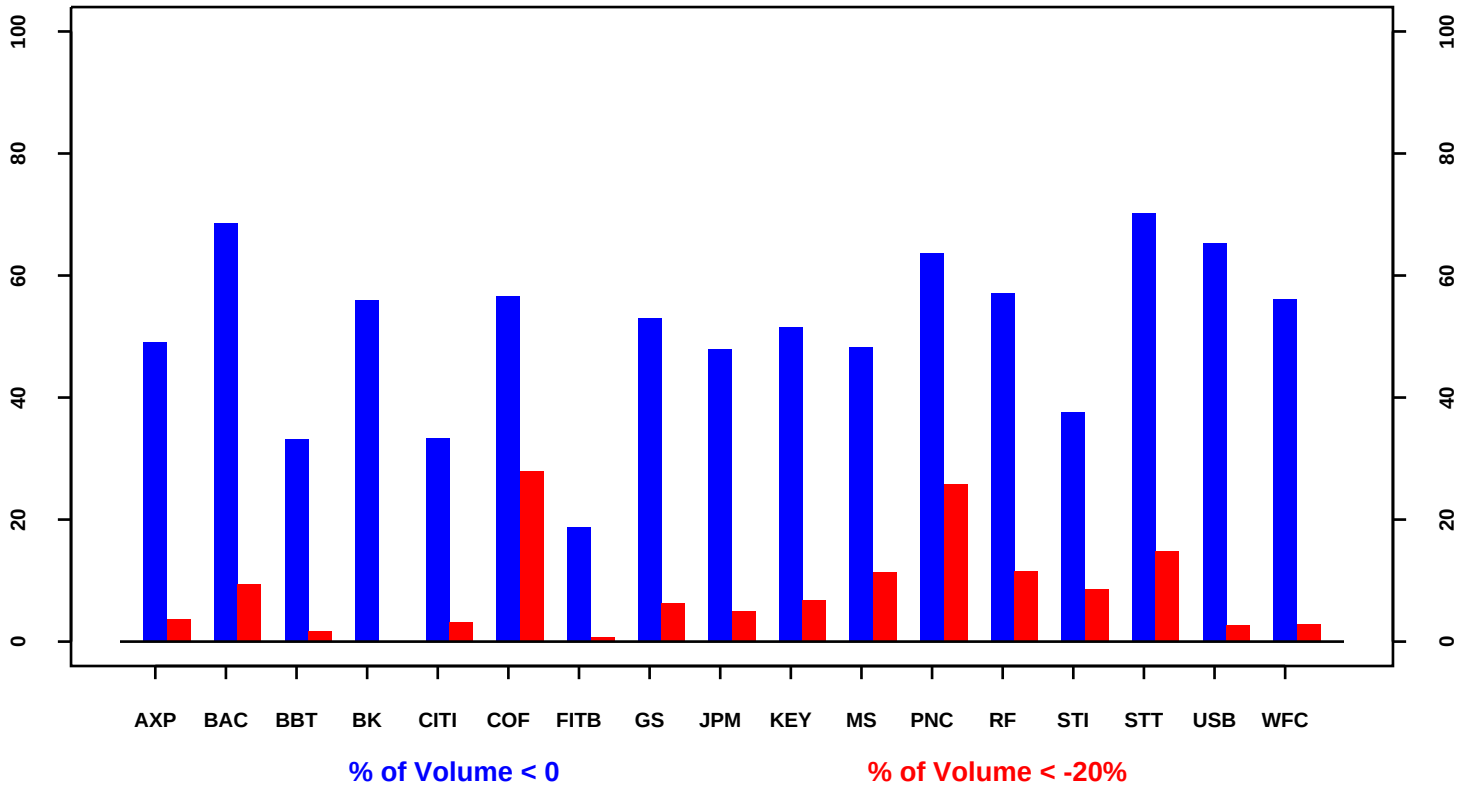
- The probability of high inflation over the next year has come off its recent lows over the past two weeks. We note that the inflation RNPD has returned to where it was three months ago. (*see inflation reports*)



Aggregate Volumes for Options on CCAR Banks

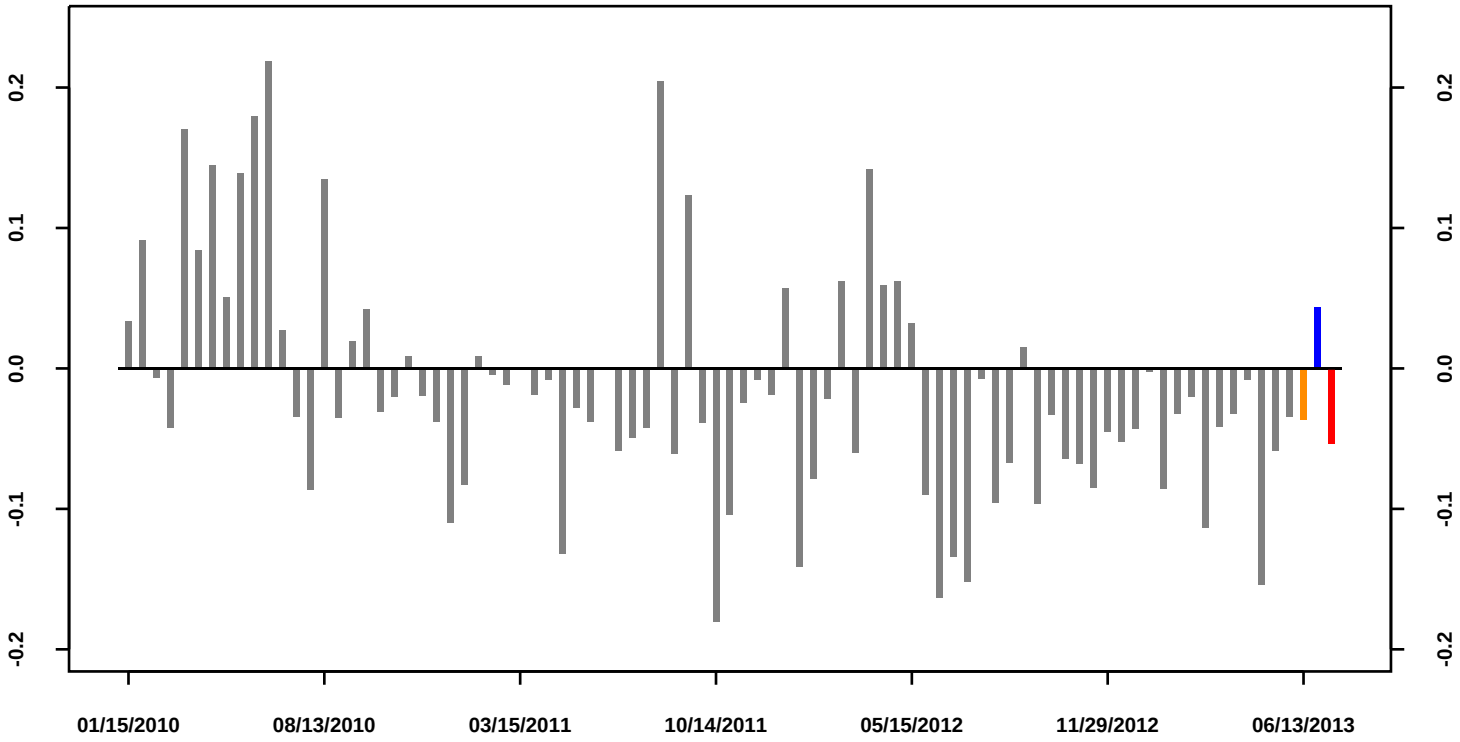


Volumes for Options on CCAR Banks

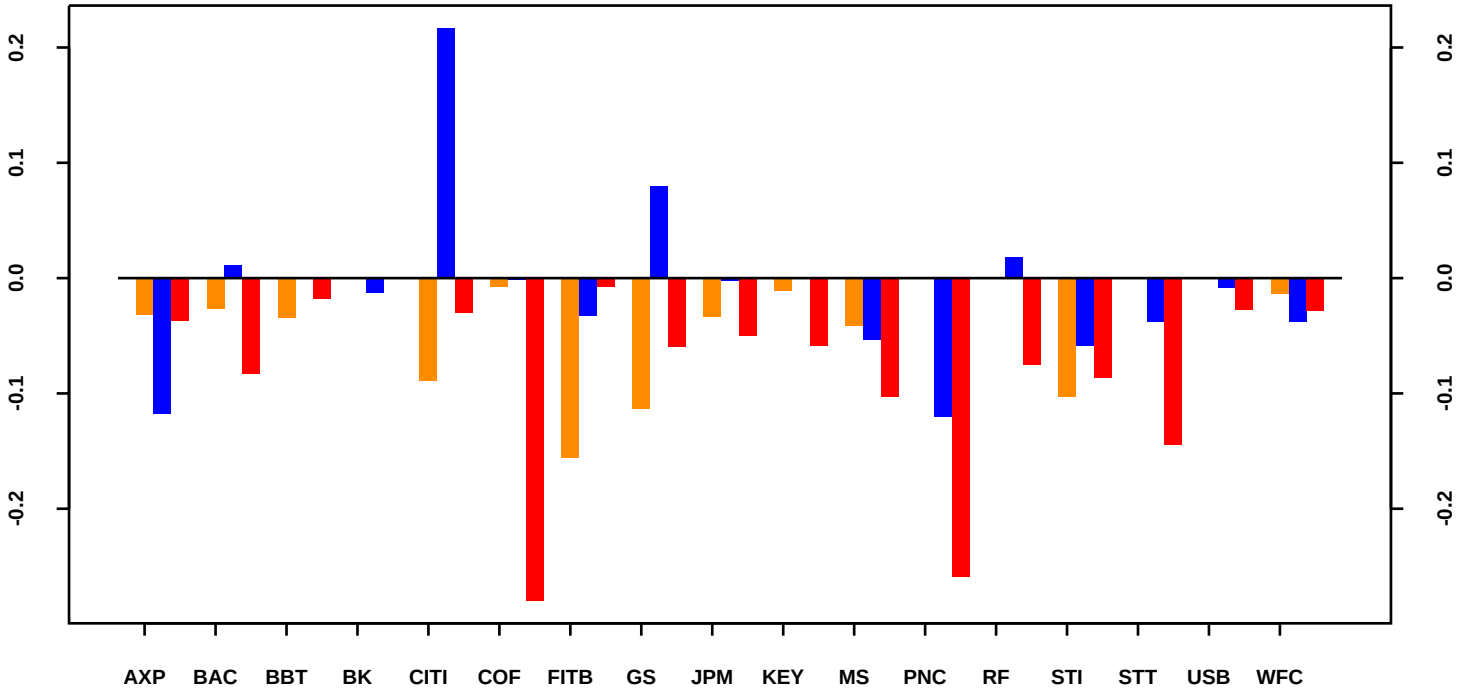


Aggregate Volume Skew--CCAR Banks

(% of volume traded in deep out-of-the-money calls LESS % of volume traded in deep out-of-the-money puts)



CCAR Bank Volume Skew -- Last Three Periods

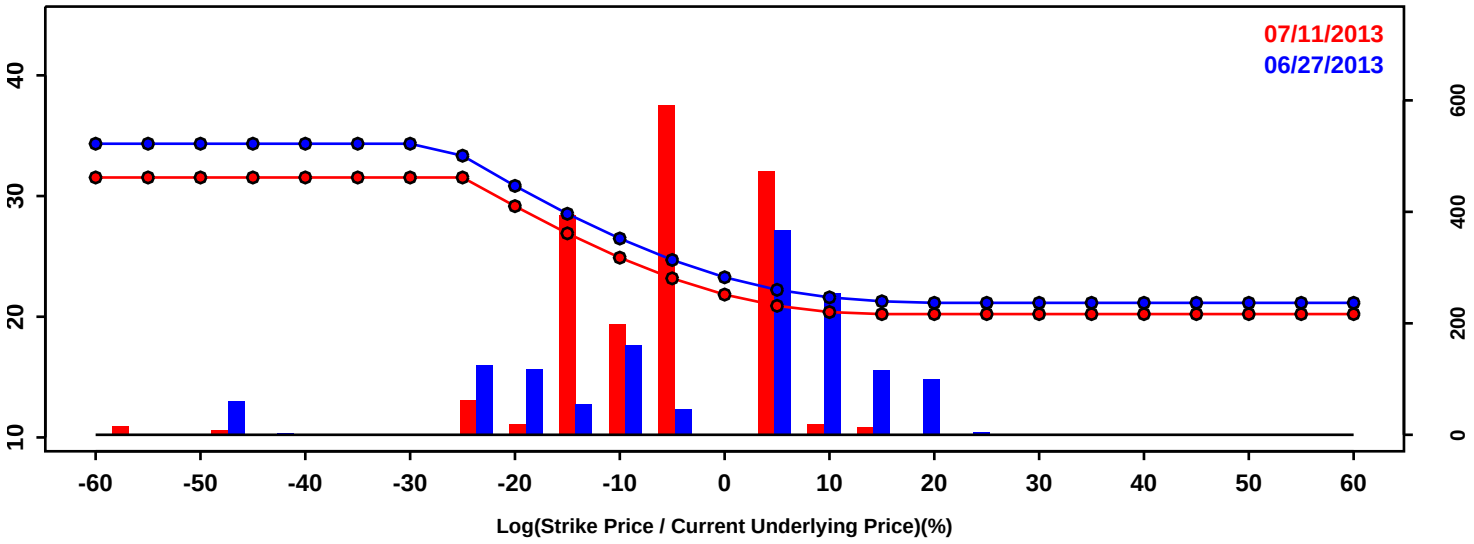


06/13/2013 06/27/2013 07/11/2013

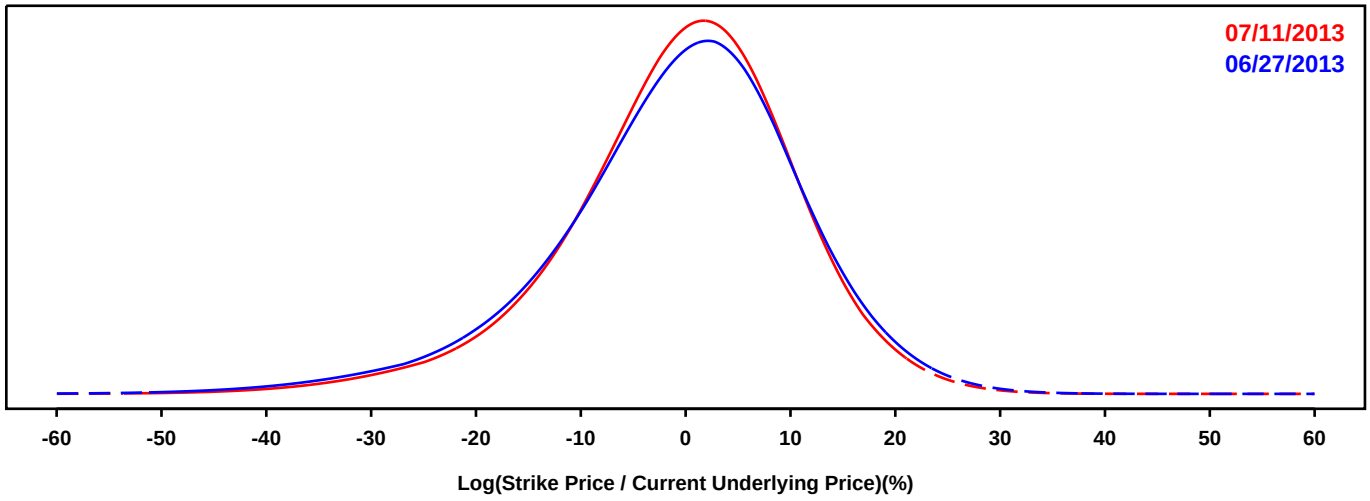
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- AMERICAN EXPRESS

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 3 months.

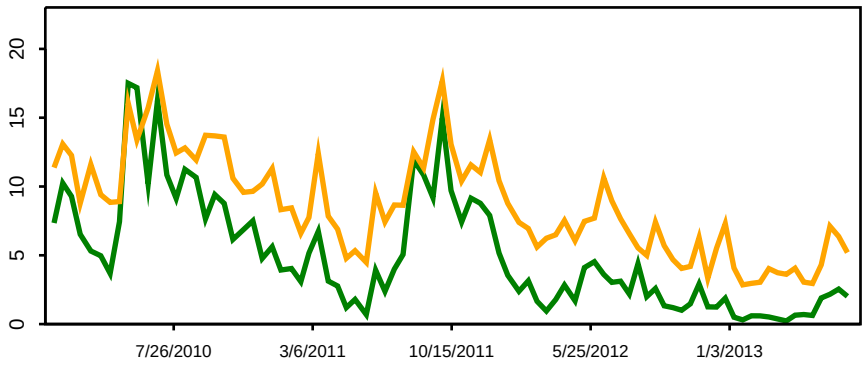
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



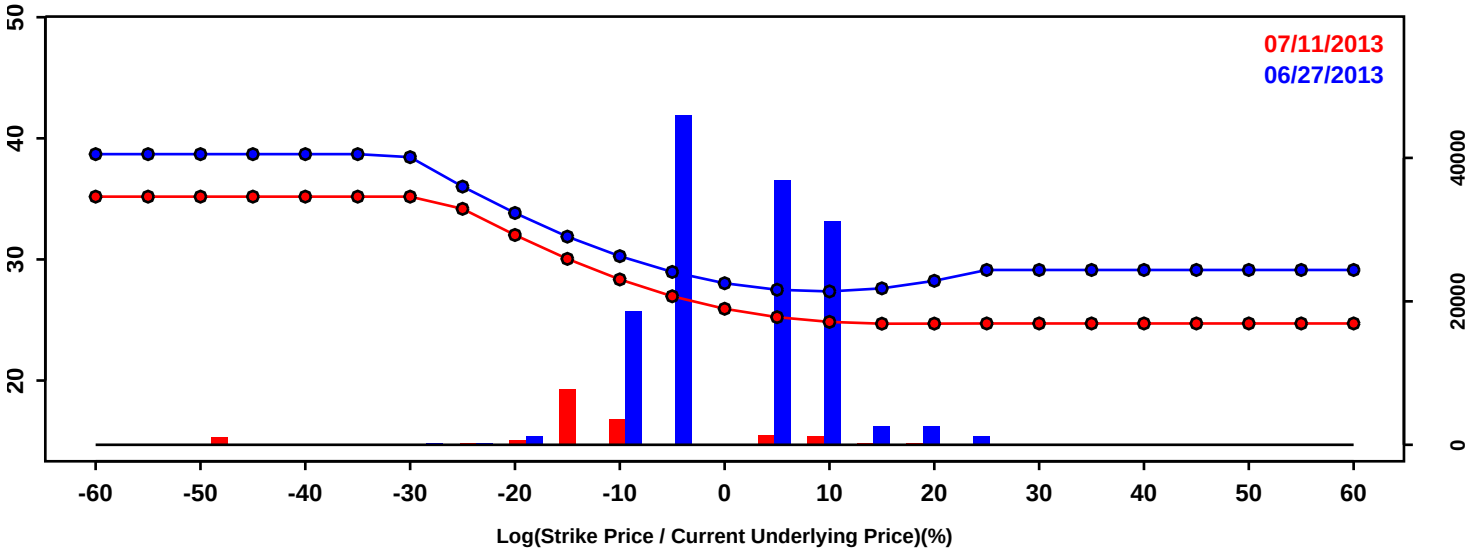
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-15.93%	-14.61%	1.33%
50th Pct	0.36%	0.39%	0.02%
90th Pct	13.08%	12.41%	-0.67%
Mean	-0.72%	-0.50%	0.22%
Std Dev	11.93%	11.09%	-0.83%
Skew	-0.64	-0.59	0.05
Kurtosis	1.16	1.08	-0.09

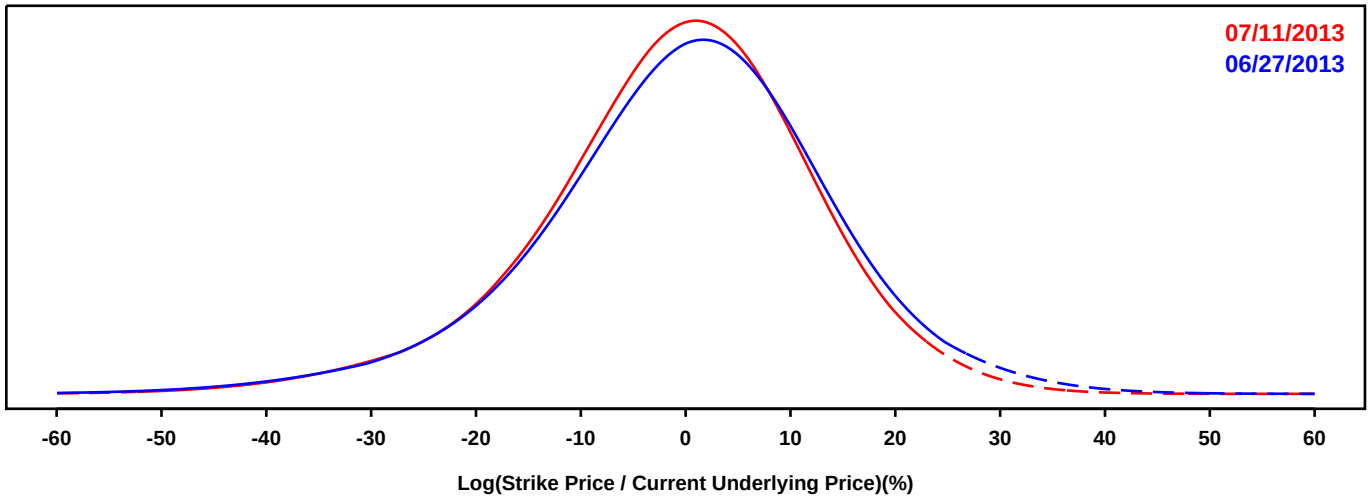
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- BANK OF AMERICA

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 3 months.

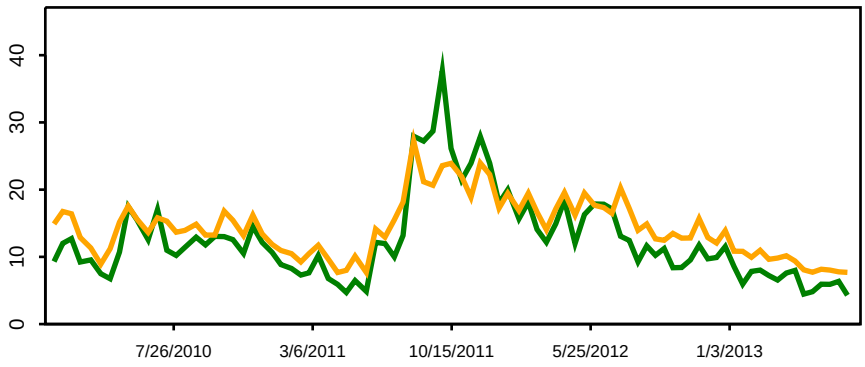
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

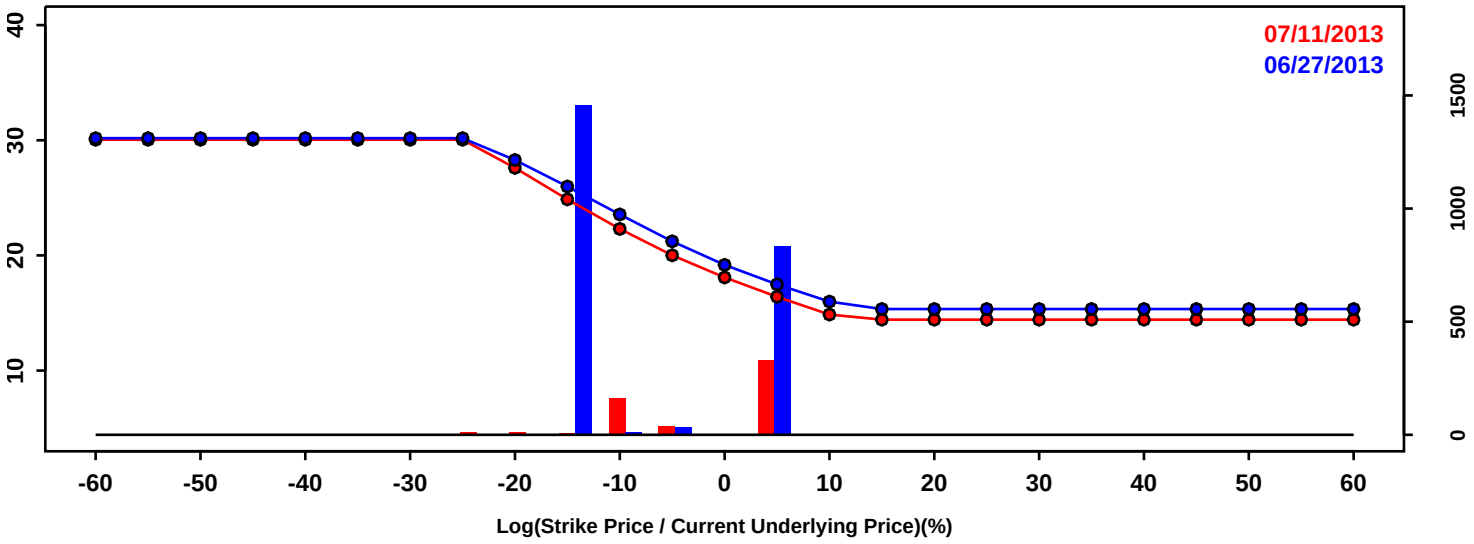
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-17.54%	-17.52%	0.02%
50th Pct	0.72%	-0.07%	-0.79%
90th Pct	16.69%	14.74%	-1.95%
Mean	0.01%	-0.90%	-0.91%
Std Dev	14.06%	13.14%	-0.92%
Skew	-0.38	-0.46	-0.08
Kurtosis	0.95	0.84	-0.10

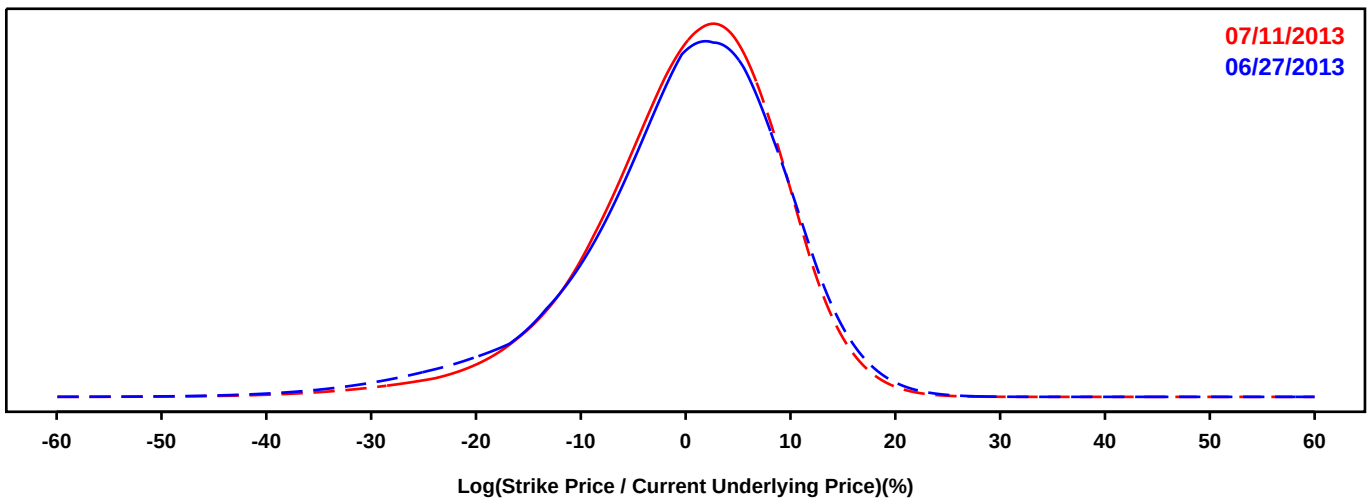
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- BB&T

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 3 months.

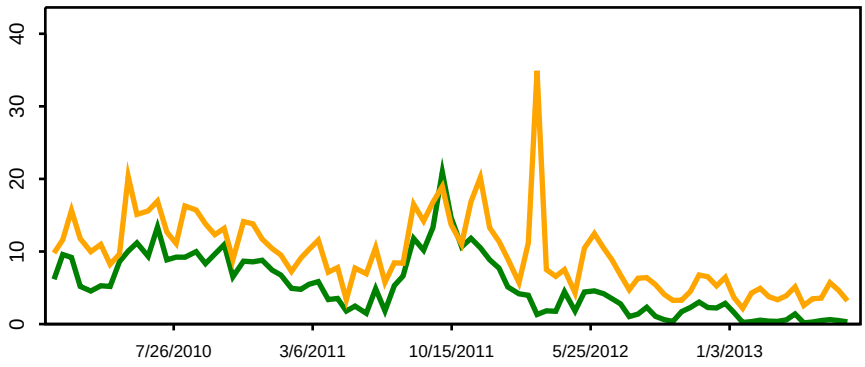
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

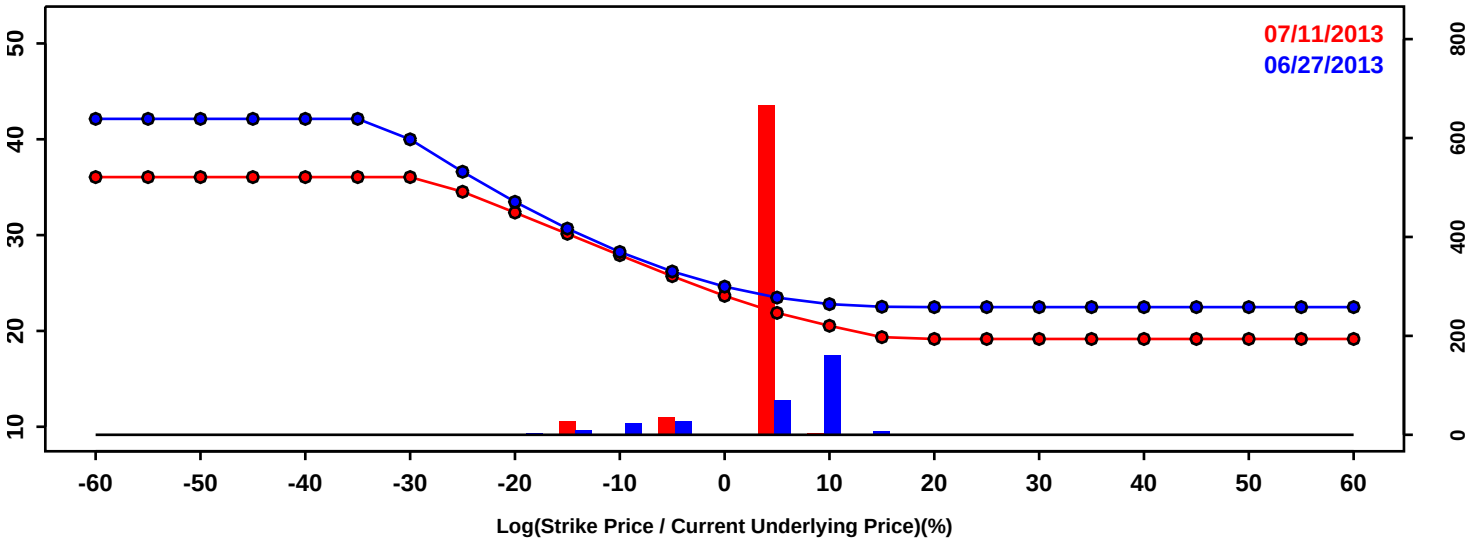
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-13.17%	-11.80%	1.36%
50th Pct	0.79%	0.86%	0.07%
90th Pct	10.68%	10.18%	-0.50%
Mean	-0.44%	-0.18%	0.26%
Std Dev	9.96%	9.16%	-0.80%
Skew	-0.93	-0.87	0.05
Kurtosis	1.65	1.70	0.05

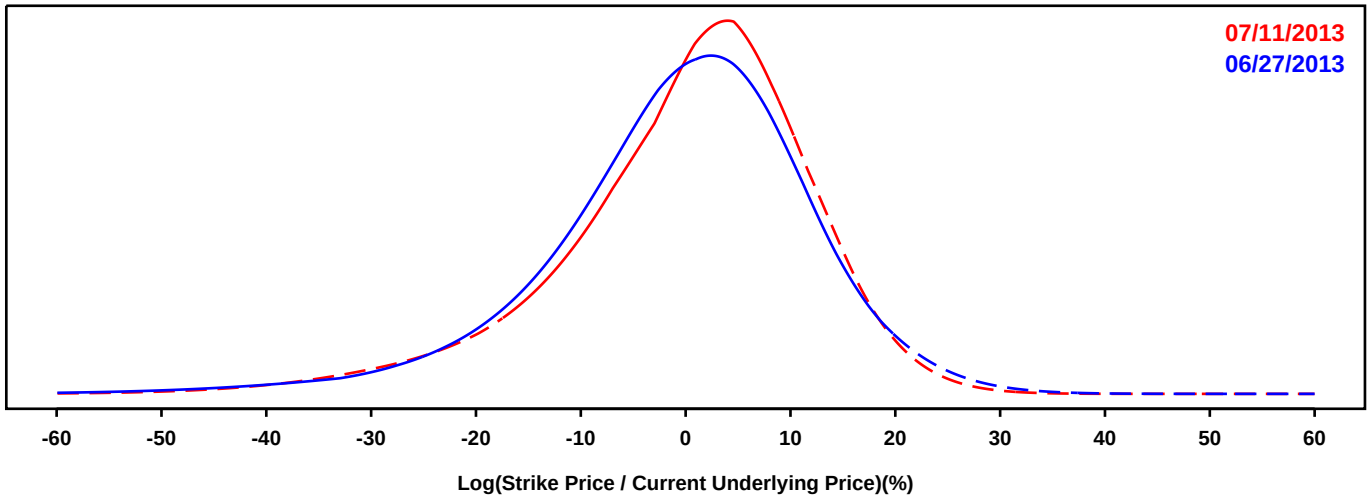
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- BANK OF NEW YORK MELLON

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 3 months.

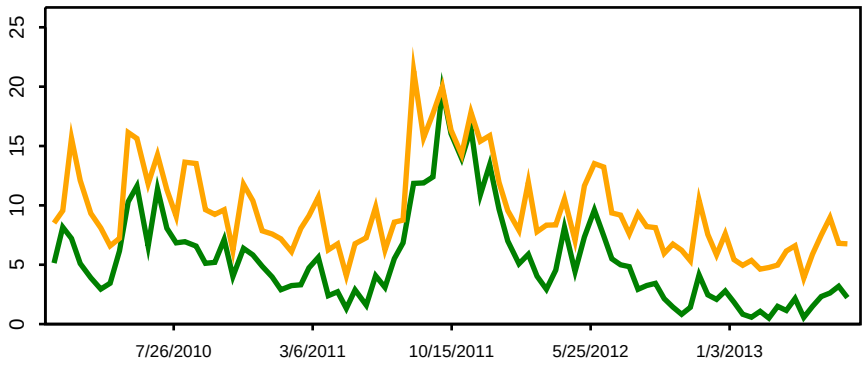
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



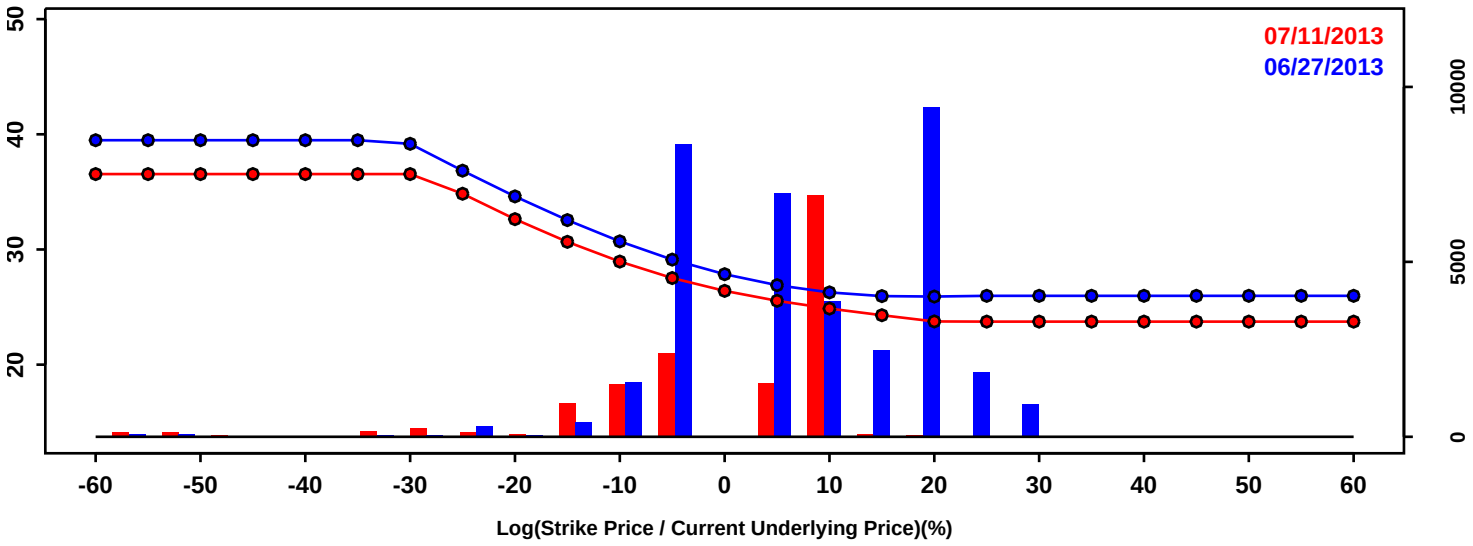
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-16.32%	-15.93%	0.39%
50th Pct	0.56%	1.56%	1.01%
90th Pct	13.73%	13.47%	-0.26%
Mean	-0.62%	-0.09%	0.53%
Std Dev	12.63%	12.15%	-0.49%
Skew	-0.78	-0.88	-0.10
Kurtosis	1.82	1.47	-0.35

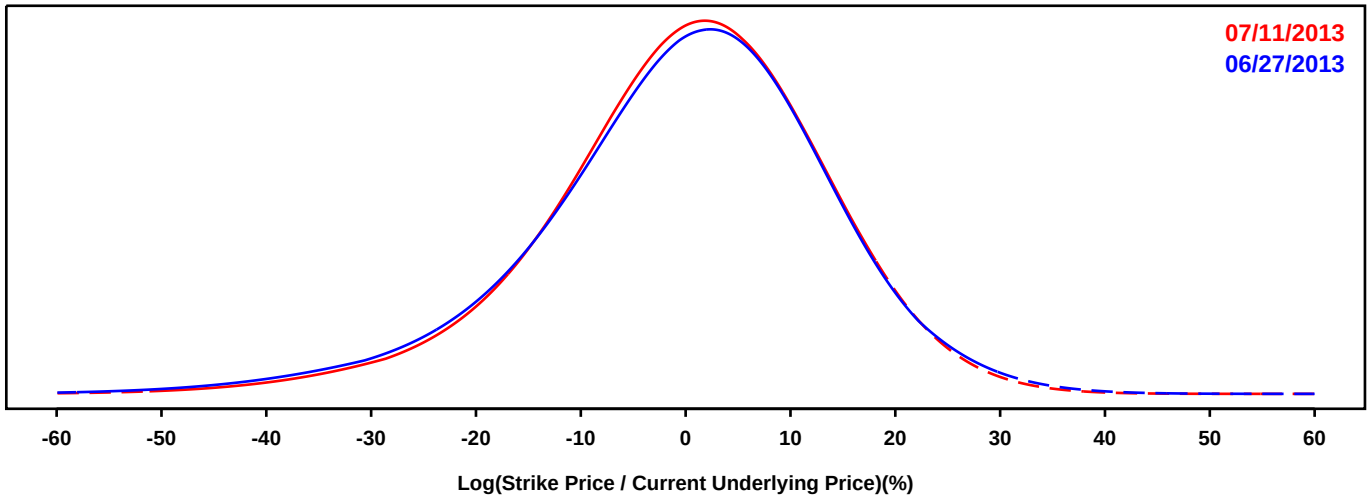
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CITIGROUP

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 3 months.

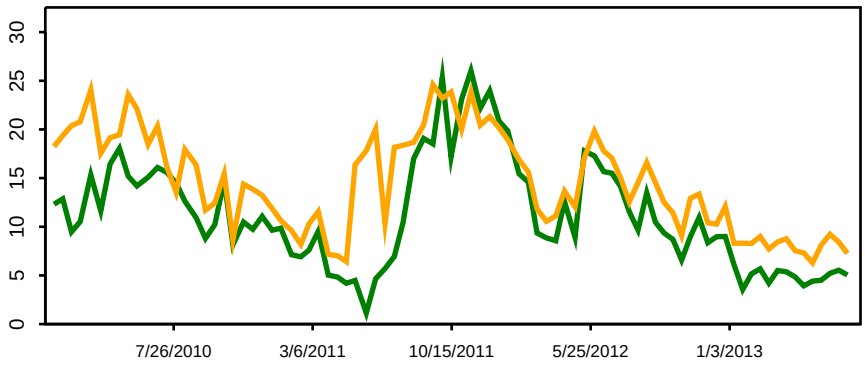
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

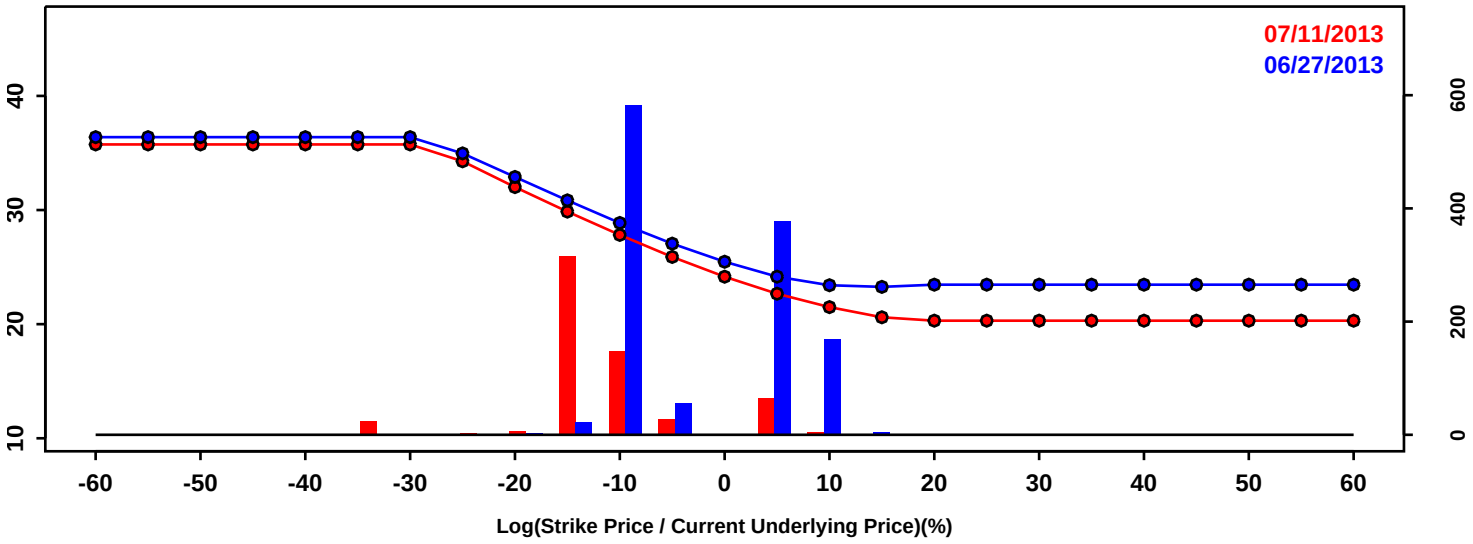
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-18.23%	-16.93%	1.30%
50th Pct	0.79%	0.81%	0.02%
90th Pct	16.13%	15.88%	-0.25%
Mean	-0.34%	-0.04%	0.30%
Std Dev	14.09%	13.31%	-0.77%
Skew	-0.56	-0.50	0.06
Kurtosis	1.02	0.82	-0.20

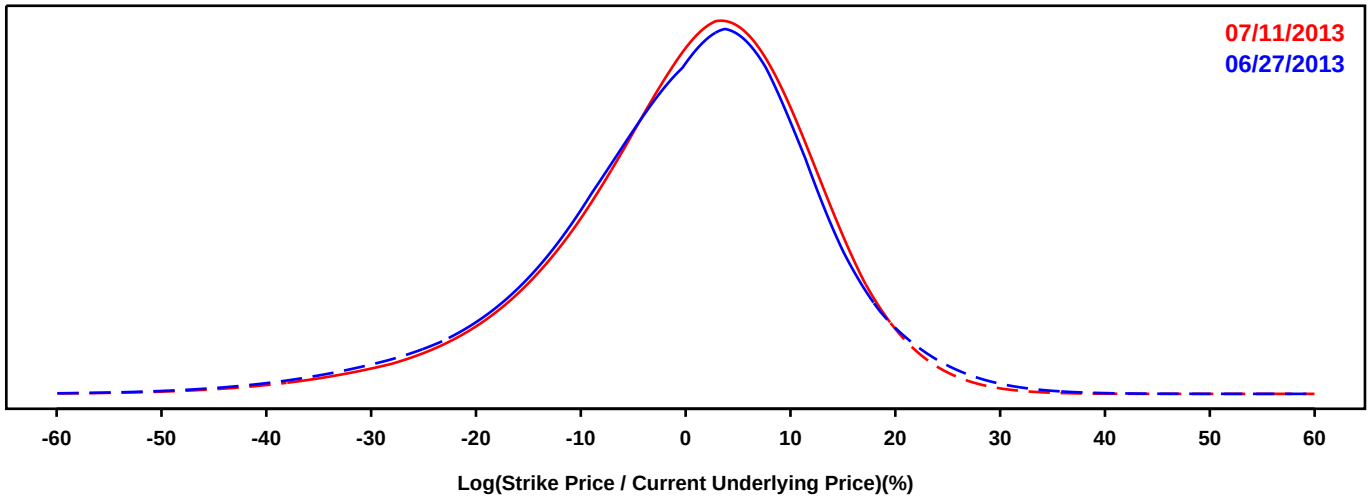
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CAPITAL ONE

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 3 months.

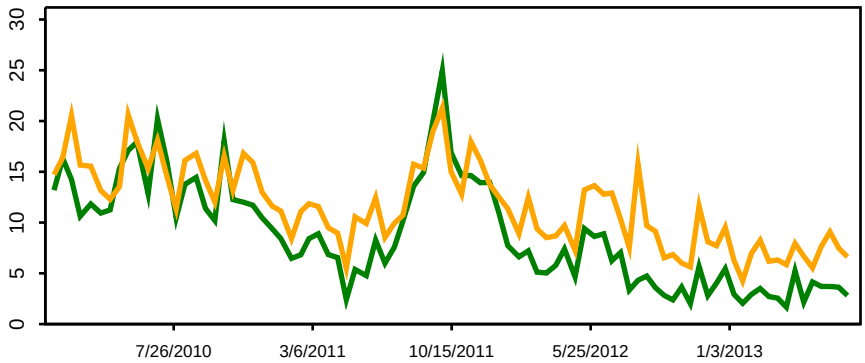
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

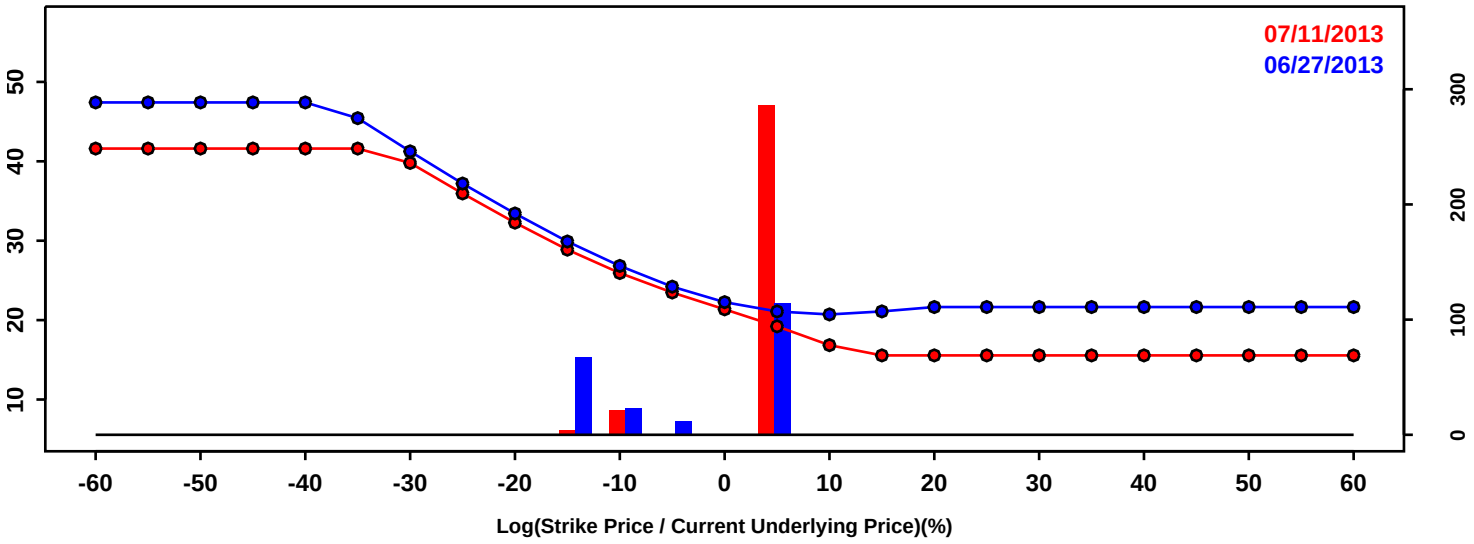
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-17.02%	-15.99%	1.03%
50th Pct	1.06%	1.41%	0.35%
90th Pct	14.17%	13.97%	-0.21%
Mean	-0.38%	0.01%	0.38%
Std Dev	12.90%	12.29%	-0.61%
Skew	-0.68	-0.75	-0.08
Kurtosis	1.17	1.21	0.04

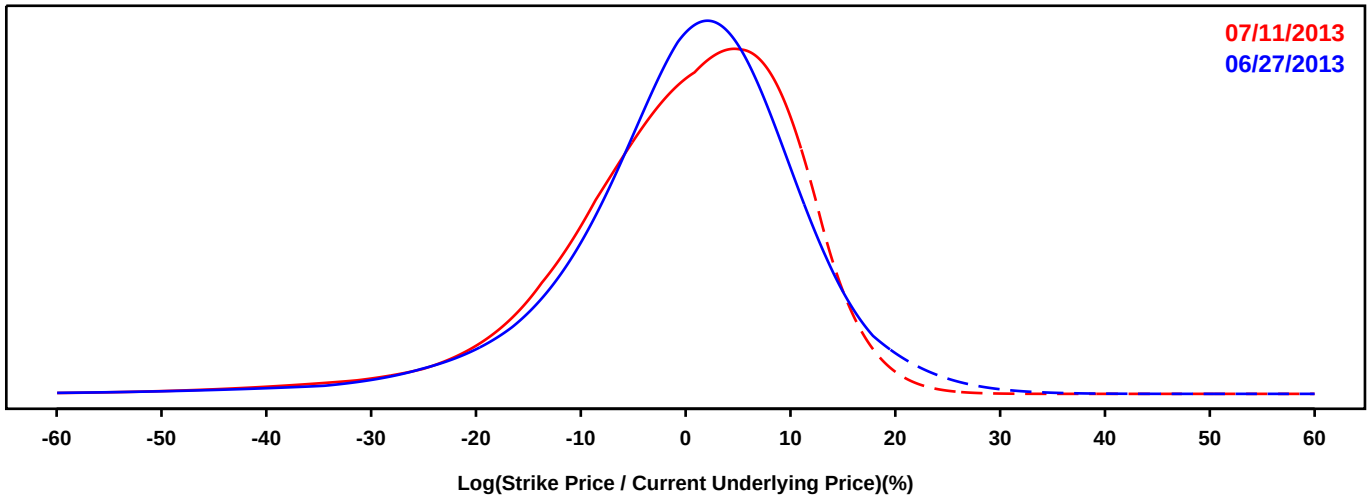
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- FIFTH THIRD

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 3 months.

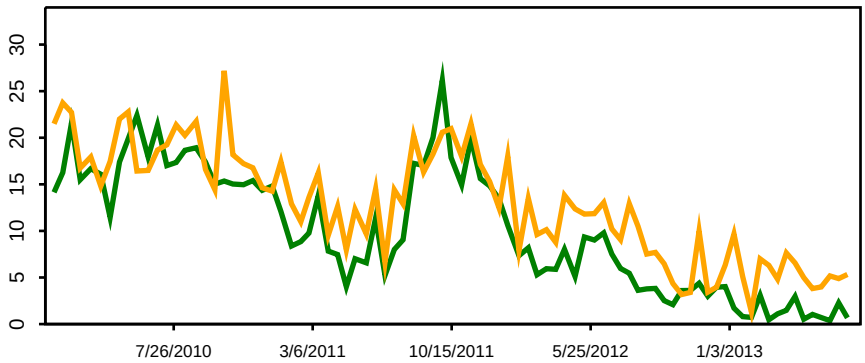
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

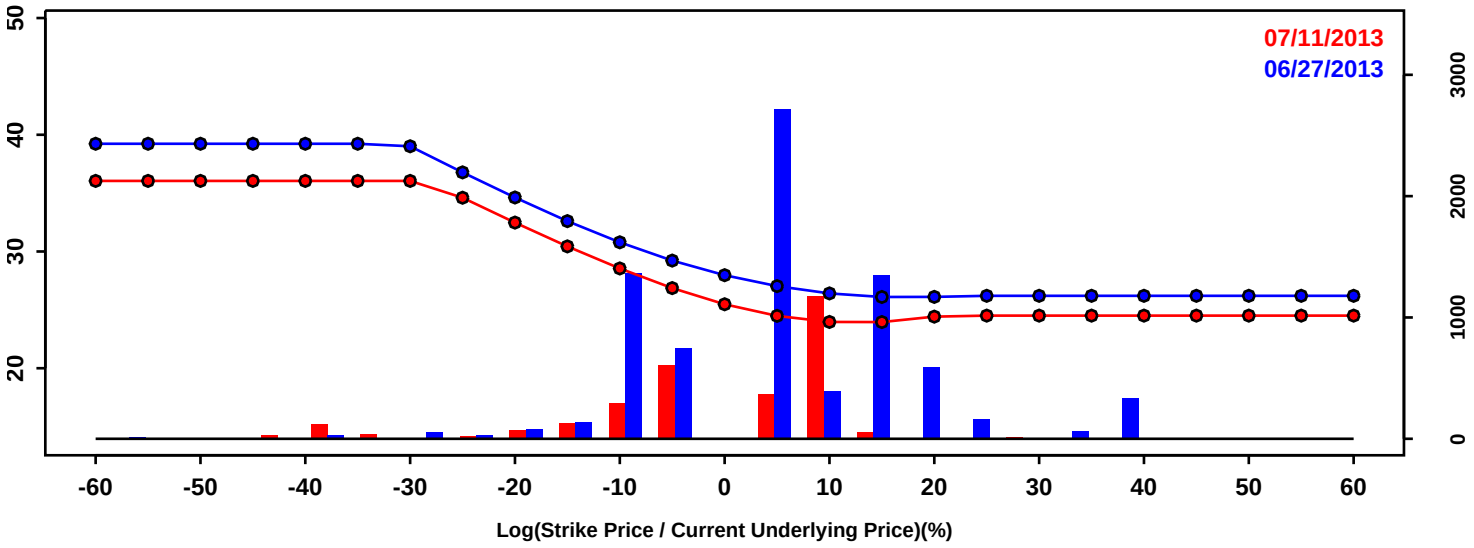
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-13.57%	-14.40%	-0.84%
50th Pct	1.02%	0.98%	-0.04%
90th Pct	12.49%	11.72%	-0.77%
Mean	-0.02%	-0.58%	-0.55%
Std Dev	11.36%	11.26%	-0.11%
Skew	-0.99	-1.16	-0.16
Kurtosis	3.25	2.75	-0.49

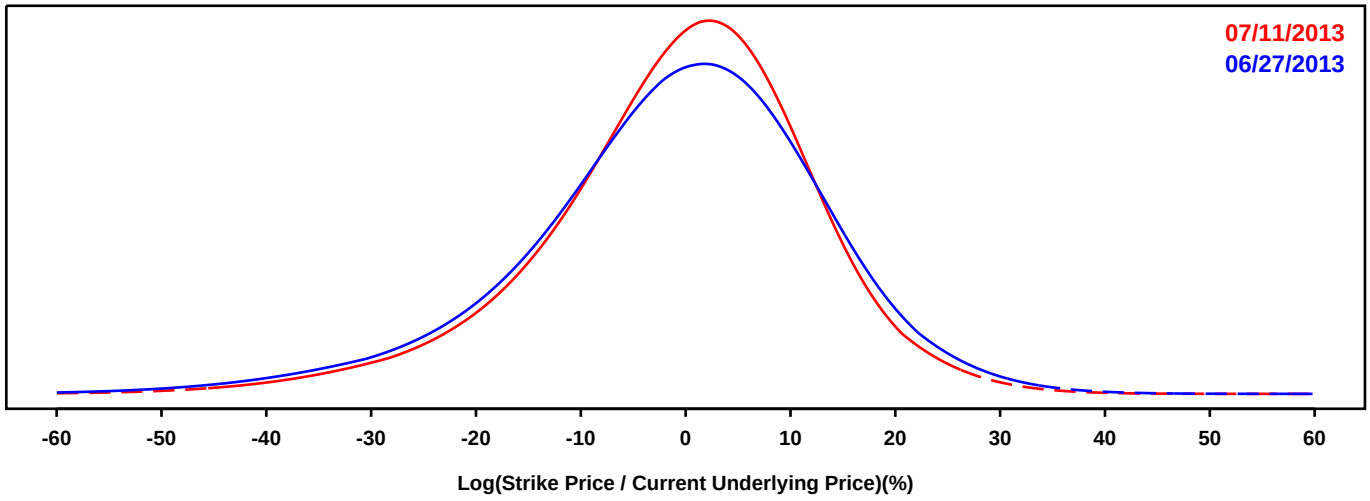
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- GOLDMAN SACHS

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 3 months.

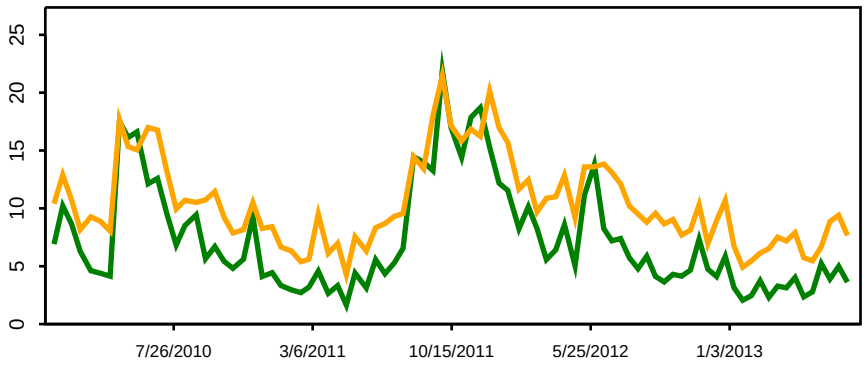
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

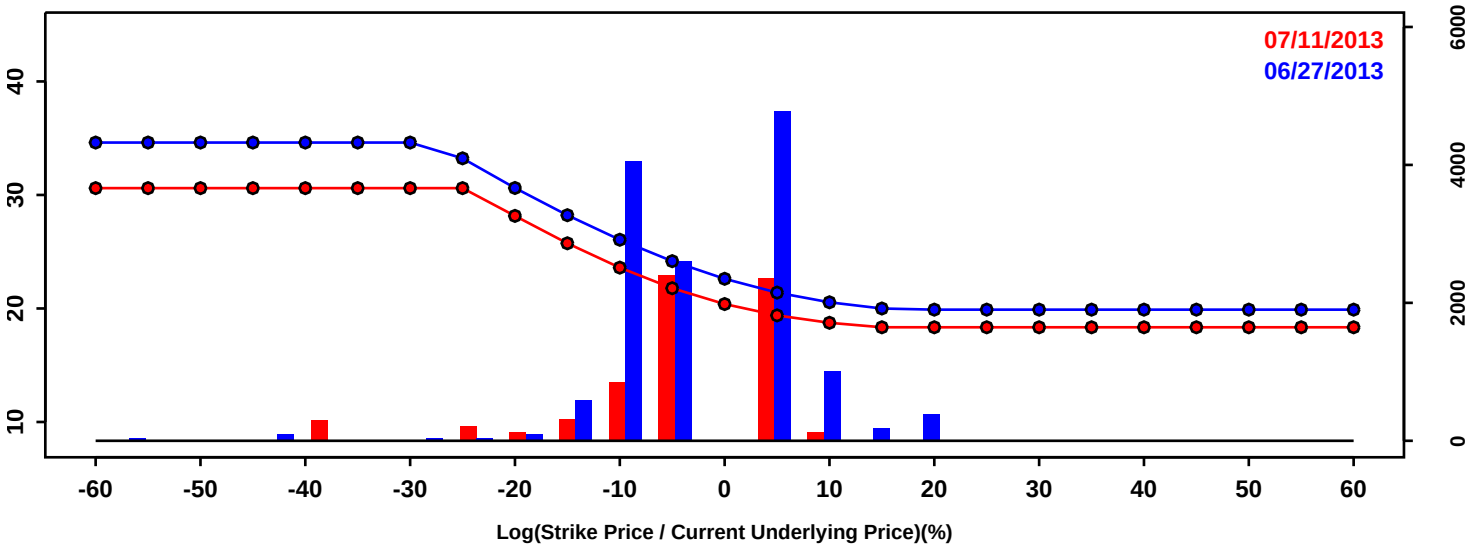
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-19.35%	-17.34%	2.01%
50th Pct	0.08%	0.43%	0.35%
90th Pct	15.54%	14.13%	-1.41%
Mean	-1.10%	-0.76%	0.34%
Std Dev	14.28%	12.94%	-1.33%
Skew	-0.57	-0.59	-0.02
Kurtosis	0.99	1.08	0.09

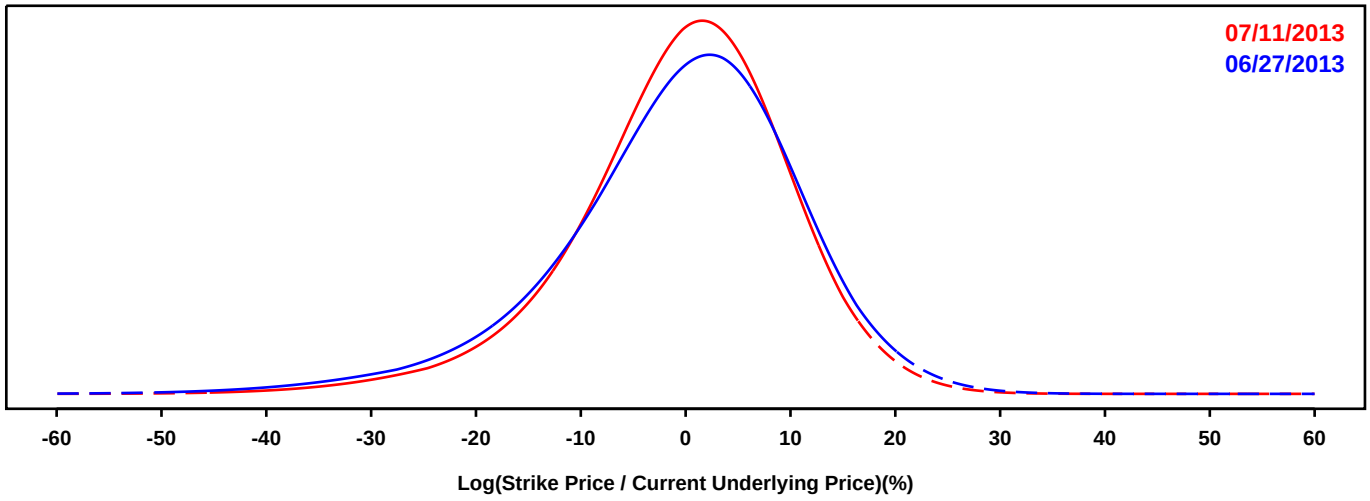
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- JP MORGAN

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 3 months.

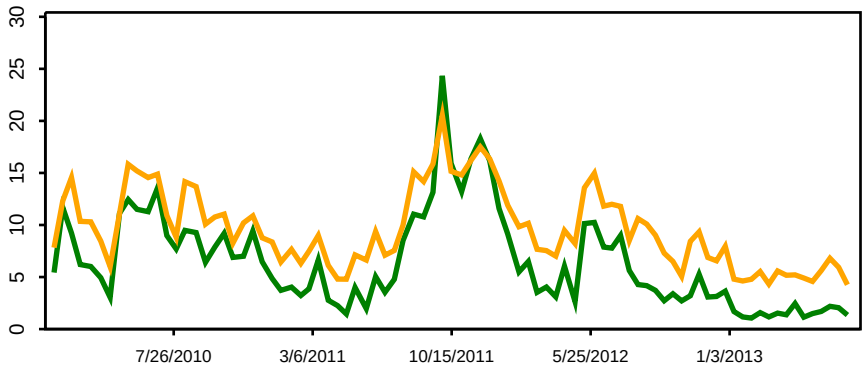
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

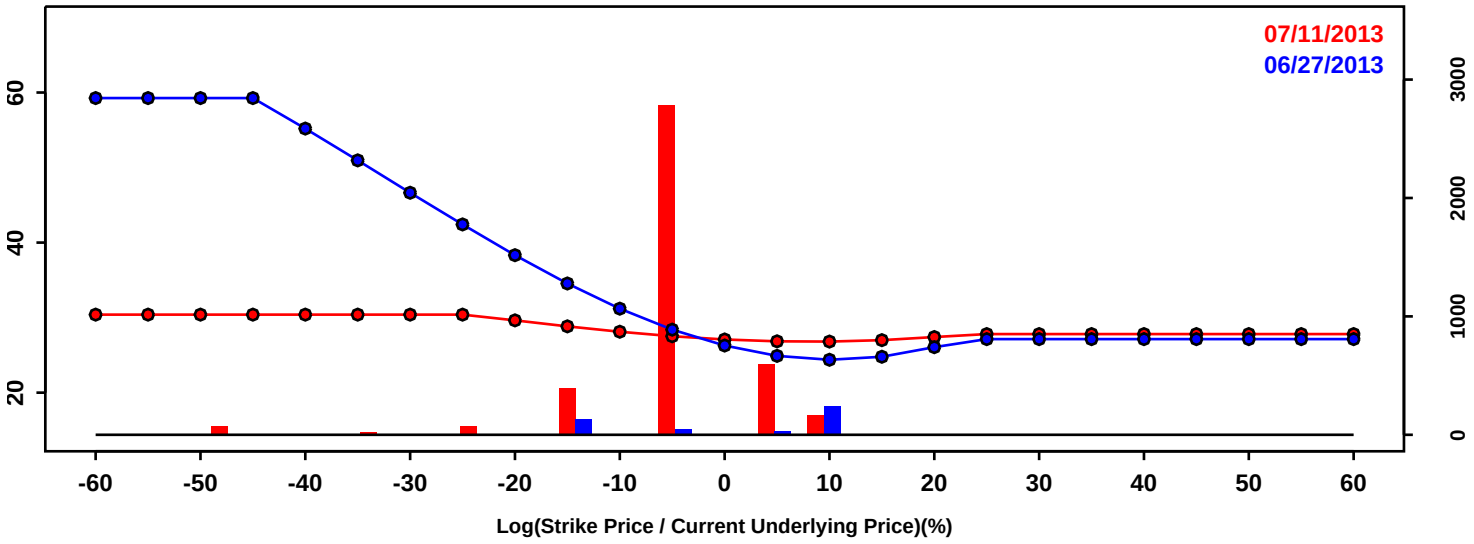
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-15.35%	-13.45%	1.90%
50th Pct	0.56%	0.51%	-0.05%
90th Pct	12.71%	11.70%	-1.01%
Mean	-0.59%	-0.35%	0.24%
Std Dev	11.59%	10.34%	-1.25%
Skew	-0.71	-0.62	0.09
Kurtosis	1.30	1.17	-0.13

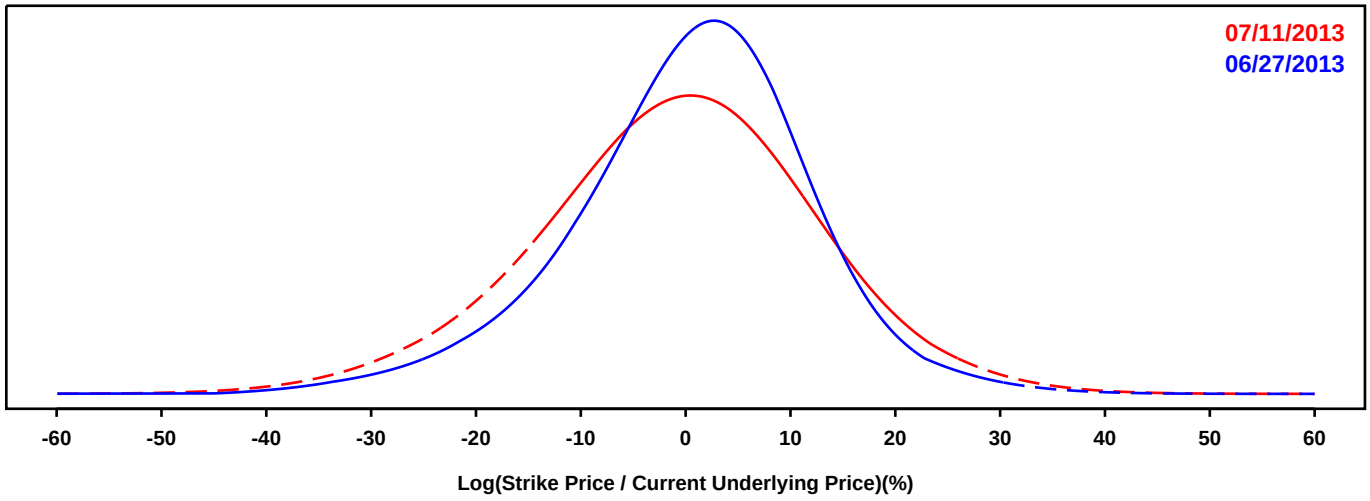
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- KEYCORP

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 3 months.

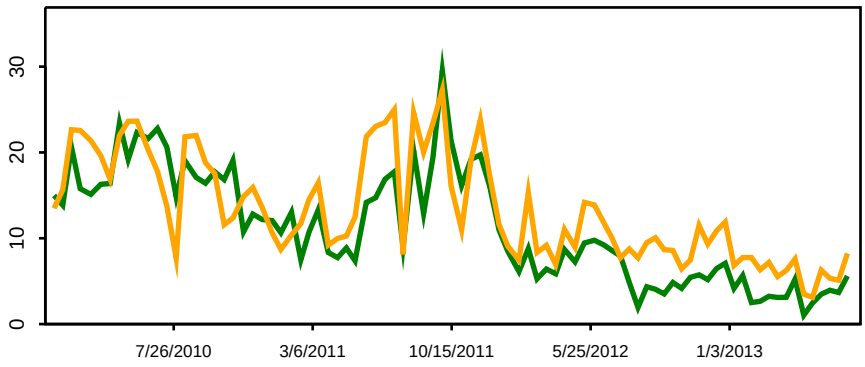
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

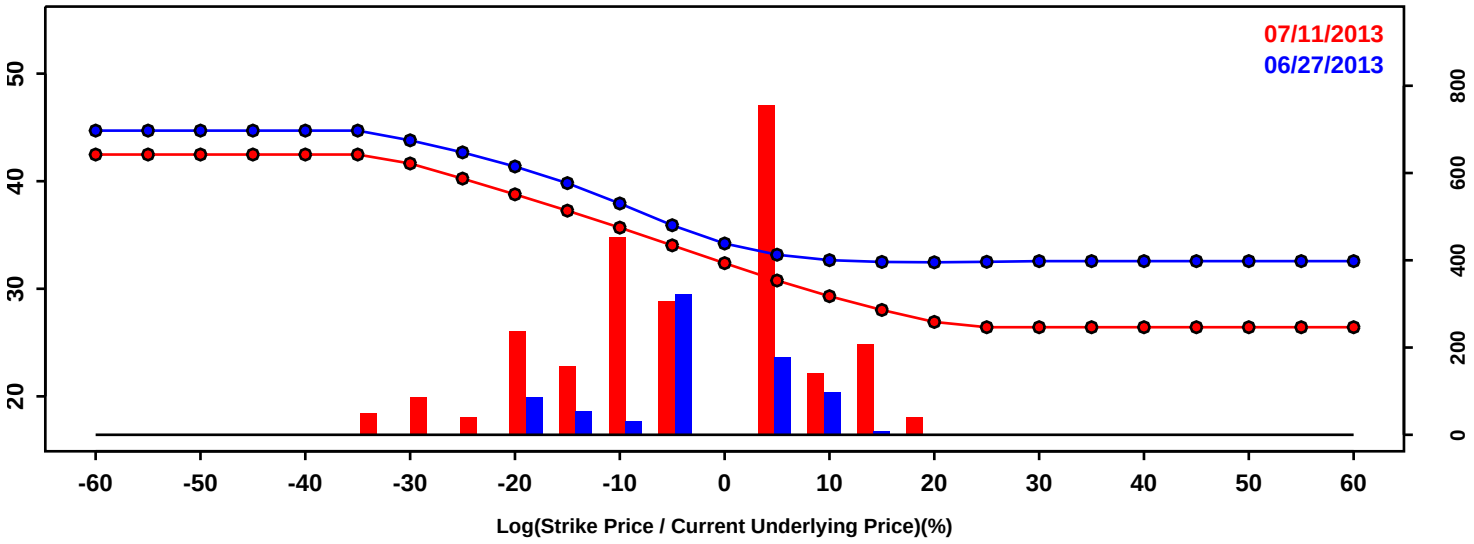
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-14.49%	-18.29%	-3.80%
50th Pct	1.24%	-0.41%	-1.65%
90th Pct	14.09%	15.88%	1.79%
Mean	0.48%	-0.82%	-1.30%
Std Dev	11.73%	13.56%	1.83%
Skew	-0.38	-0.16	0.22
Kurtosis	1.17	0.30	-0.87

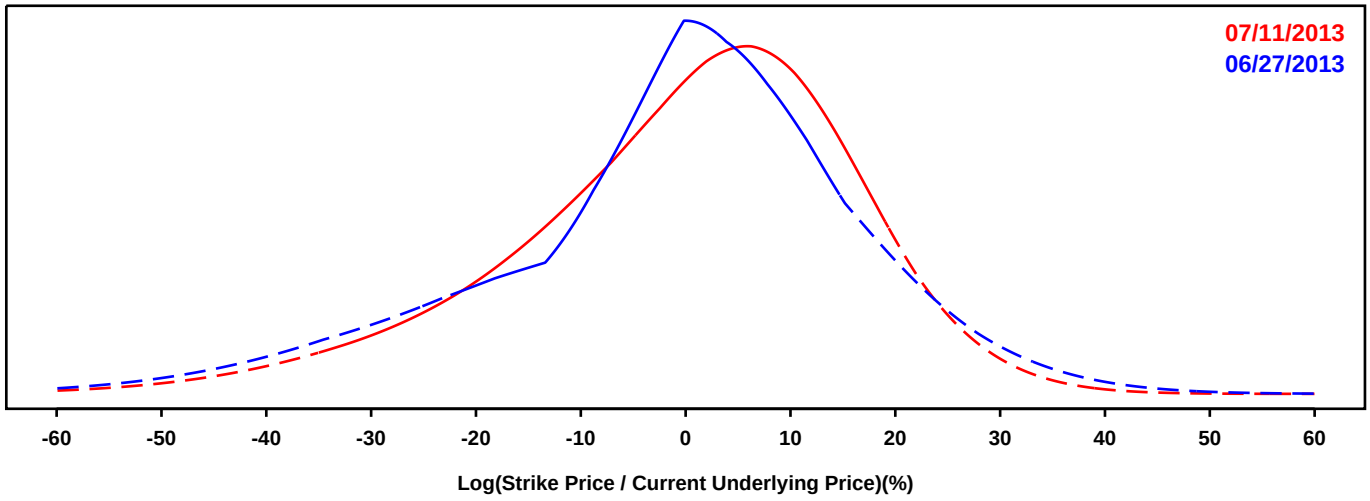
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- MORGAN STANLEY

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 3 months.

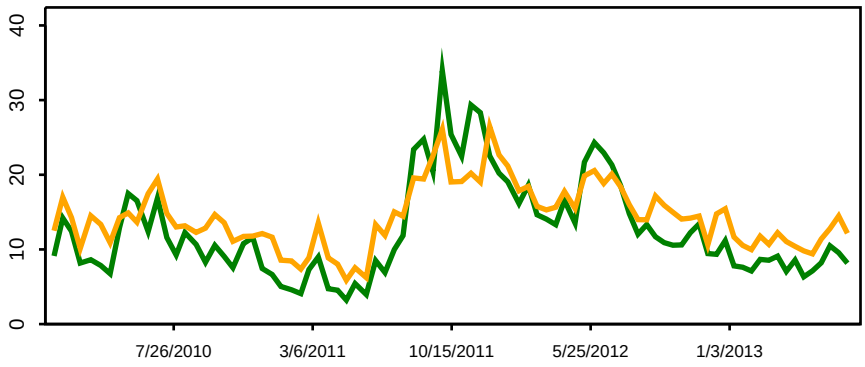
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

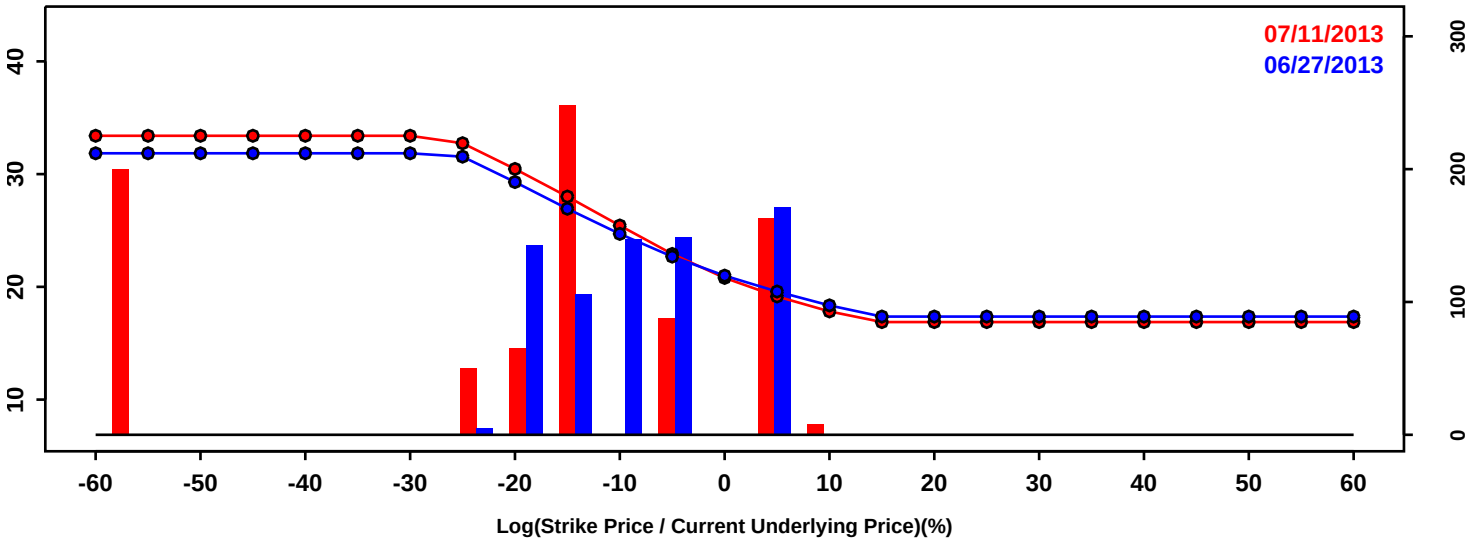
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-25.79%	-22.54%	3.25%
50th Pct	0.88%	1.91%	1.04%
90th Pct	19.56%	18.63%	-0.94%
Mean	-1.05%	-0.24%	0.81%
Std Dev	17.92%	16.49%	-1.43%
Skew	-0.59	-0.67	-0.08
Kurtosis	0.80	0.69	-0.11

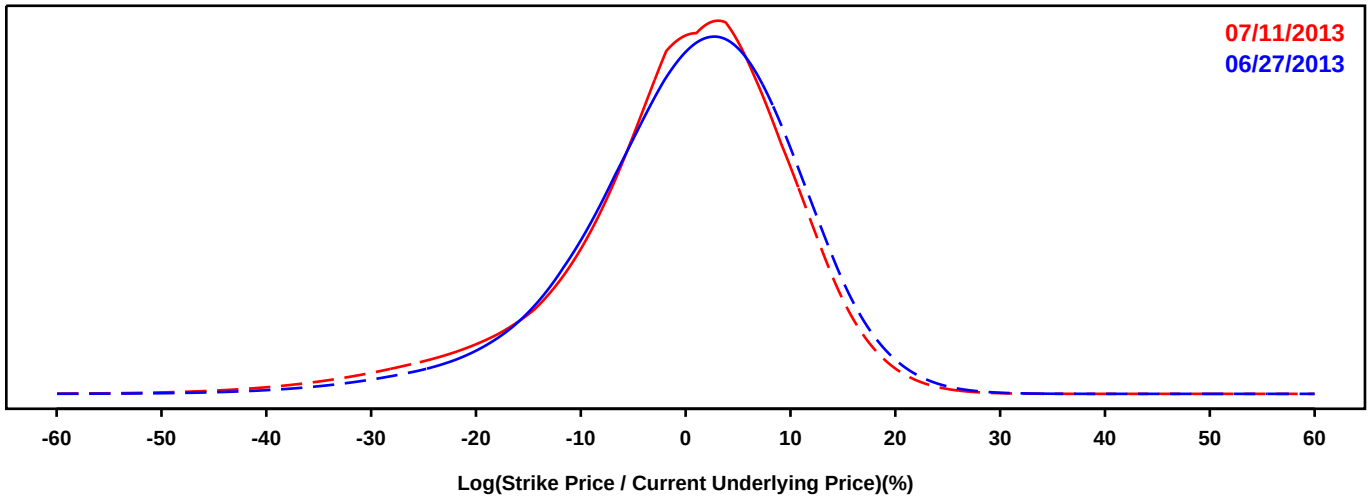
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- PNC FINANCIAL

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 3 months.

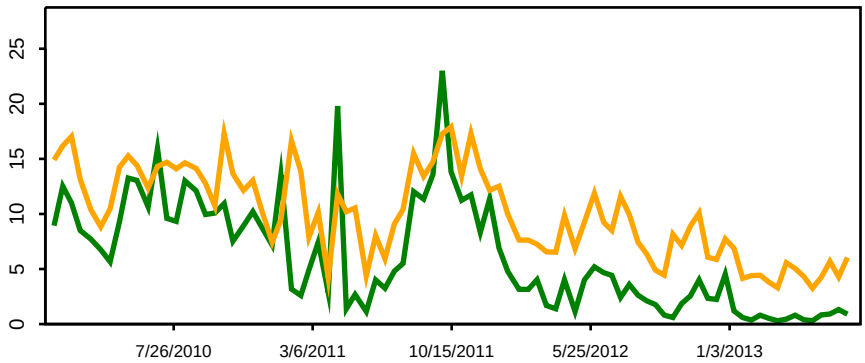
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

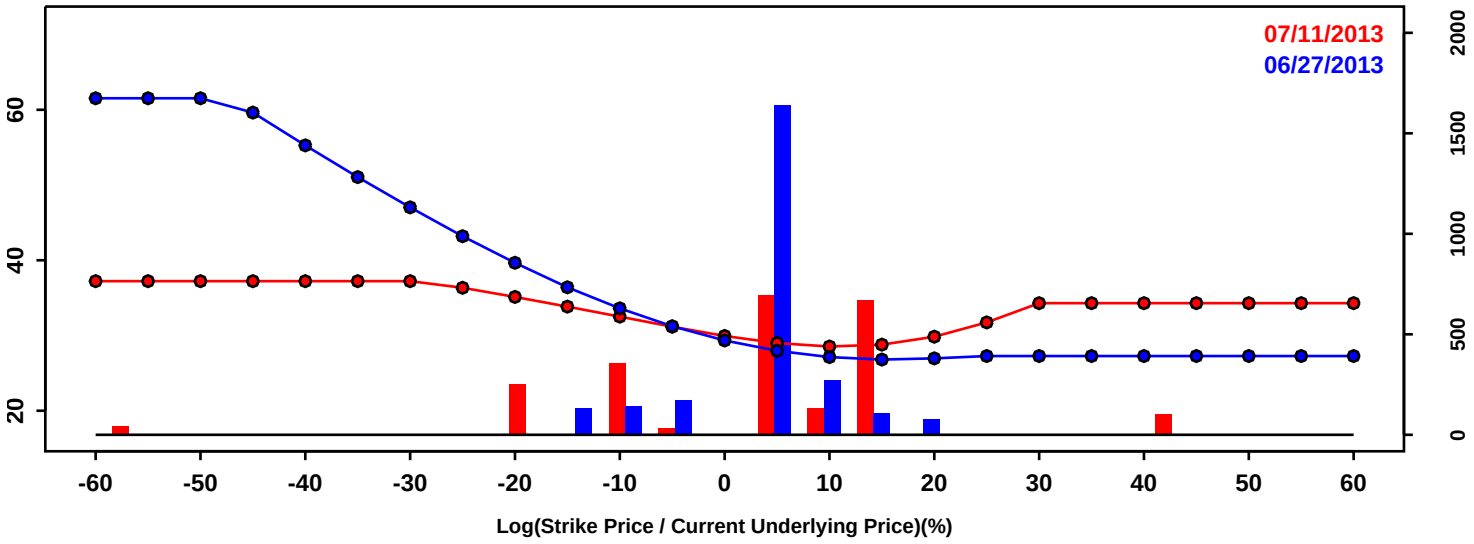
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-13.10%	-14.76%	-1.66%
50th Pct	1.26%	0.68%	-0.57%
90th Pct	12.32%	11.45%	-0.87%
Mean	0.22%	-0.73%	-0.95%
Std Dev	10.50%	10.99%	0.49%
Skew	-0.74	-0.98	-0.24
Kurtosis	1.32	1.83	0.51

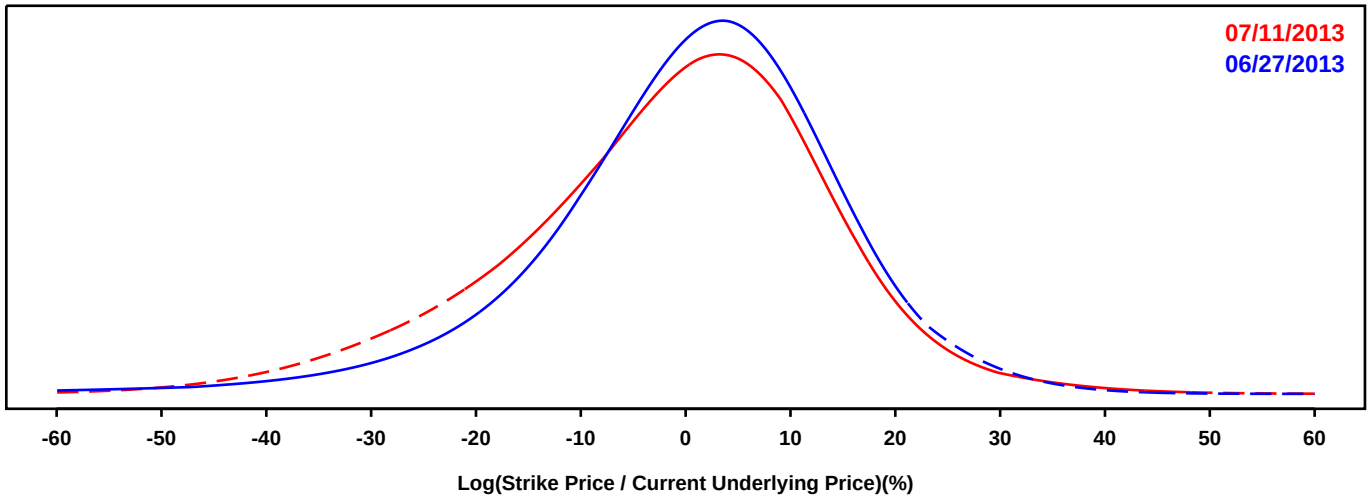
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- REGIONS FINANCIAL

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 3 months.

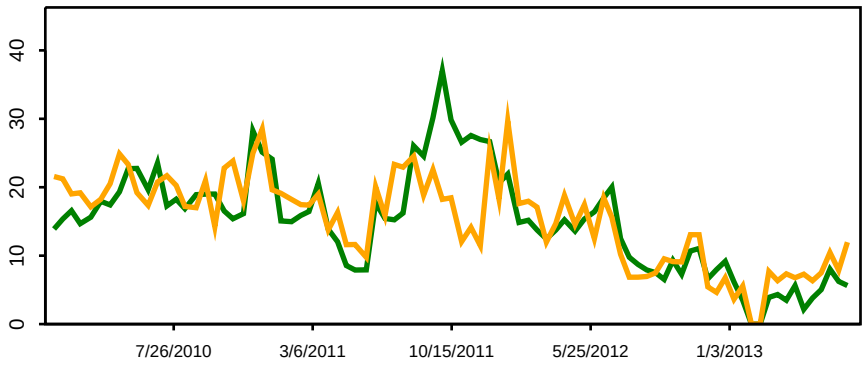
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

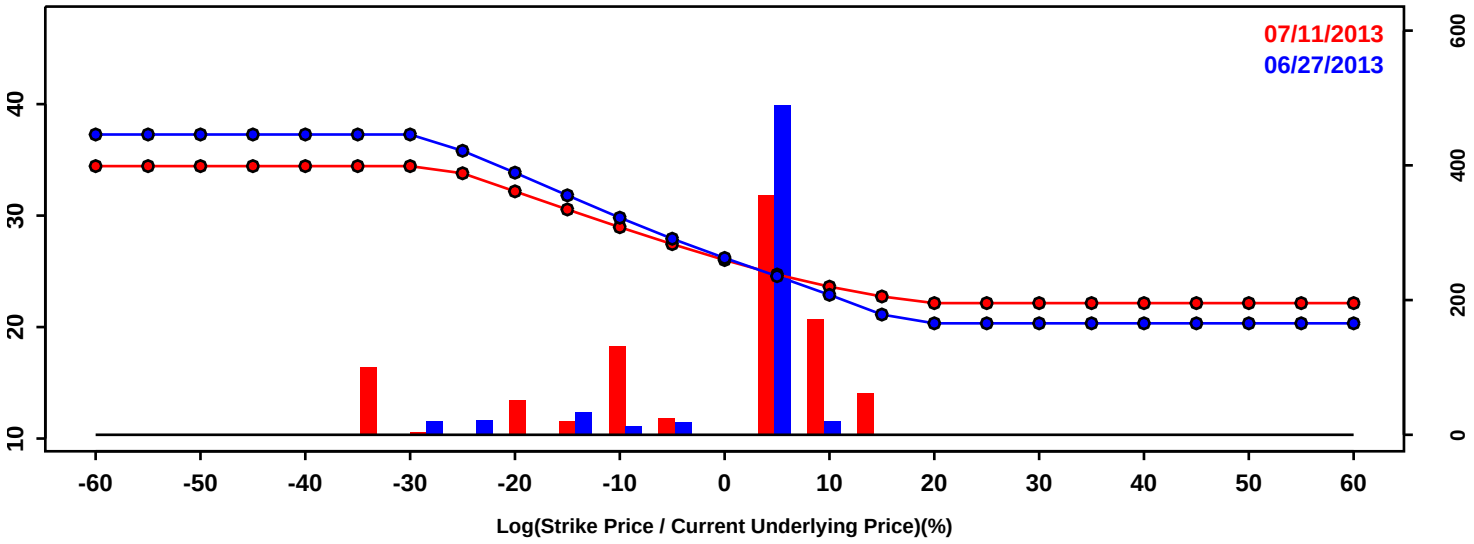
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-17.34%	-22.12%	-4.78%
50th Pct	1.79%	0.08%	-1.71%
90th Pct	16.85%	16.01%	-0.84%
Mean	0.40%	-1.53%	-1.93%
Std Dev	14.79%	15.37%	0.58%
Skew	-0.96	-0.44	0.52
Kurtosis	3.03	0.66	-2.37

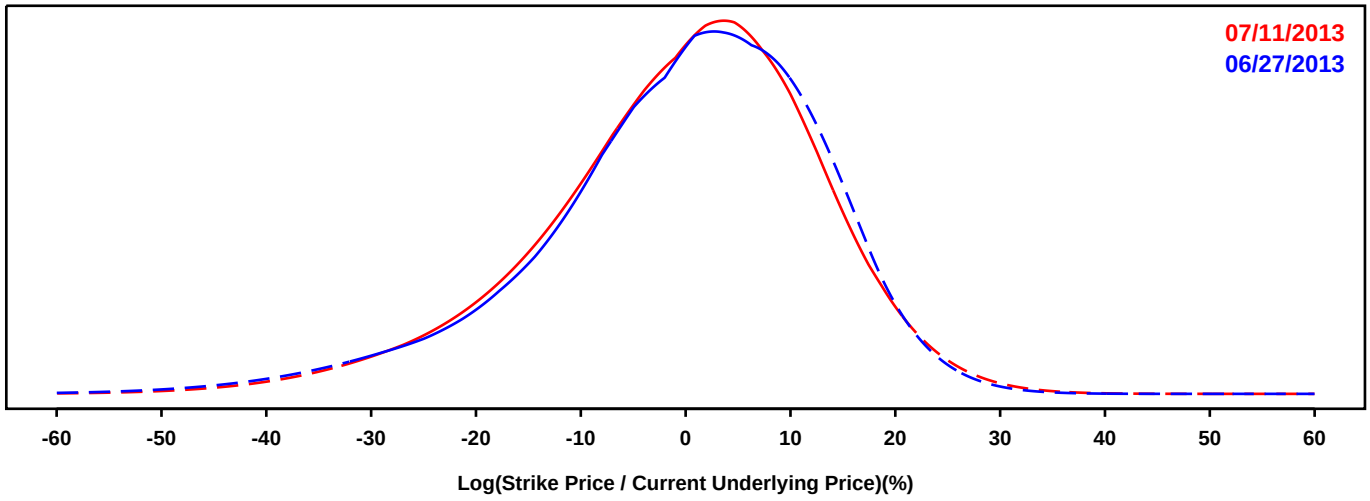
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- SUNTRUST

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 3 months.

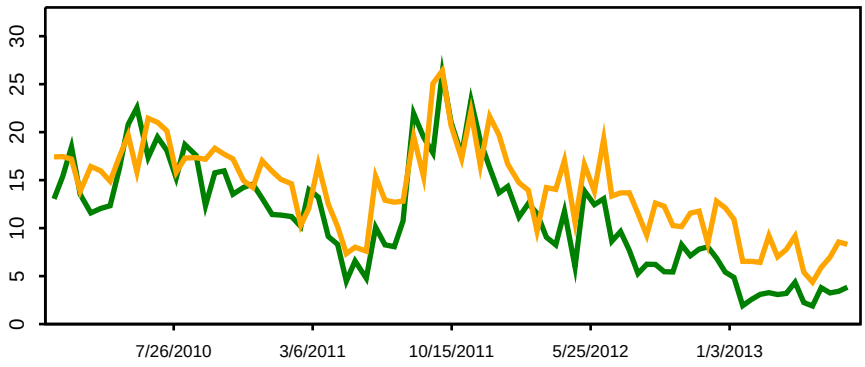
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



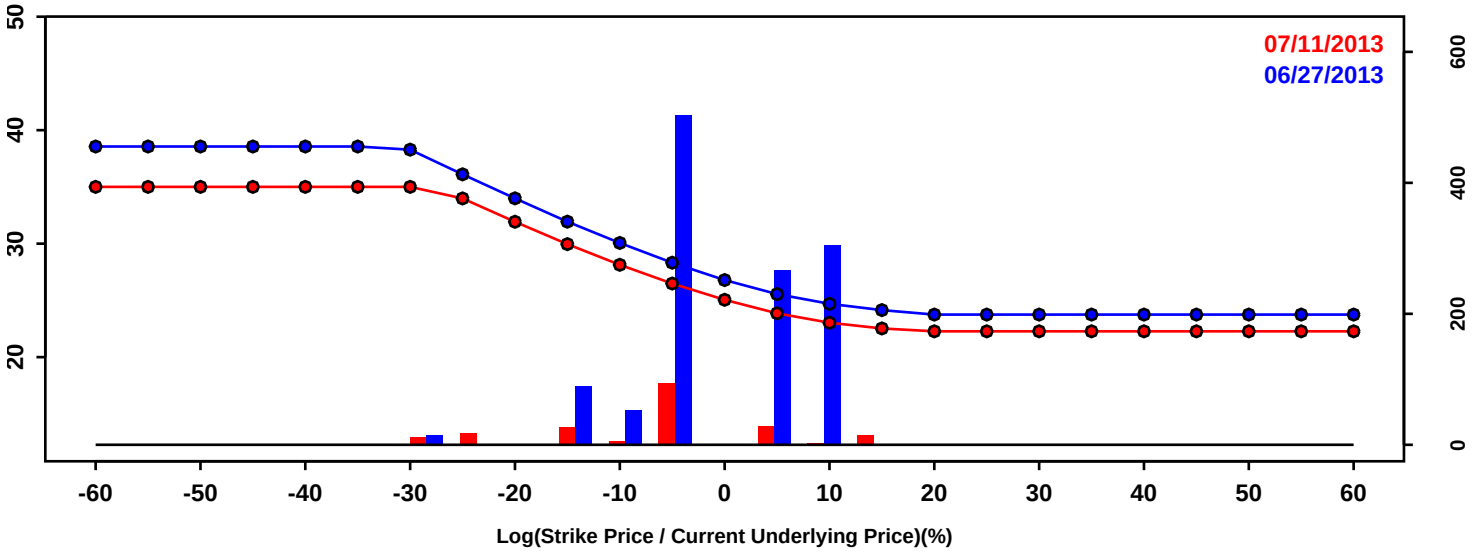
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-18.26%	-18.11%	0.15%
50th Pct	1.20%	0.85%	-0.34%
90th Pct	15.03%	14.86%	-0.17%
Mean	-0.44%	-0.56%	-0.13%
Std Dev	13.54%	13.27%	-0.28%
Skew	-0.78	-0.60	0.18
Kurtosis	1.03	0.70	-0.33

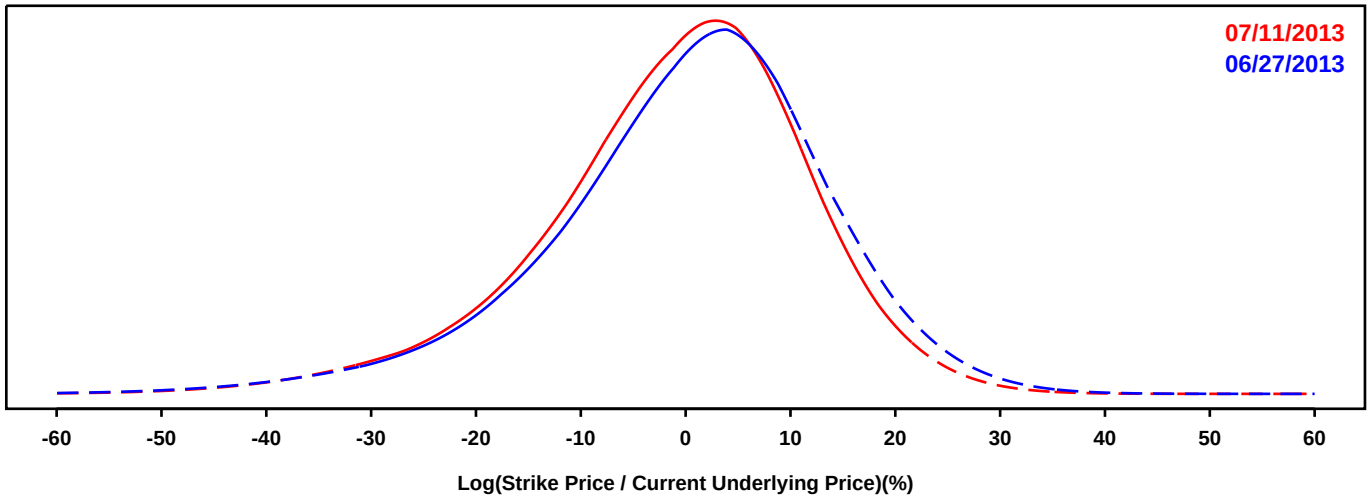
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- STATE STREET

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 3 months.

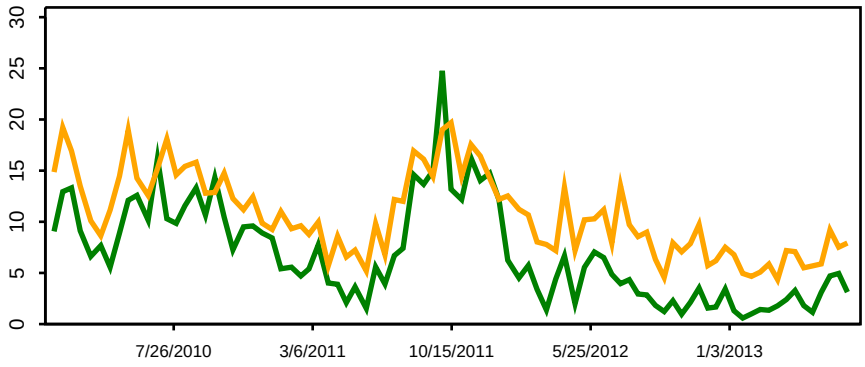
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

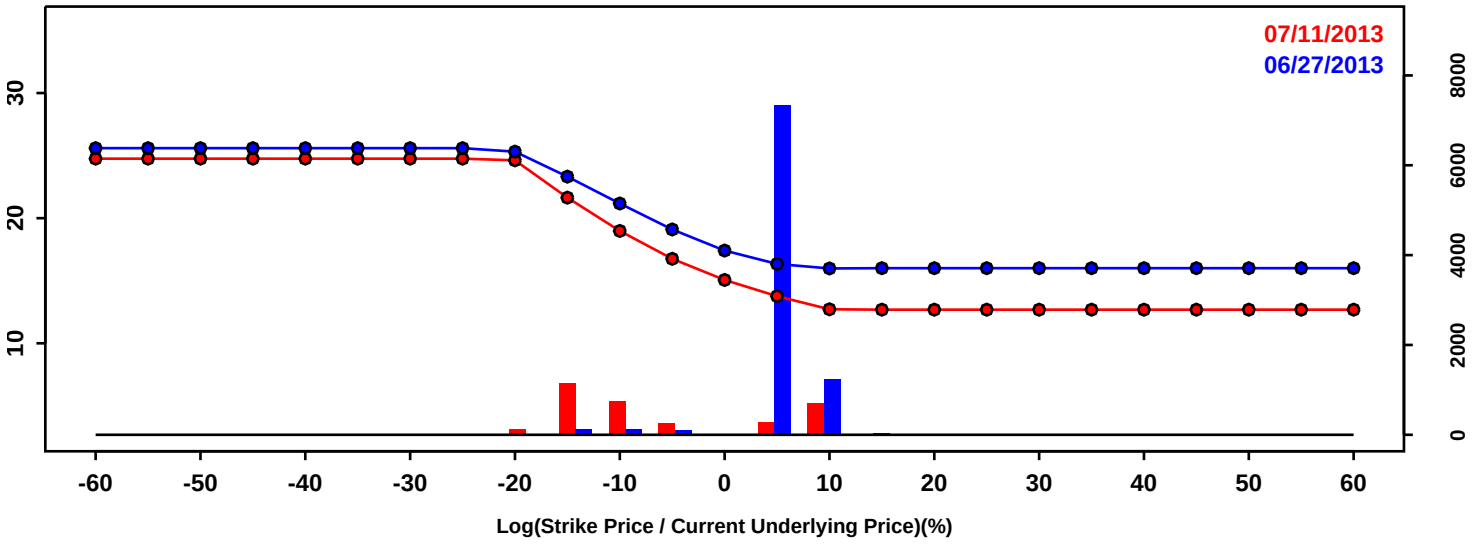
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-17.13%	-17.71%	-0.57%
50th Pct	1.43%	0.23%	-1.21%
90th Pct	15.78%	13.78%	-2.01%
Mean	0.16%	-1.06%	-1.22%
Std Dev	13.46%	12.83%	-0.63%
Skew	-0.63	-0.63	0.01
Kurtosis	1.08	0.94	-0.14

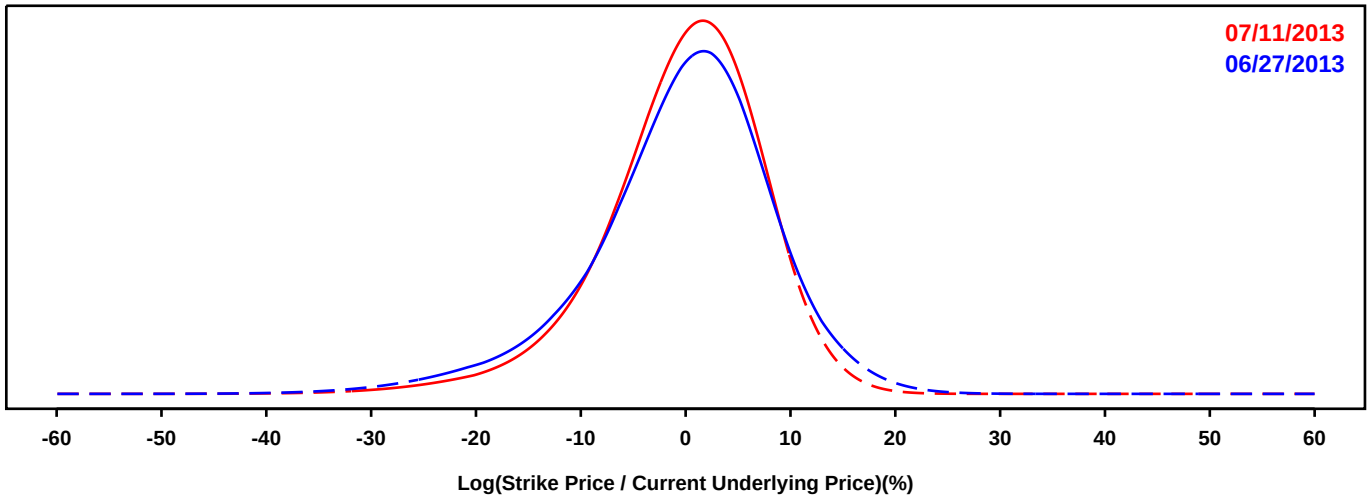
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- US BANCORP

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 3 months.

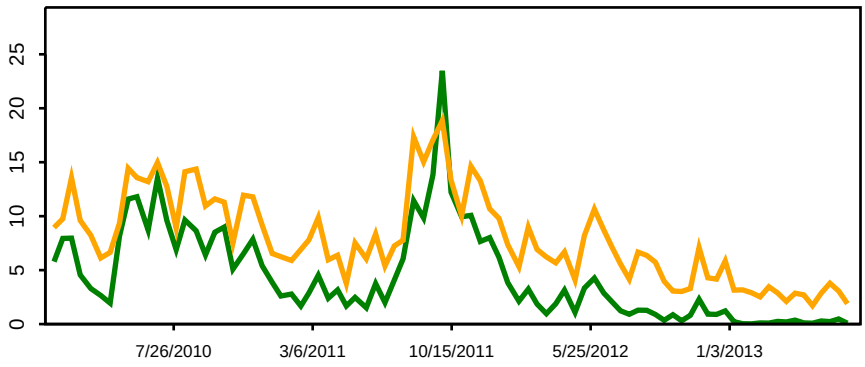
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

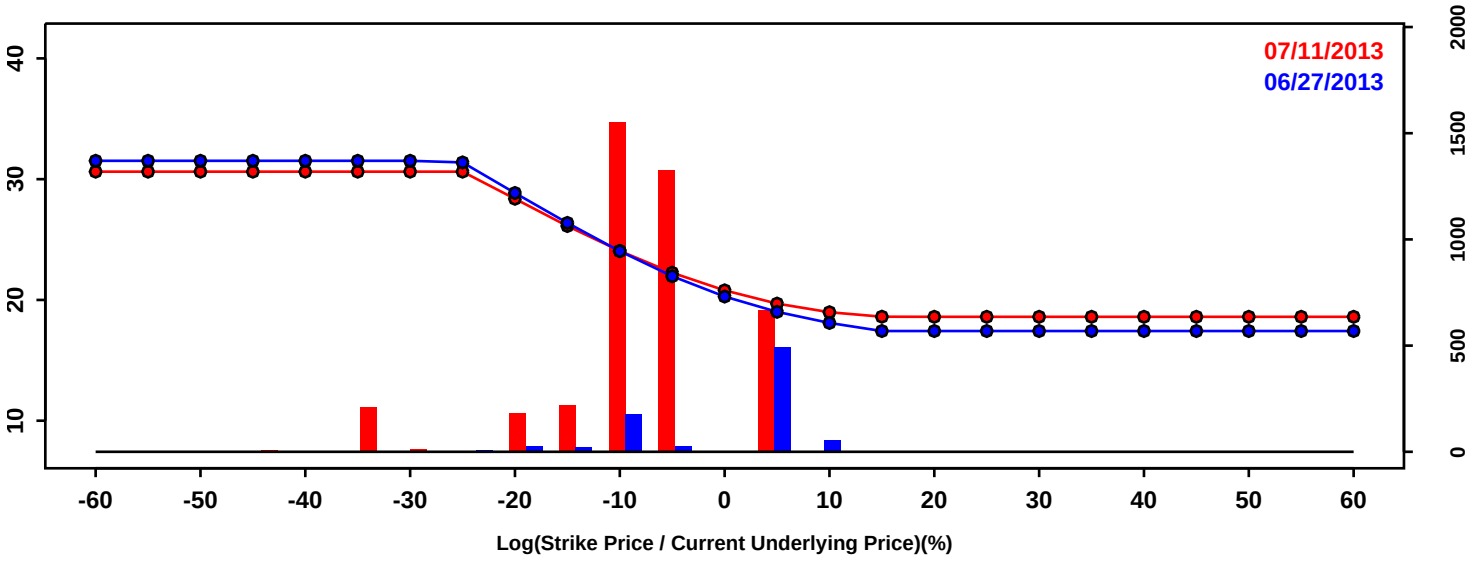
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-11.65%	-9.96%	1.69%
50th Pct	0.46%	0.51%	0.04%
90th Pct	9.63%	8.60%	-1.04%
Mean	-0.39%	-0.24%	0.15%
Std Dev	8.82%	7.70%	-1.12%
Skew	-0.70	-0.78	-0.08
Kurtosis	1.32	1.53	0.21

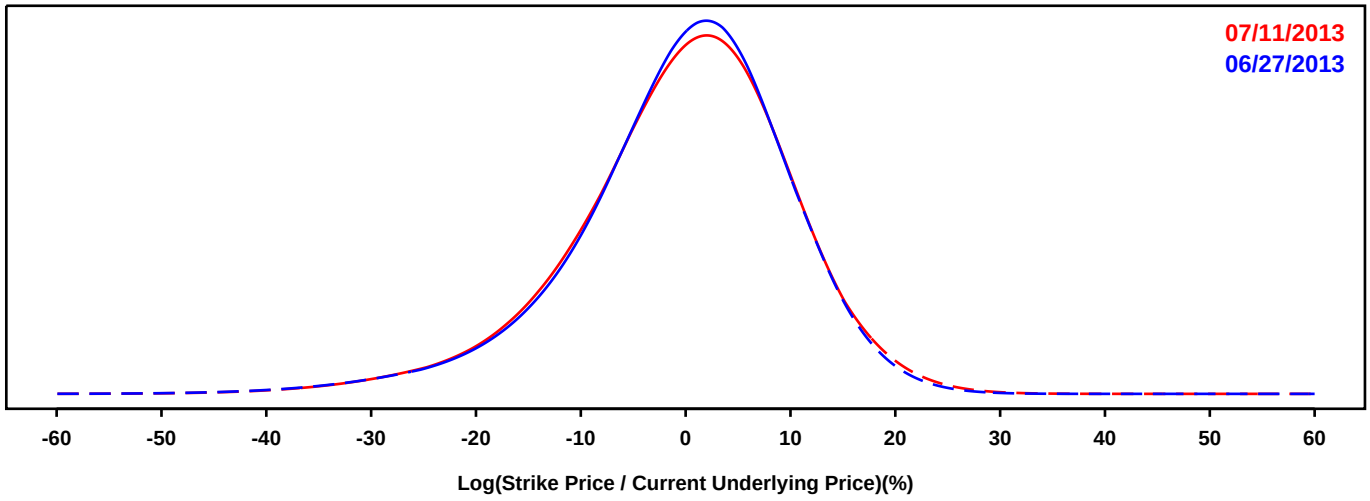
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- WELLS FARGO

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 3 months.

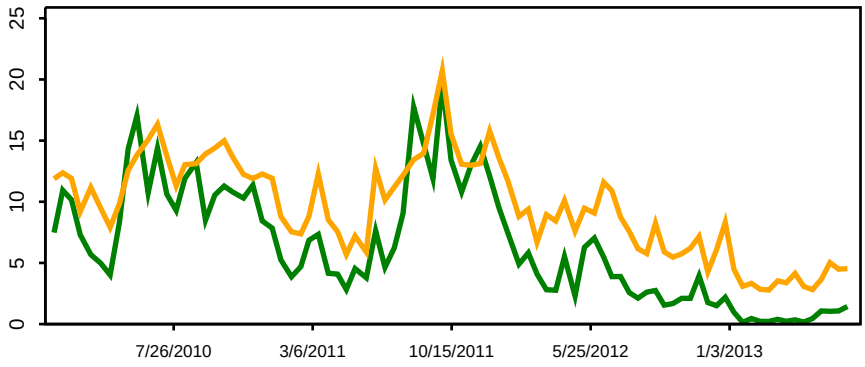
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

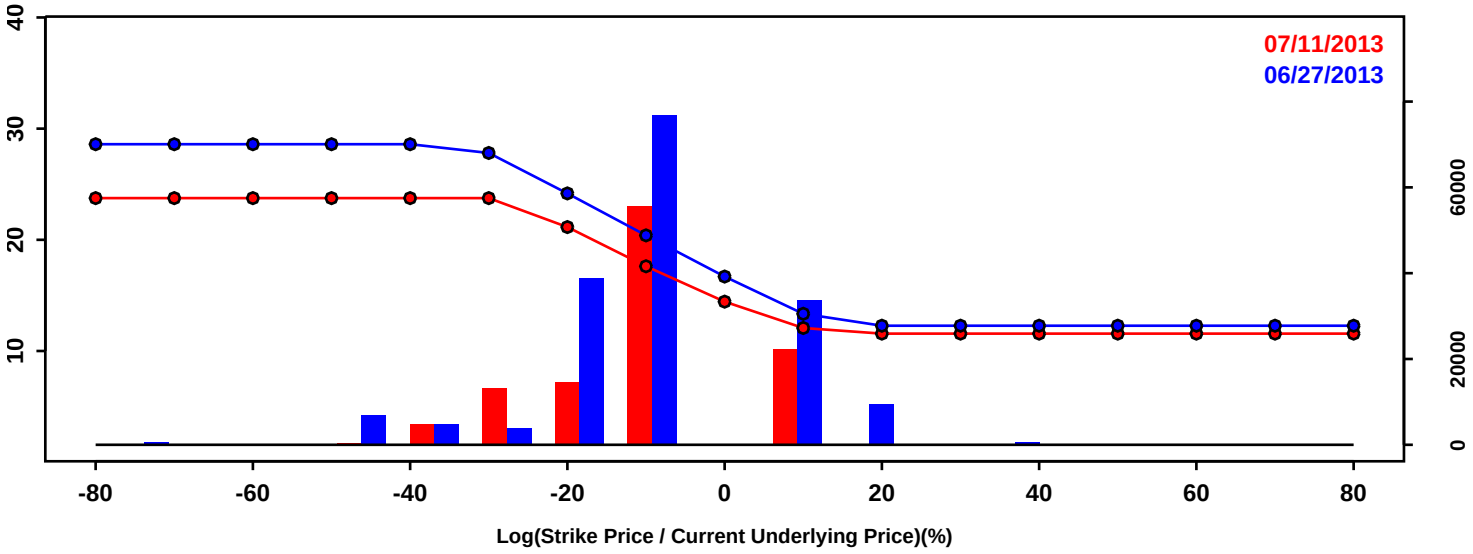
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-13.53%	-13.79%	-0.26%
50th Pct	0.60%	0.56%	-0.04%
90th Pct	11.52%	11.84%	0.32%
Mean	-0.40%	-0.36%	0.04%
Std Dev	10.35%	10.52%	0.17%
Skew	-0.75	-0.64	0.11
Kurtosis	1.42	1.13	-0.28

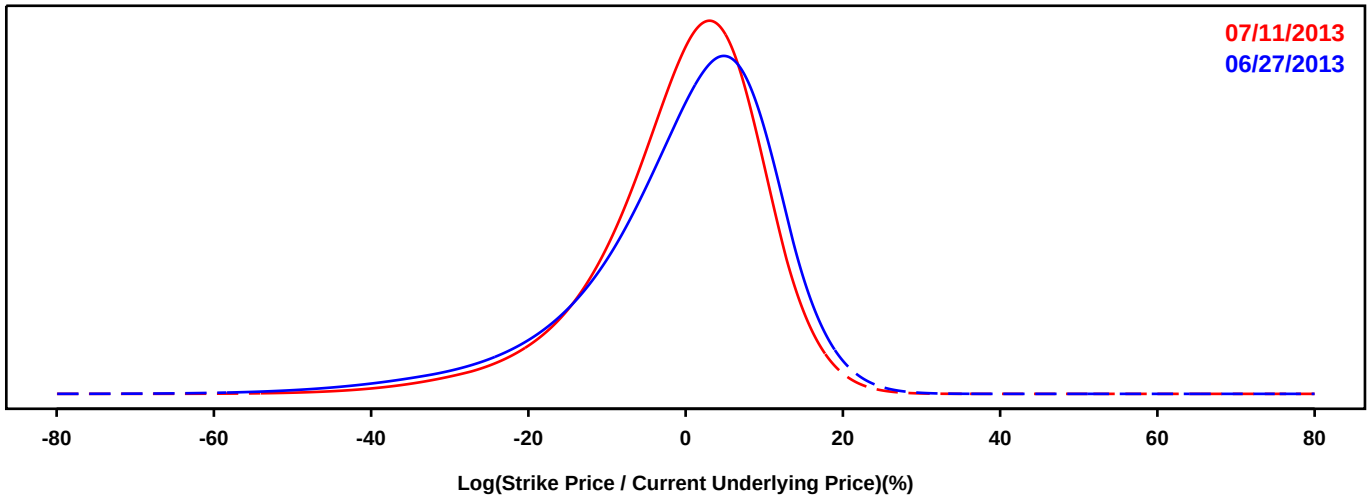
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- S&P 500

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 6 months.

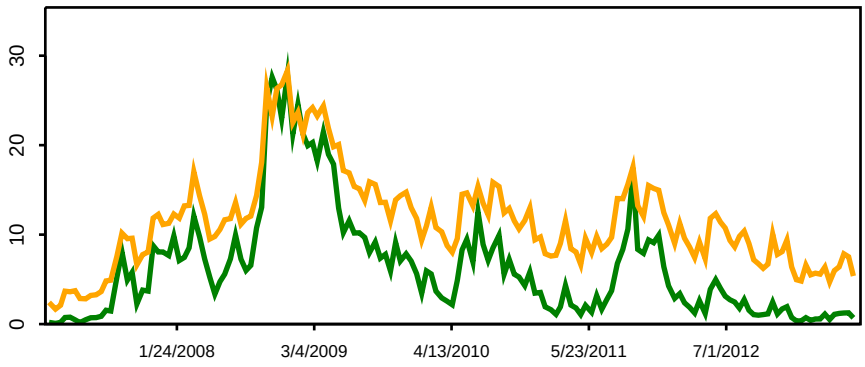
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

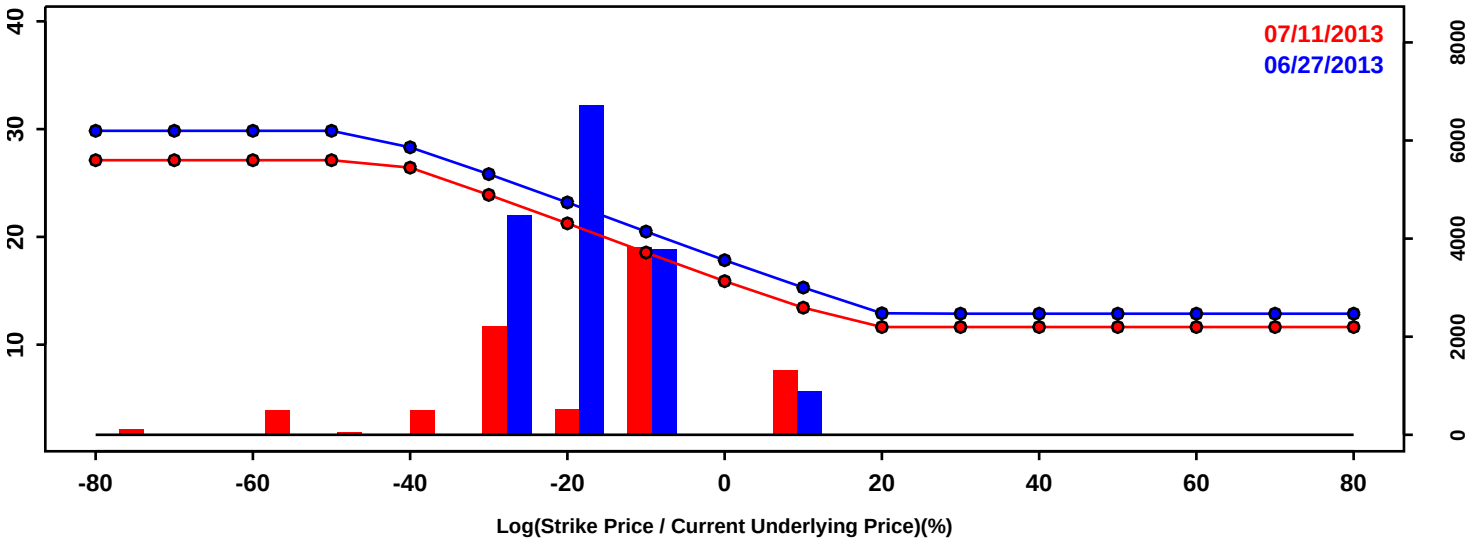
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-16.78%	-14.36%	2.42%
50th Pct	1.63%	0.85%	-0.77%
90th Pct	12.53%	11.03%	-1.50%
Mean	-0.59%	-0.65%	-0.06%
Std Dev	12.44%	10.63%	-1.82%
Skew	-1.18	-0.98	0.20
Kurtosis	2.26	1.82	-0.44

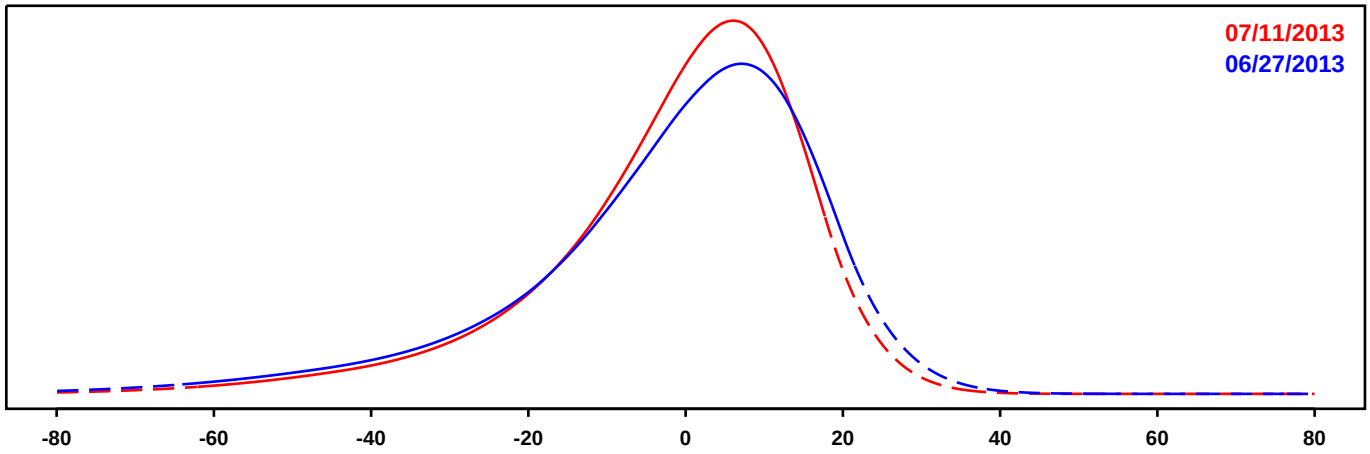
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- S&P 500

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 12 months.

Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change

Decrease <= -20% Increase >= 20%

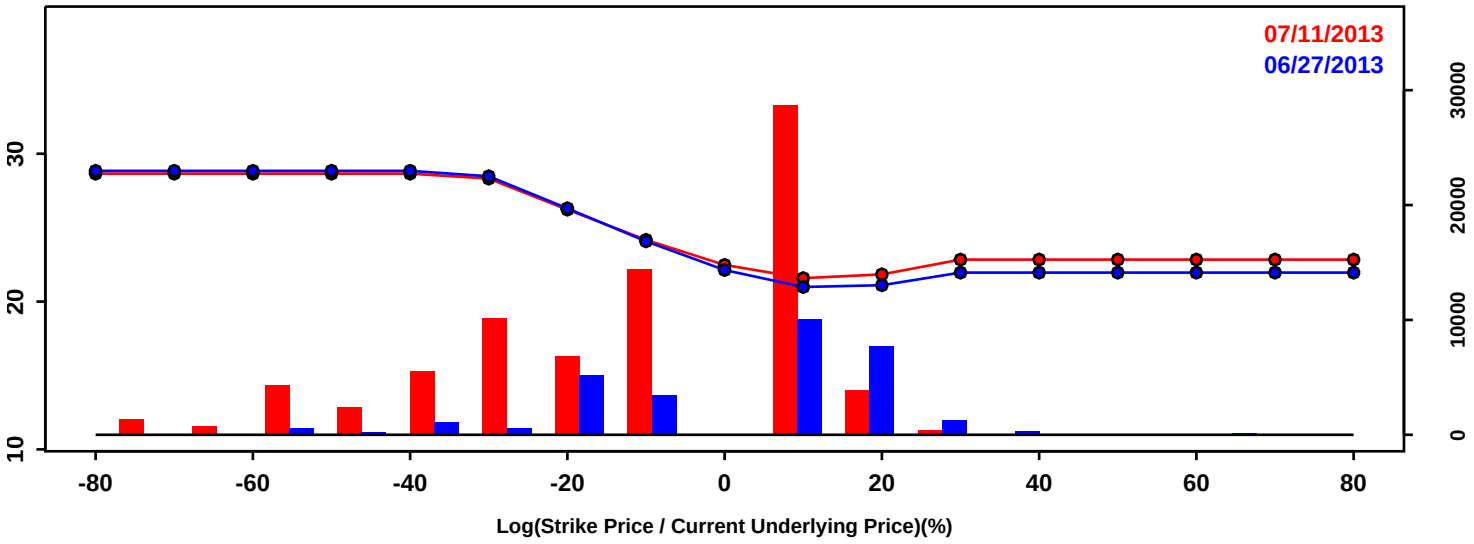
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-27.06%	-23.65%	3.41%
50th Pct	1.83%	1.60%	-0.23%
90th Pct	18.42%	16.39%	-2.03%
Mean	-1.74%	-1.48%	0.27%
Std Dev	19.20%	16.98%	-2.22%
Skew	-1.18	-1.18	-0.00
Kurtosis	2.11	2.22	0.11

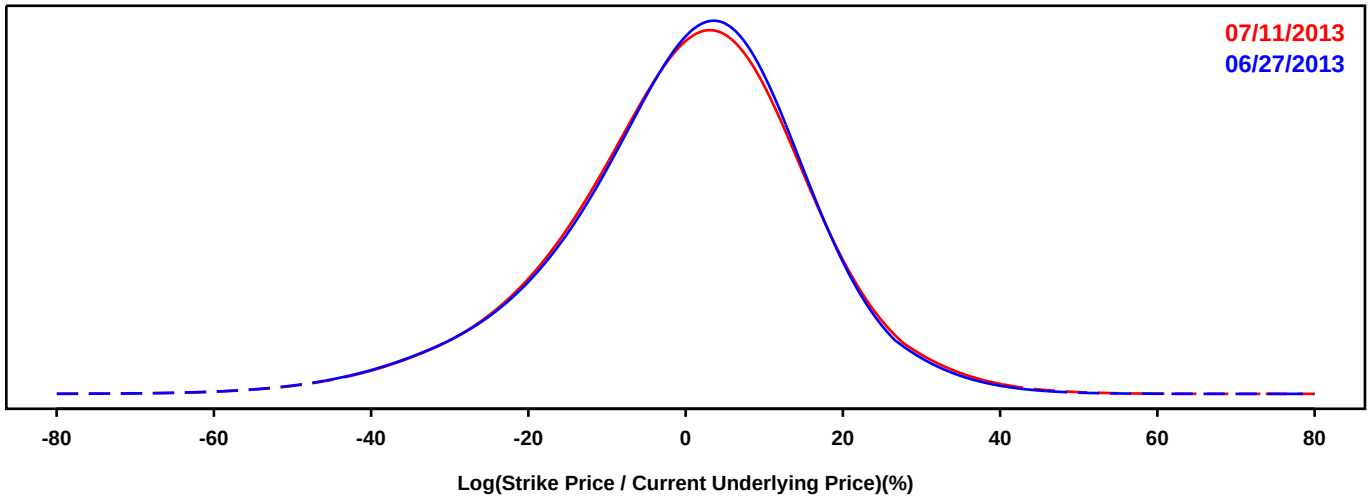
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CRUDE OIL FUTURES (WTI)

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 6 months.

Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change

Decrease <= -20% Increase >= 20%

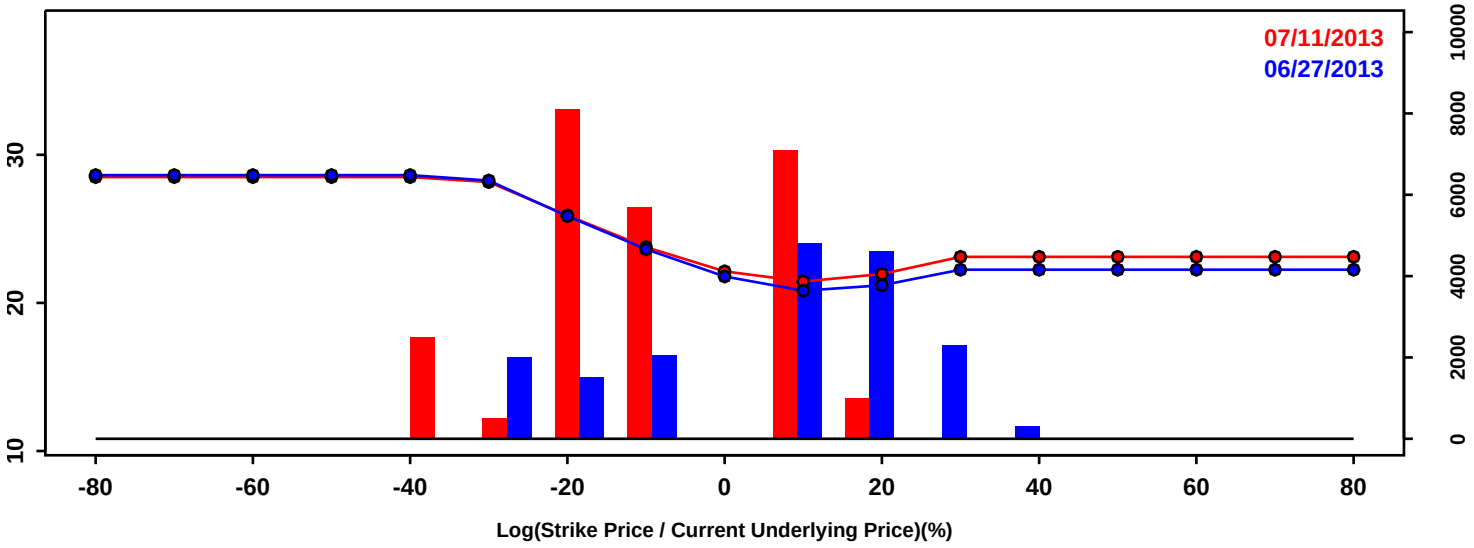
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-20.91%	-20.90%	0.01%
50th Pct	1.17%	1.02%	-0.15%
90th Pct	17.93%	18.46%	0.52%
Mean	-0.27%	-0.19%	0.08%
Std Dev	15.78%	15.95%	0.17%
Skew	-0.50	-0.42	0.08
Kurtosis	0.81	0.73	-0.08

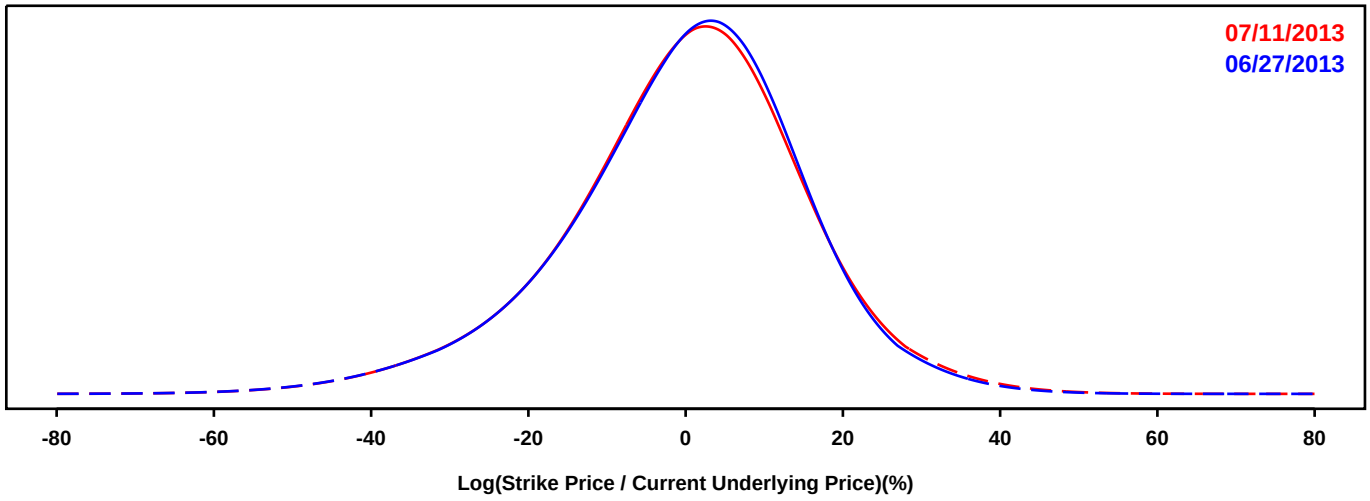
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CRUDE OIL FUTURES (Brent)

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 6 months.

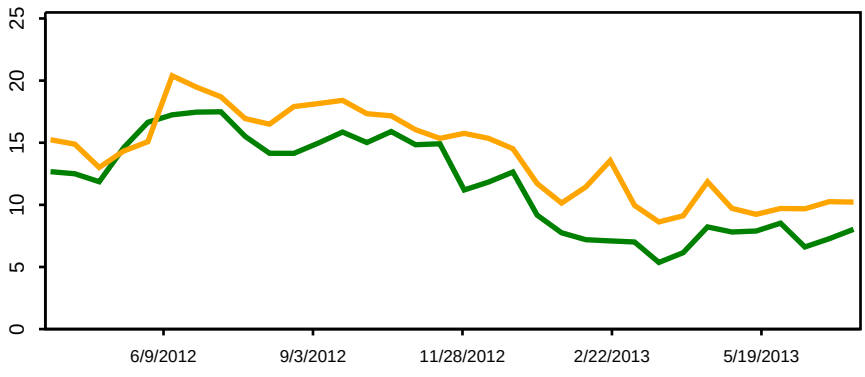
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

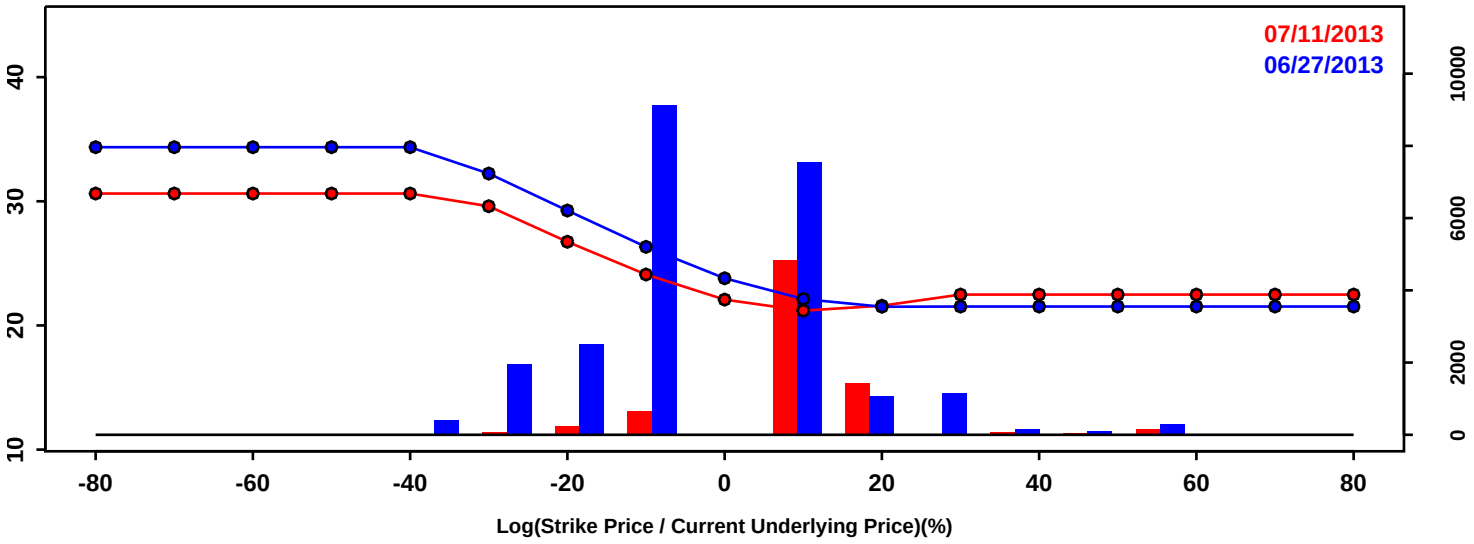
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-20.29%	-20.27%	0.02%
50th Pct	0.98%	0.88%	-0.11%
90th Pct	17.62%	18.20%	0.58%
Mean	-0.28%	-0.16%	0.11%
Std Dev	15.46%	15.67%	0.21%
Skew	-0.47	-0.39	0.08
Kurtosis	0.85	0.81	-0.04

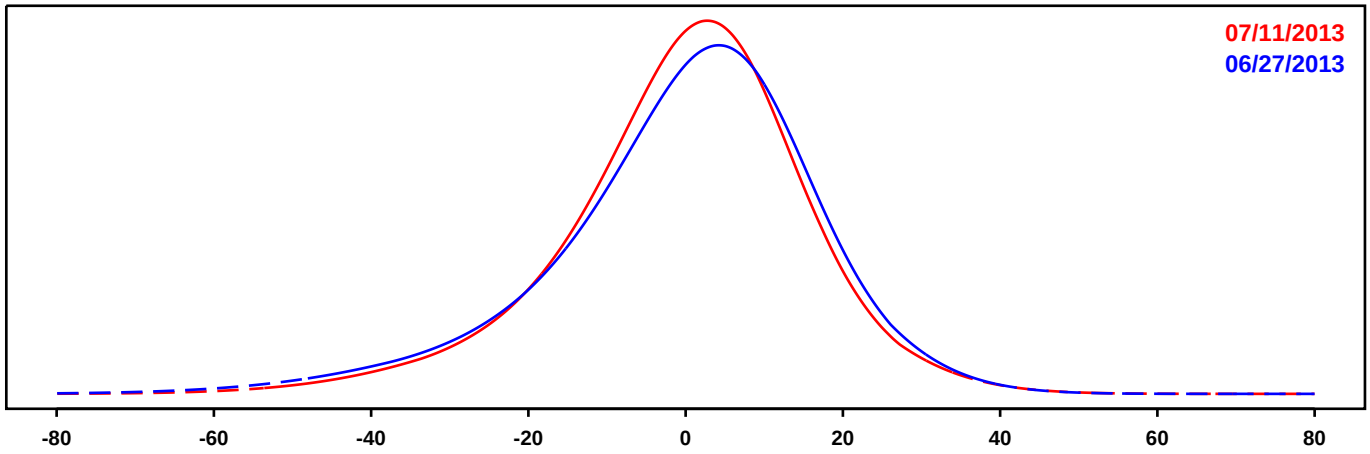
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- GOLD FUTURES

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 6 months.

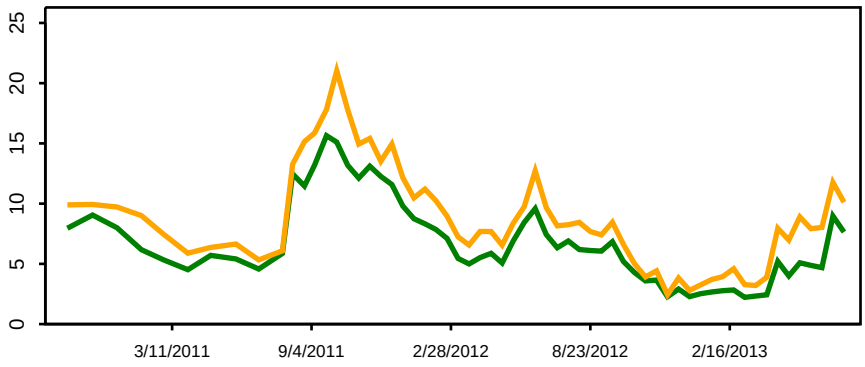
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

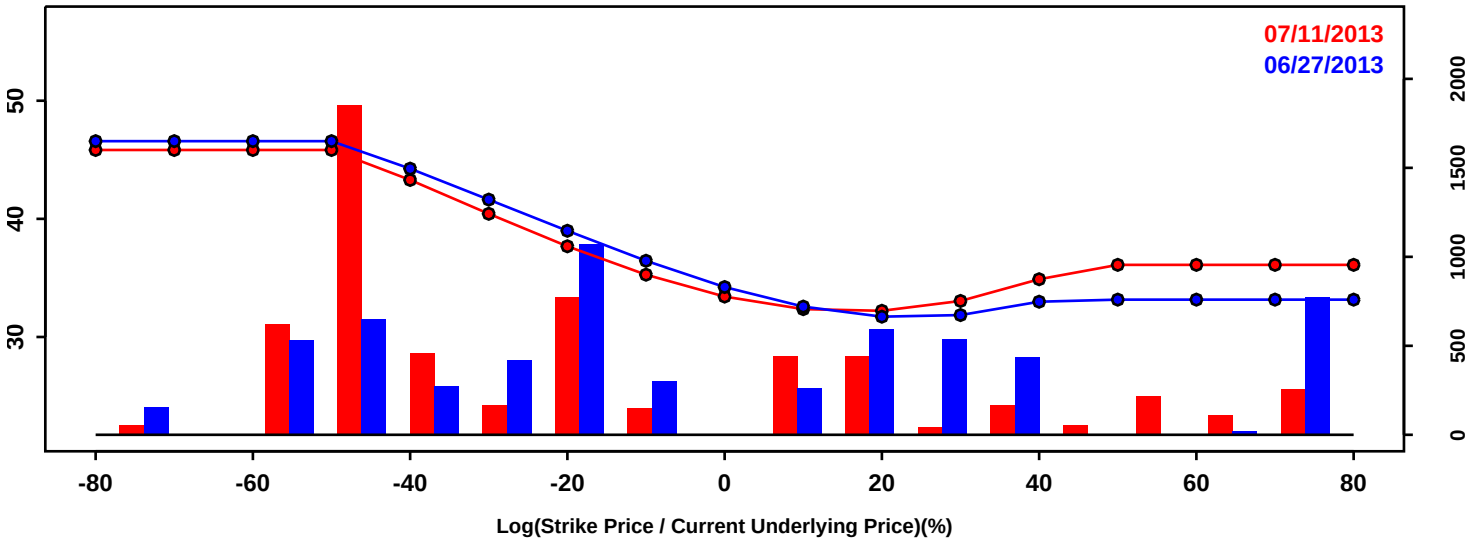
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-22.29%	-20.10%	2.18%
50th Pct	1.67%	1.03%	-0.63%
90th Pct	19.11%	17.89%	-1.23%
Mean	-0.22%	-0.21%	0.01%
Std Dev	17.09%	15.68%	-1.41%
Skew	-0.71	-0.51	0.20
Kurtosis	1.25	1.10	-0.15

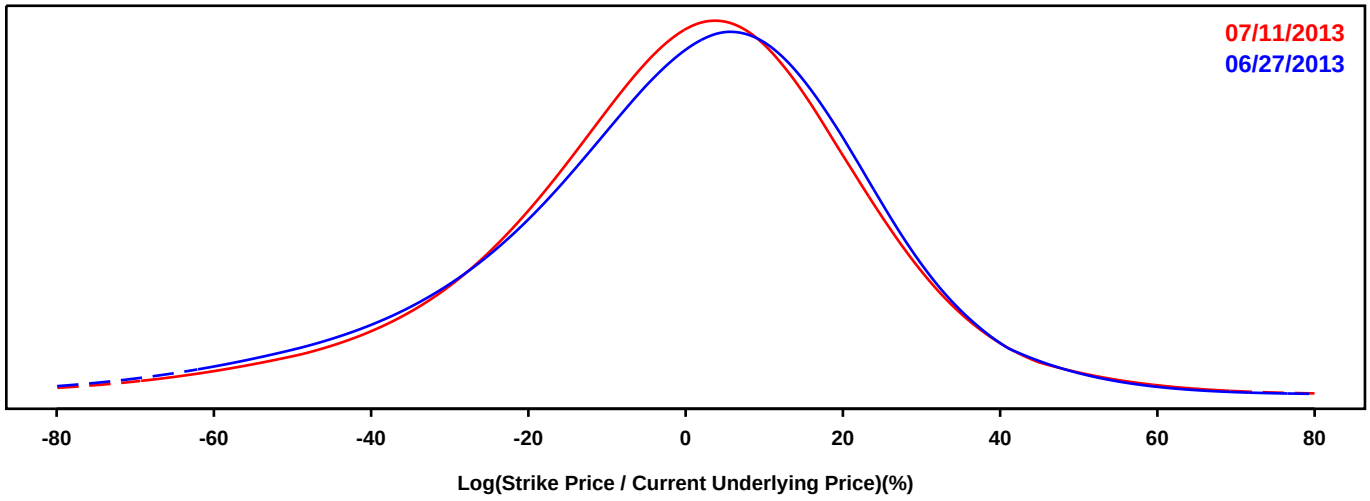
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- SILVER FUTURES

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 6 months.

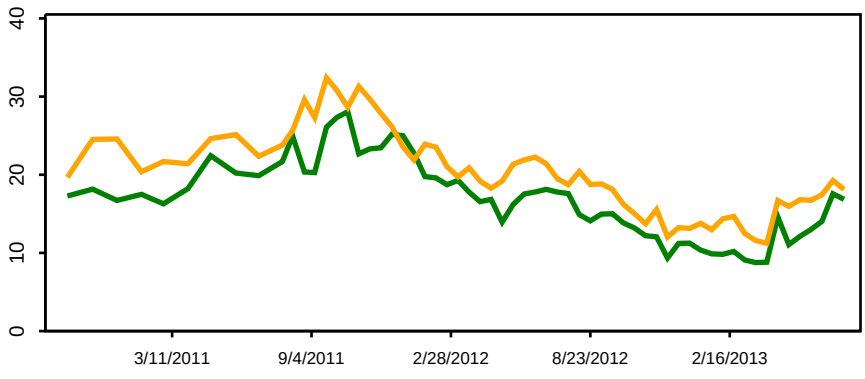
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

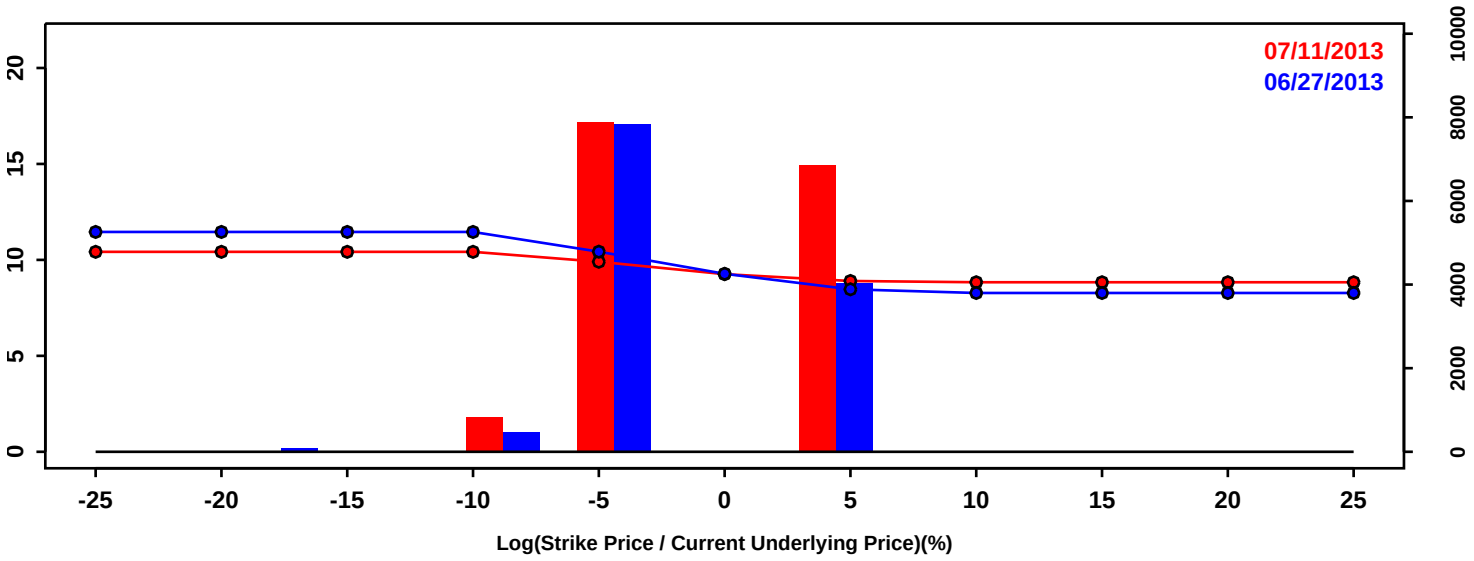
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-33.39%	-30.89%	2.50%
50th Pct	1.57%	1.09%	-0.48%
90th Pct	26.69%	26.53%	-0.16%
Mean	-1.13%	-0.78%	0.35%
Std Dev	24.59%	23.74%	-0.85%
Skew	-0.63	-0.51	0.13
Kurtosis	1.01	1.11	0.10

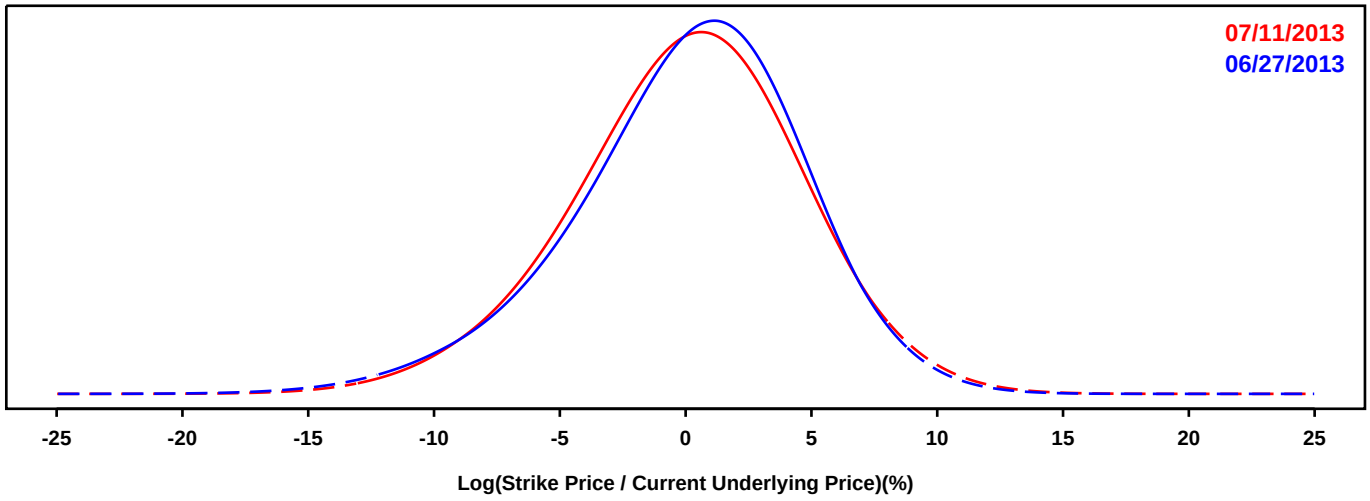
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- DOLLAR-EURO EXCHANGE RATE FUTURES

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 3 months.

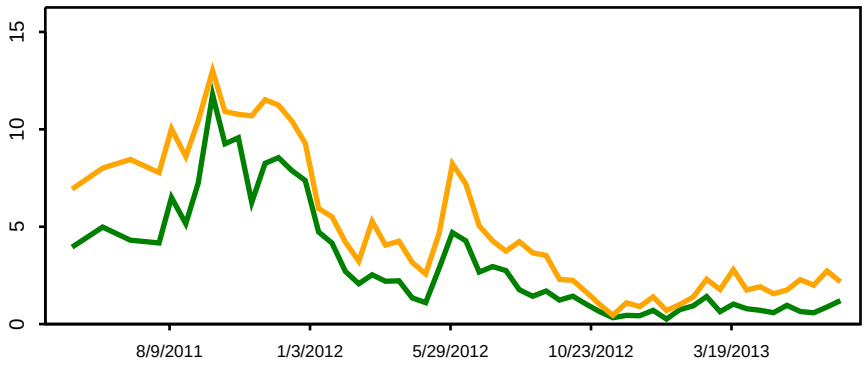
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -10% [stronger $] Increase >= 10% [weaker $]

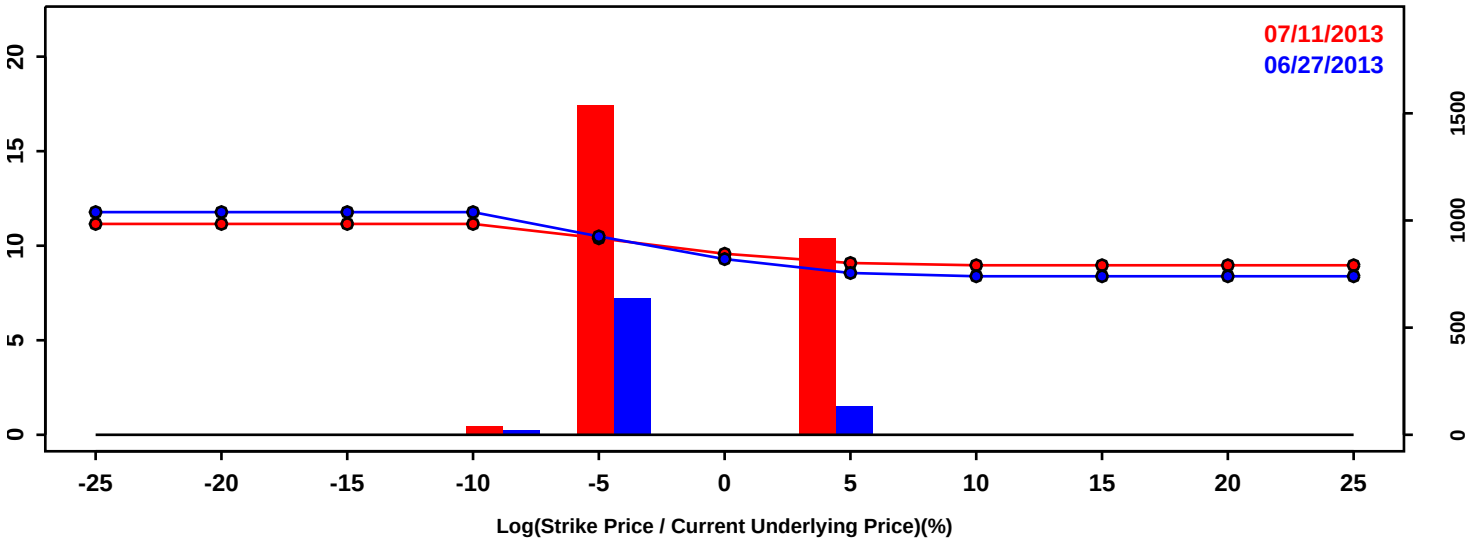
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-6.03%	-5.97%	0.06%
50th Pct	0.46%	0.23%	-0.23%
90th Pct	5.63%	5.76%	0.13%
Mean	0.11%	0.07%	-0.04%
Std Dev	4.65%	4.63%	-0.02%
Skew	-0.44	-0.22	0.22
Kurtosis	0.46	0.21	-0.24

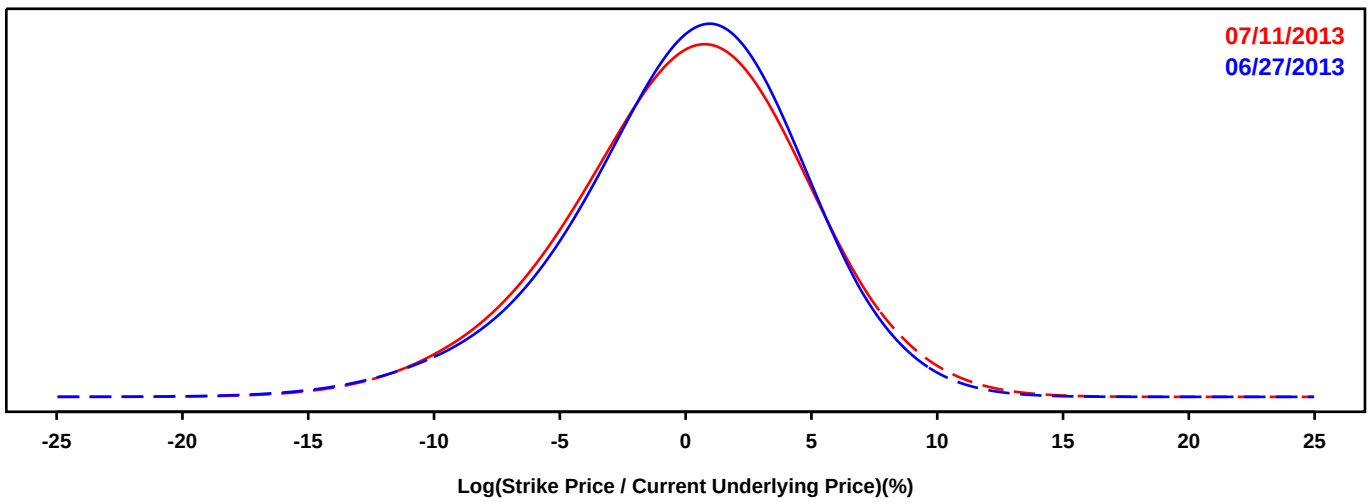
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- DOLLAR-POUND EXCHANGE RATE FUTURES

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 3 months.

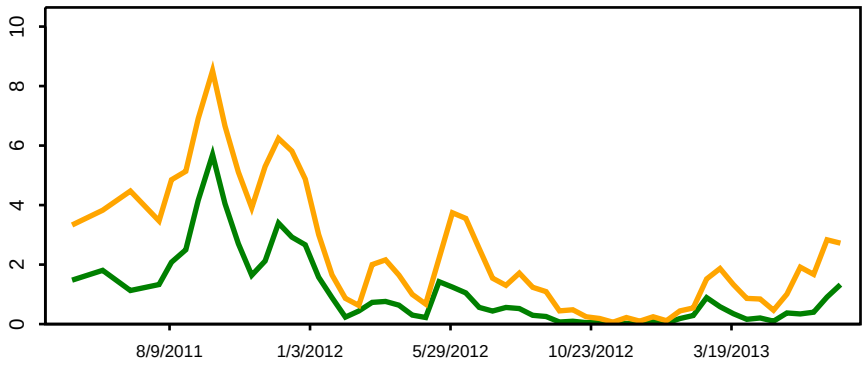
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -10% [stronger $] Increase >= 10% [weaker $]

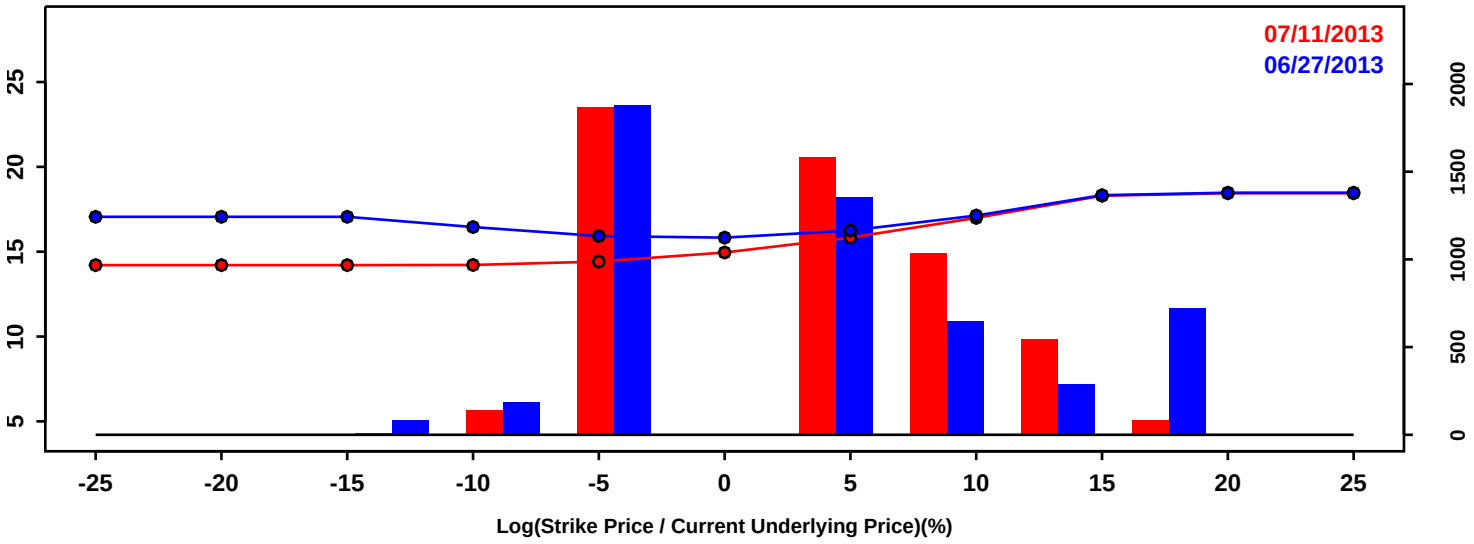
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-6.03%	-6.21%	-0.18%
50th Pct	0.36%	0.29%	-0.07%
90th Pct	5.63%	5.87%	0.24%
Mean	0.06%	0.05%	-0.01%
Std Dev	4.67%	4.79%	0.13%
Skew	-0.44	-0.29	0.15
Kurtosis	0.54	0.29	-0.25

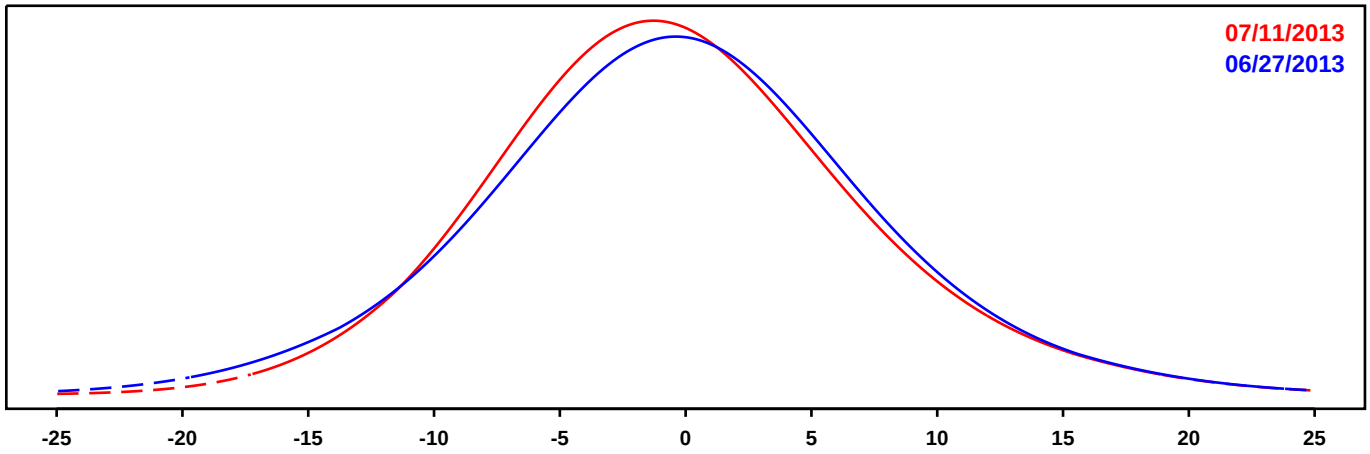
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- DOLLAR-YEN EXCHANGE RATE FUTURES

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 3 months.

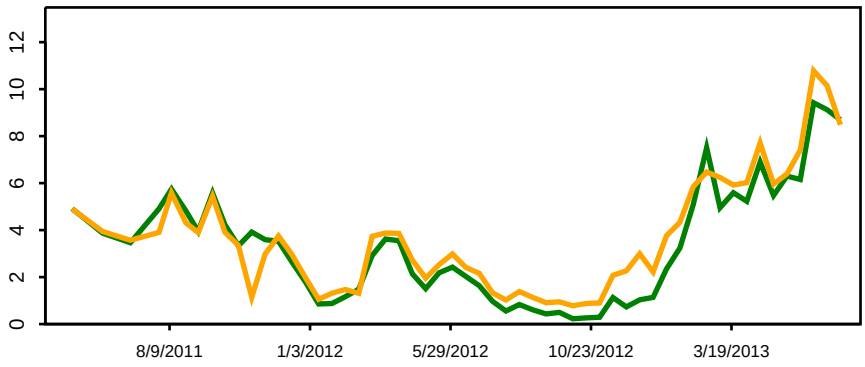
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -10% [stronger $] Increase >= 10% [weaker $]

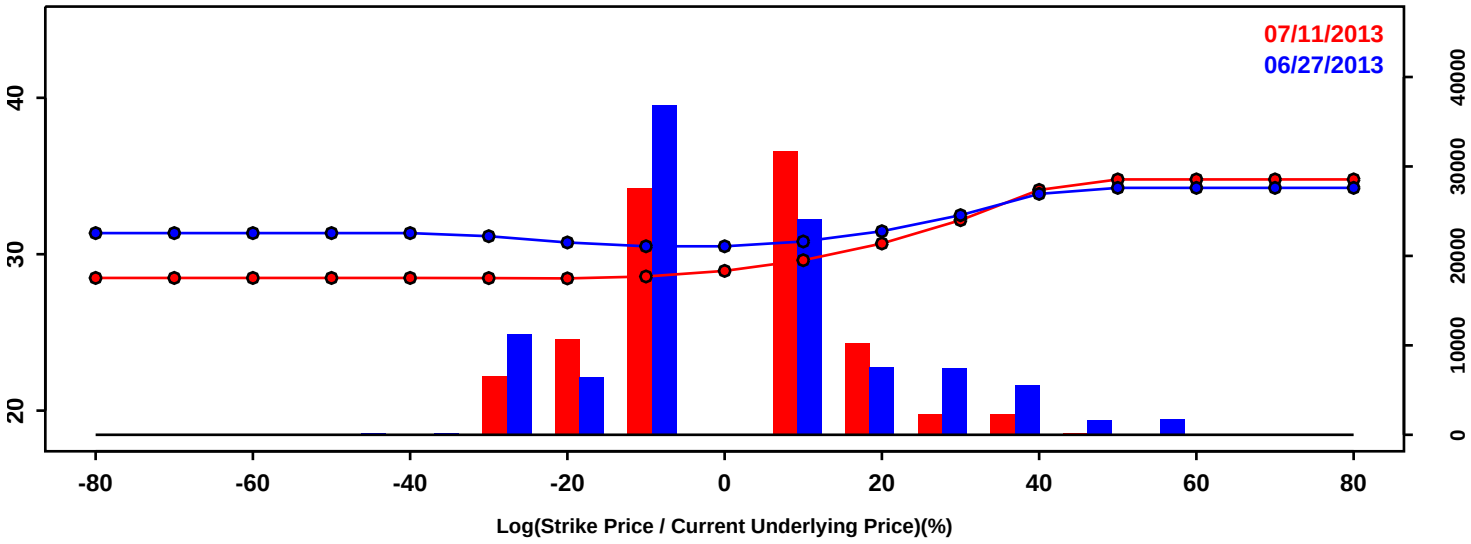
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-10.03%	-9.38%	0.66%
50th Pct	-0.31%	-0.69%	-0.38%
90th Pct	9.55%	9.33%	-0.23%
Mean	-0.23%	-0.25%	-0.02%
Std Dev	7.88%	7.46%	-0.42%
Skew	0.07	0.32	0.25
Kurtosis	0.48	0.47	-0.02

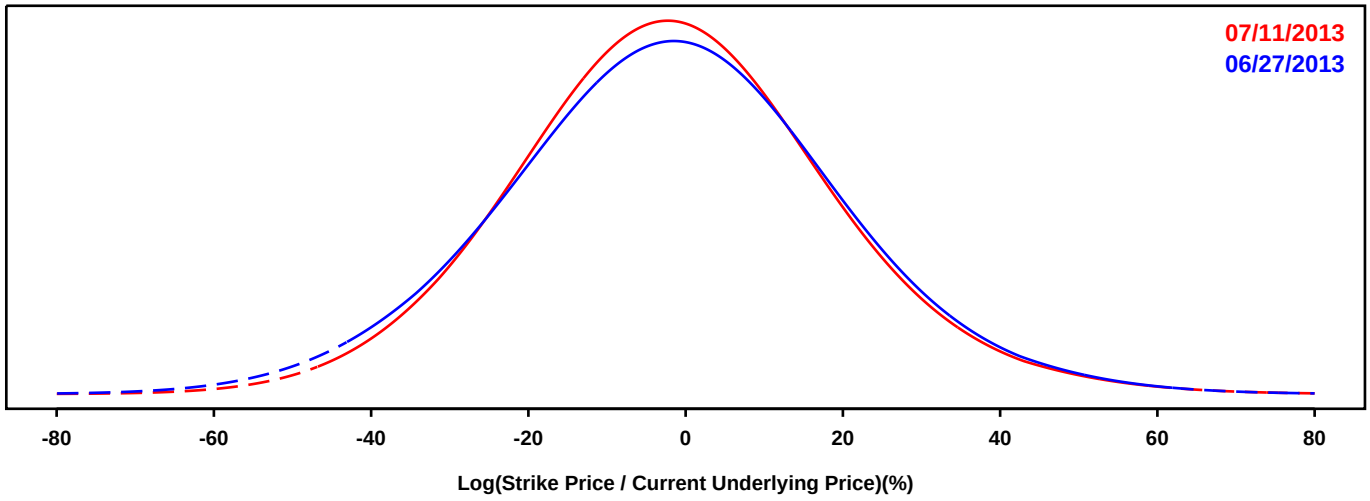
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CORN FUTURES

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 6 months.

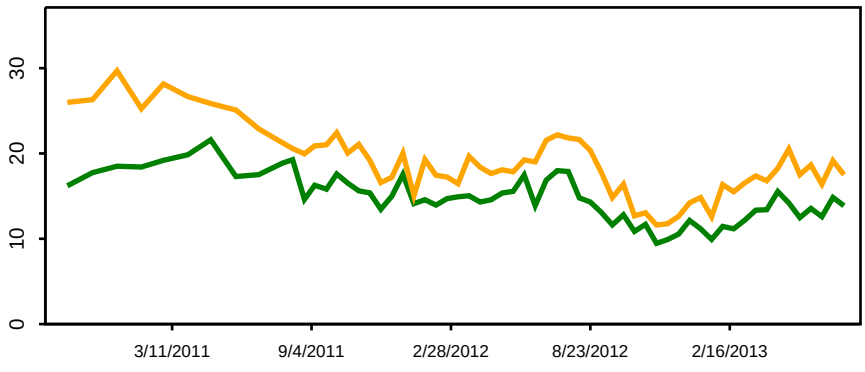
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

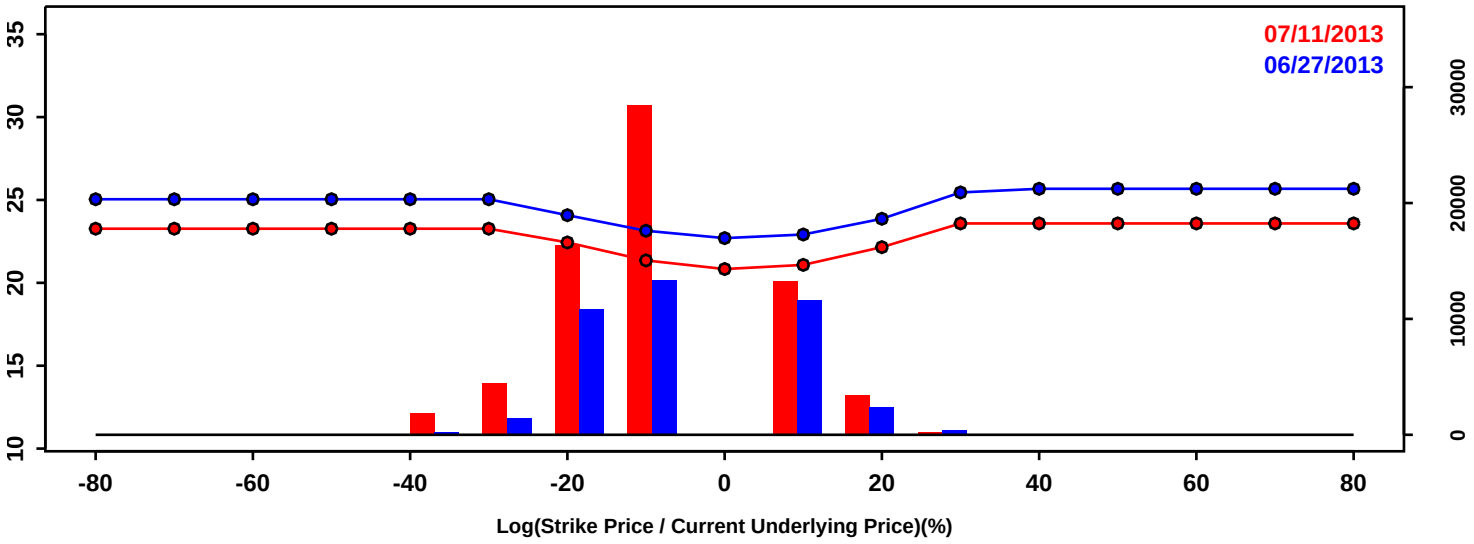
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-28.98%	-26.88%	2.11%
50th Pct	-1.76%	-1.85%	-0.09%
90th Pct	25.23%	24.31%	-0.92%
Mean	-1.72%	-1.44%	0.28%
Std Dev	21.47%	20.35%	-1.11%
Skew	0.04	0.17	0.13
Kurtosis	0.27	0.35	0.08

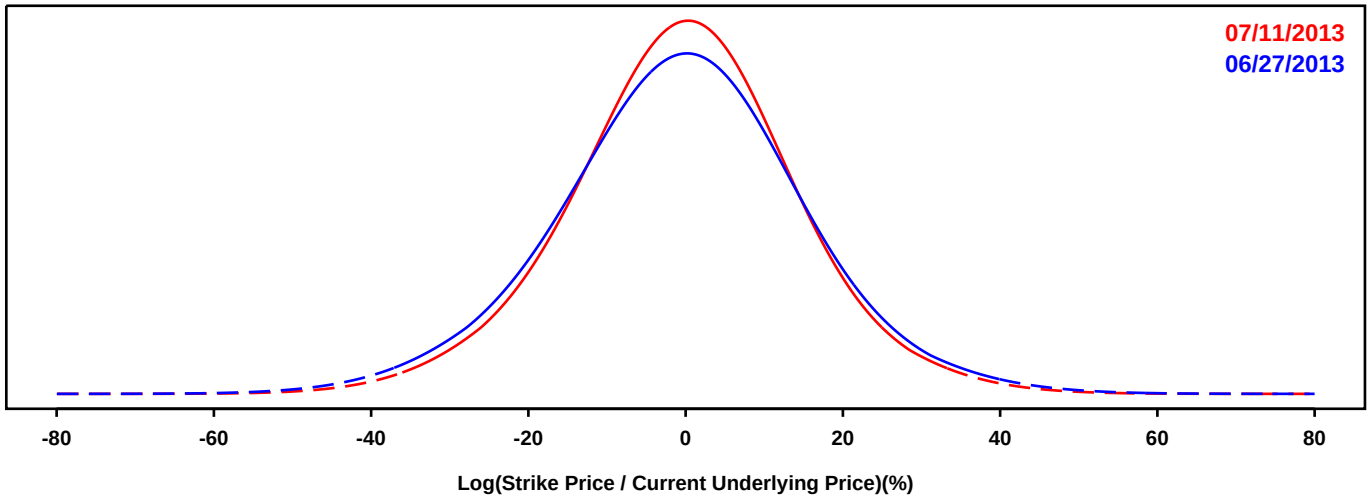
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- SOYBEAN FUTURES

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 6 months.

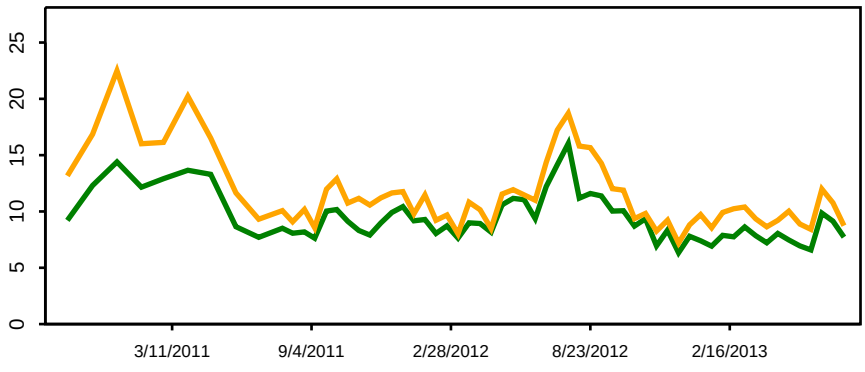
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

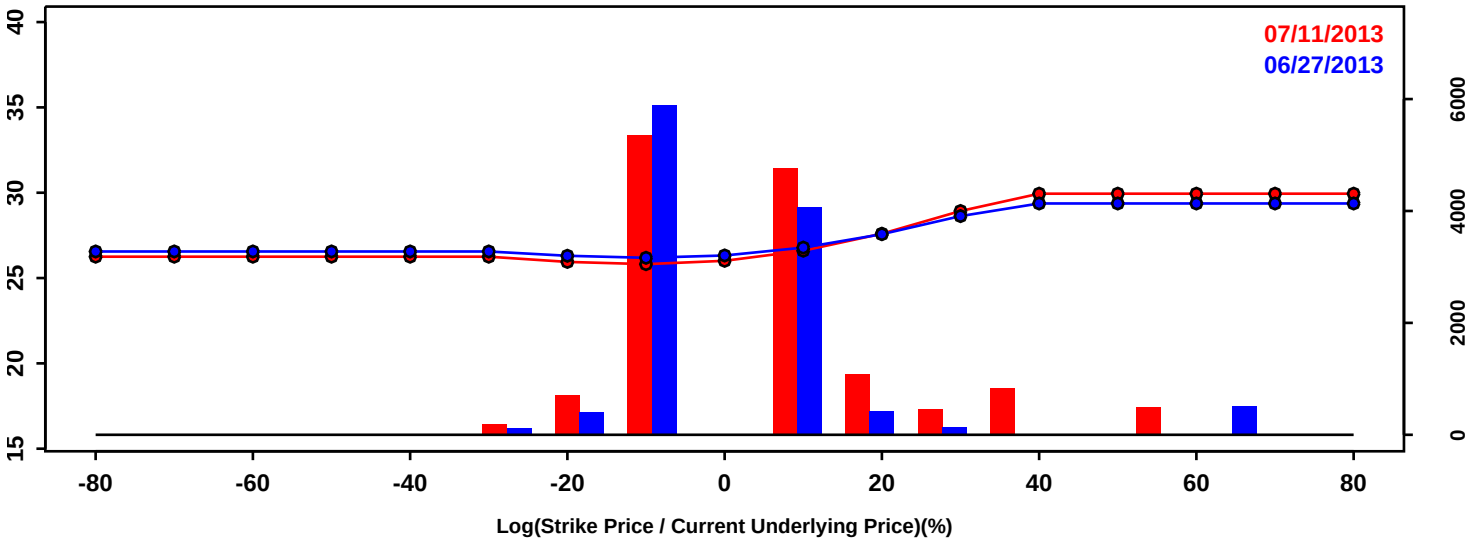
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-20.70%	-18.75%	1.95%
50th Pct	-0.33%	-0.12%	0.21%
90th Pct	19.16%	17.81%	-1.35%
Mean	-0.52%	-0.25%	0.27%
Std Dev	15.99%	14.68%	-1.31%
Skew	-0.04	-0.04	-0.00
Kurtosis	0.44	0.48	0.04

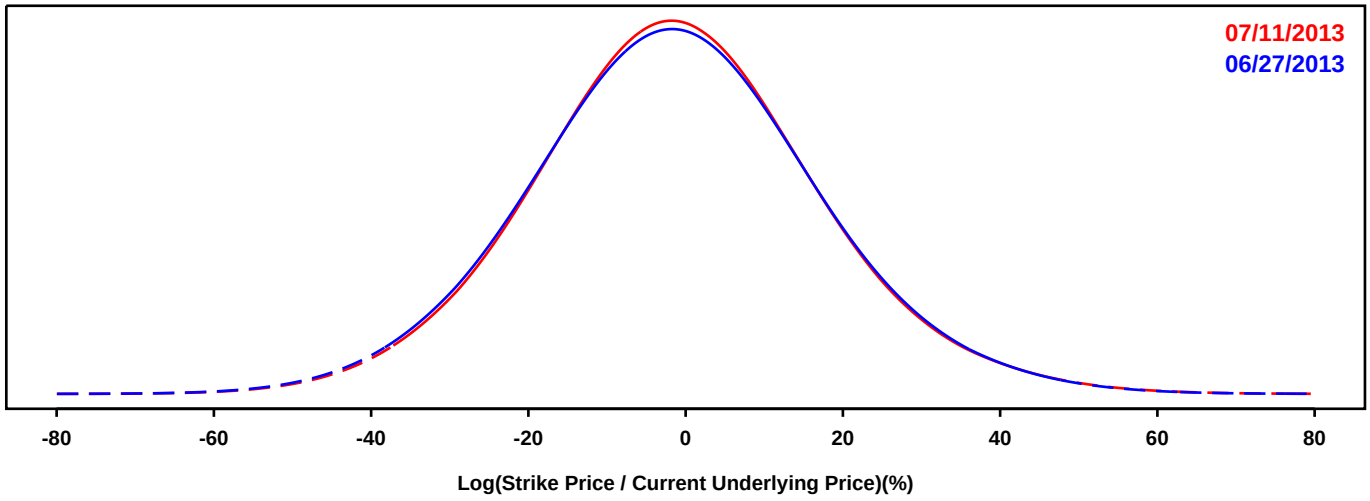
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- WHEAT FUTURES

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 6 months.

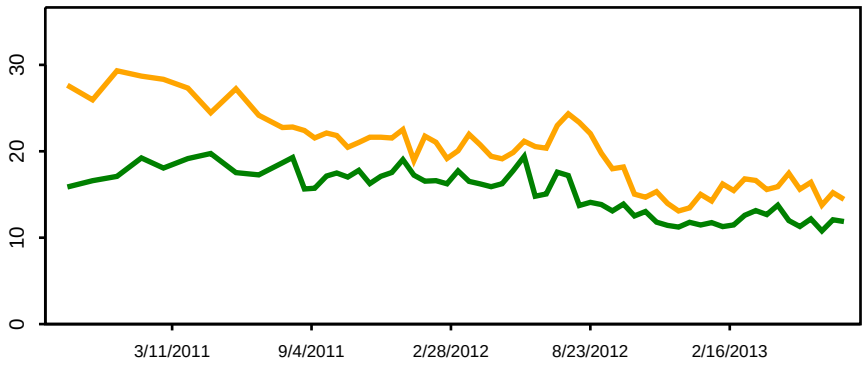
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

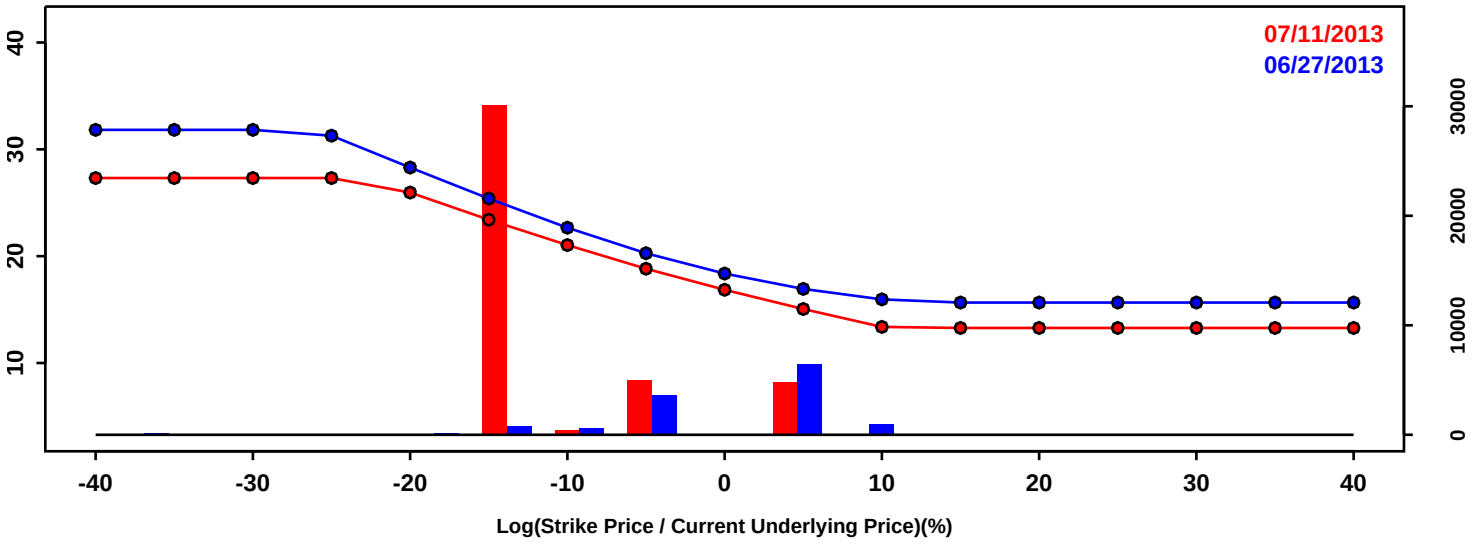
Statistics of the Log Return Distributions

	06/27/2013	07/11/2013	Change
10th Pct	-24.73%	-24.07%	0.66%
50th Pct	-1.55%	-1.42%	0.13%
90th Pct	22.17%	21.98%	-0.19%
Mean	-1.32%	-1.12%	0.21%
Std Dev	18.54%	18.30%	-0.24%
Skew	0.09	0.12	0.03
Kurtosis	0.25	0.32	0.08

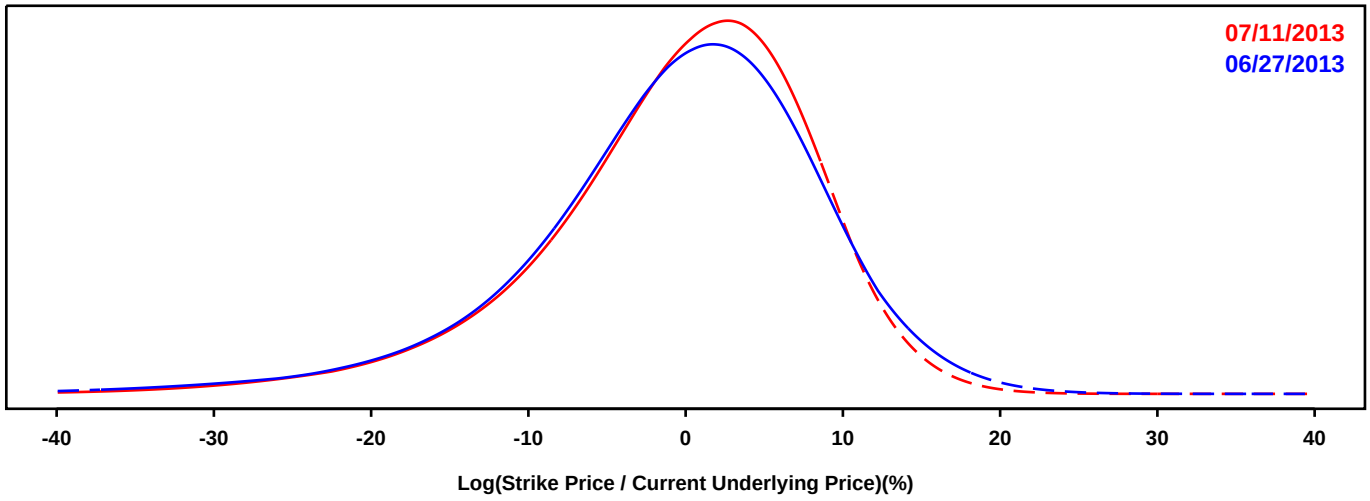
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- iSHARES DOW JONES US REAL ESTATE

Log returns are based on the risk neutral density function of the underlying asset derived from options that expire in approximately 3 months.

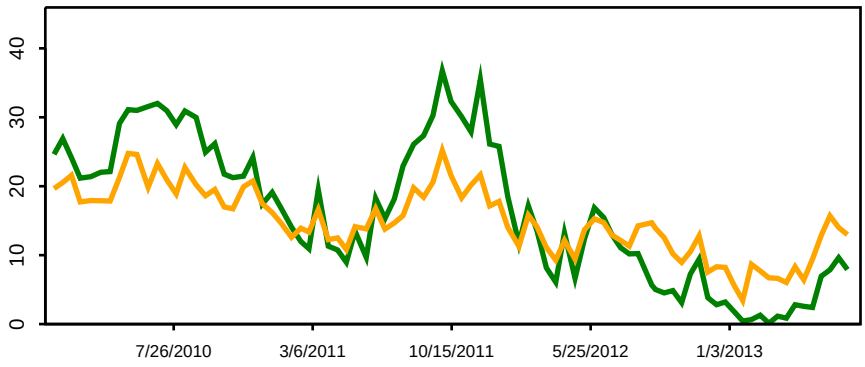
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



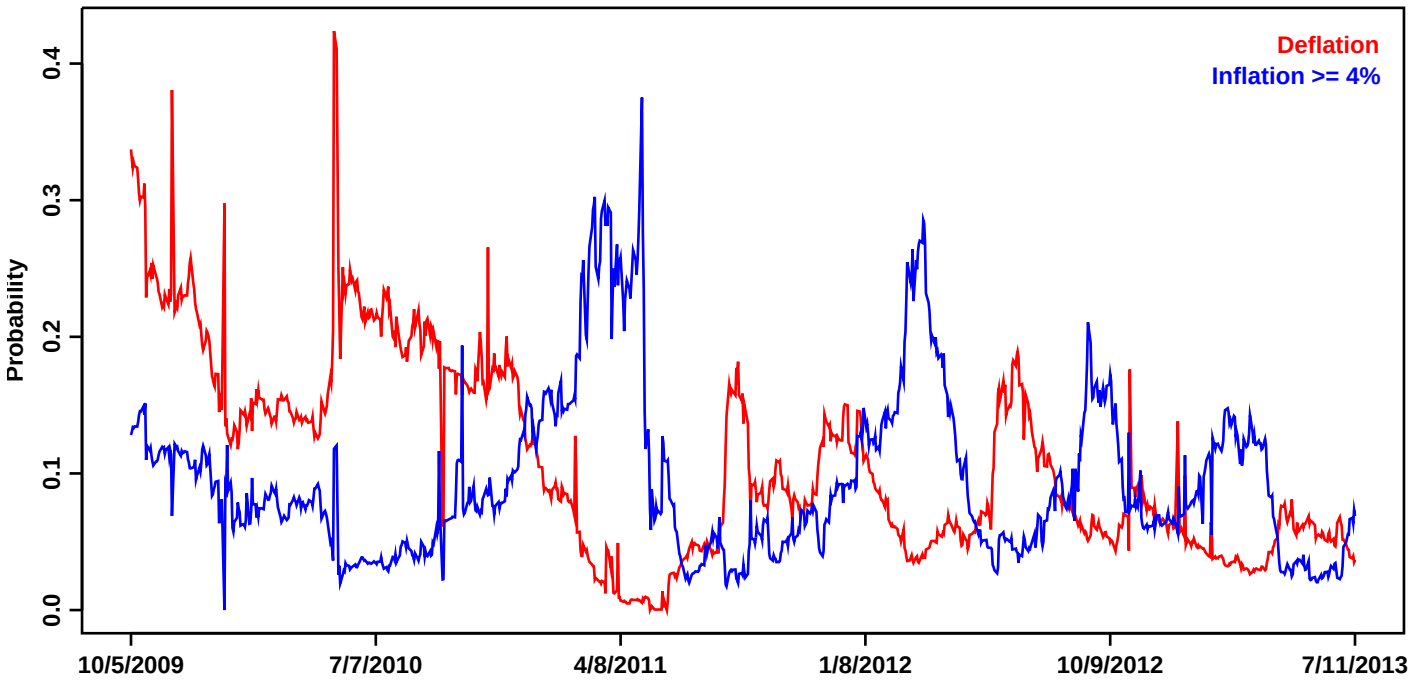
Decrease <= -10% Increase >= 10%

Statistics of the Log Return Distributions

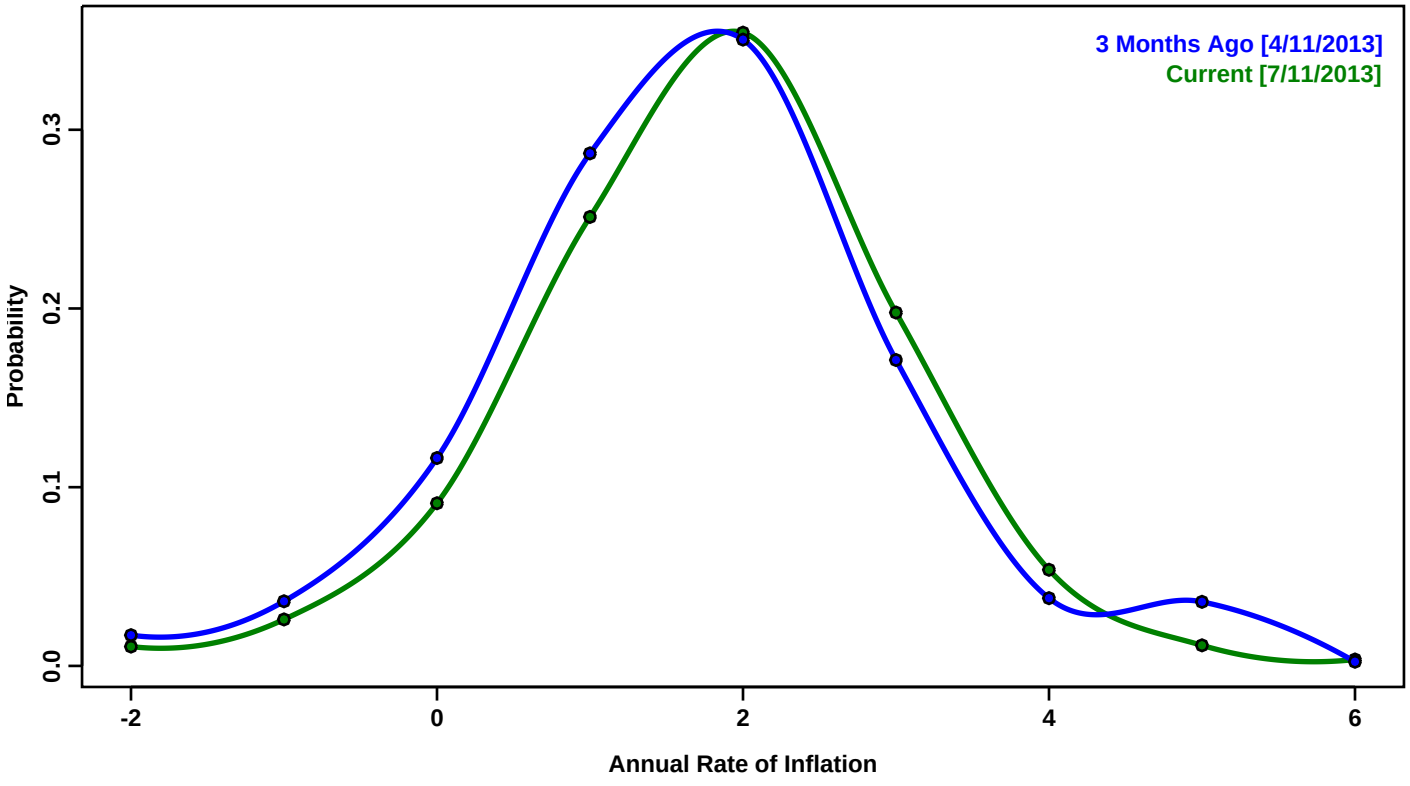
	06/27/2013	07/11/2013	Change
10th Pct	-12.48%	-11.86%	0.63%
50th Pct	0.32%	0.61%	0.28%
90th Pct	9.84%	9.21%	-0.64%
Mean	-0.72%	-0.53%	0.19%
Std Dev	9.44%	8.75%	-0.69%
Skew	-0.90	-0.91	-0.01
Kurtosis	1.99	1.56	-0.43

RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- Inflation Caps & Floors

Probabilty of Deflation and High Inflation over the next 12 Months



Risk Neutral Density Function for Inflation over the next 12 Months



RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- Inflation Caps & Floors