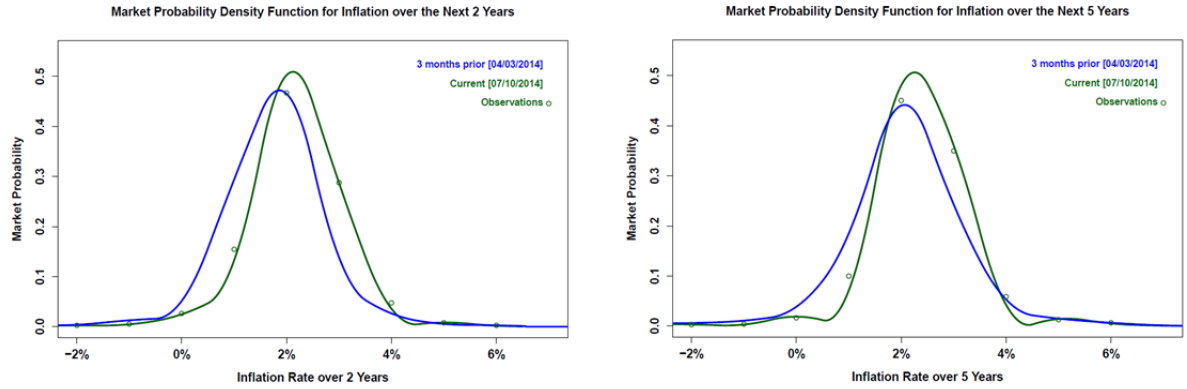
Minneapolis Options Report – July 10th

For convenience, we now refer to risk-neutral probability density functions and risk-neutral probabilities as market probability density functions (MPDs) and market probabilities throughout our reports.

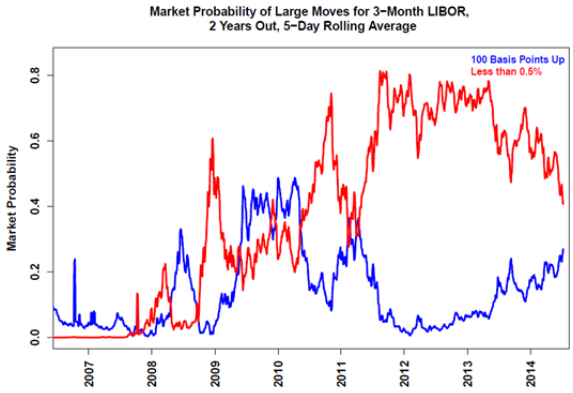
Inflation

The trends in inflation MPD statistics that we monitor remain in place at all three time horizons. Uncertainty in the form of MPD dispersion is falling. At the same time, MPD skews are positive and/or rising. Below are the MPDs derived from caps and floors with 2 and 5 years to expiry. Both have shifted to the right (curren=green) indicating higher market probabilities for higher inflation.



LIBOR Rates

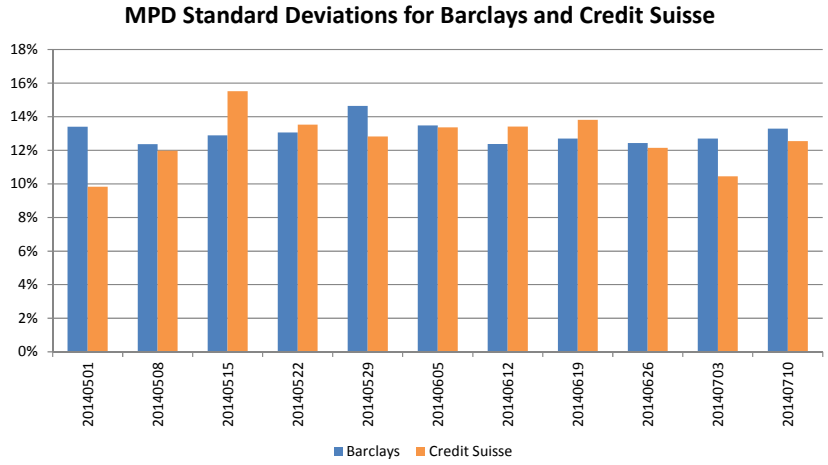
Market probabilities for short term rate changes over the next five years remain stable and continue to indicate higher rate levels. Market probabilities for higher short-term LIBOR rates are on the rise in the two year time frame.



Banks & Insurance Companies
Since our last report on June 12, median share prices have changed little (CCAR 17 banks -0.1%; 11 insurance companies +0.5%). Median MPD standard deviations are higher by 30 basis points for the banks and lower by -30 basis points for the insurance companies indicating only minor changes in tail risk expectations from already low levels. MPD slews generally rose for banks indicating less market probability for downside price moves.

- Given the recent news around Barclay's alleged dark pool improprieties, we examined MPD information for the firm over the past 11 weeks (Since May 1). While tail risk, as measured by MPD standard deviation has risen, it remains below the value taken at the beginning of May. (Blue bars below)

- Given the recent news related to CS assisting in improper tax evasion behaviors, we examined MPD information for the firm over the past 11 weeks (Since May 1). While tail risk, as measured by MPD standard deviation has risen, it remains below the values measured in most of May and June. (Orange bars below)

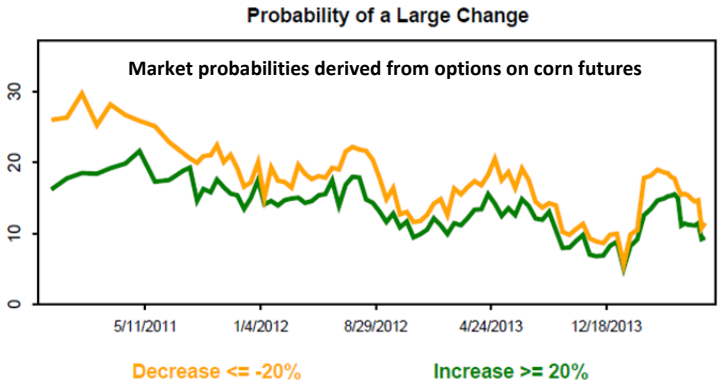


While both firms' share prices fell considerably over this period (Barclays -17.4%; CS -11.6%), MPD standard deviations have remained relatively stable and MPD skews have risen. This implies that market probabilities are skewed toward higher prices.

Other Commodity Markets
Since our last report on June 12, MPD standard deviations derived from options on the S&P 500 Index are lower by around -40 basis points as are skews indicating lower tail risk and more market probability bias toward downward equity market price moves. MPD skews in the 10 year treasury bond market also moved lower, indicating market bias toward higher interest rates.

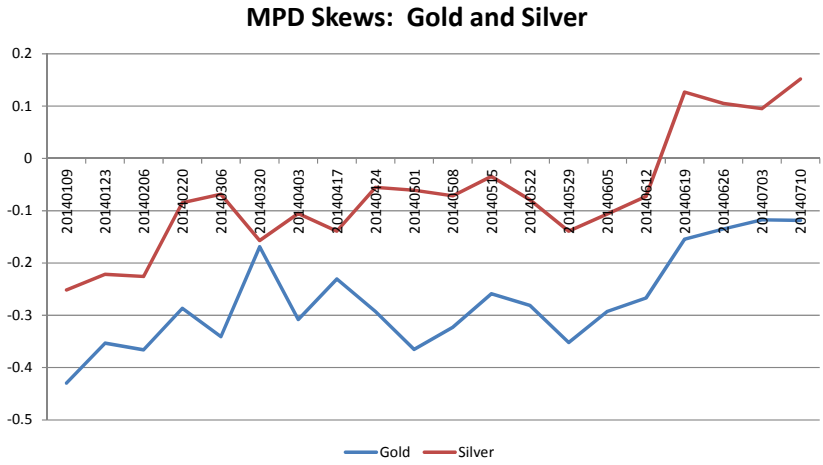
Spot prices of grain and oil futures fell sharply while precious metals prices jumped. At the same time, MPD standard deviations were unchanged to lower. The exception is in the cattle market where tail risks remain on the rise.

- Market expectations have dramatically reversed course in the grains markets. As noted, prices are dropping, MPD skews are falling as are tail risks. (*See corn, soybean, and wheat reports*)



- Spot prices in the oil markets fell more than -200 basis points over the past two weeks. MPD standard deviations also dropped indicating less tail risk in the oil markets. (*See WTI and Brent reports*)

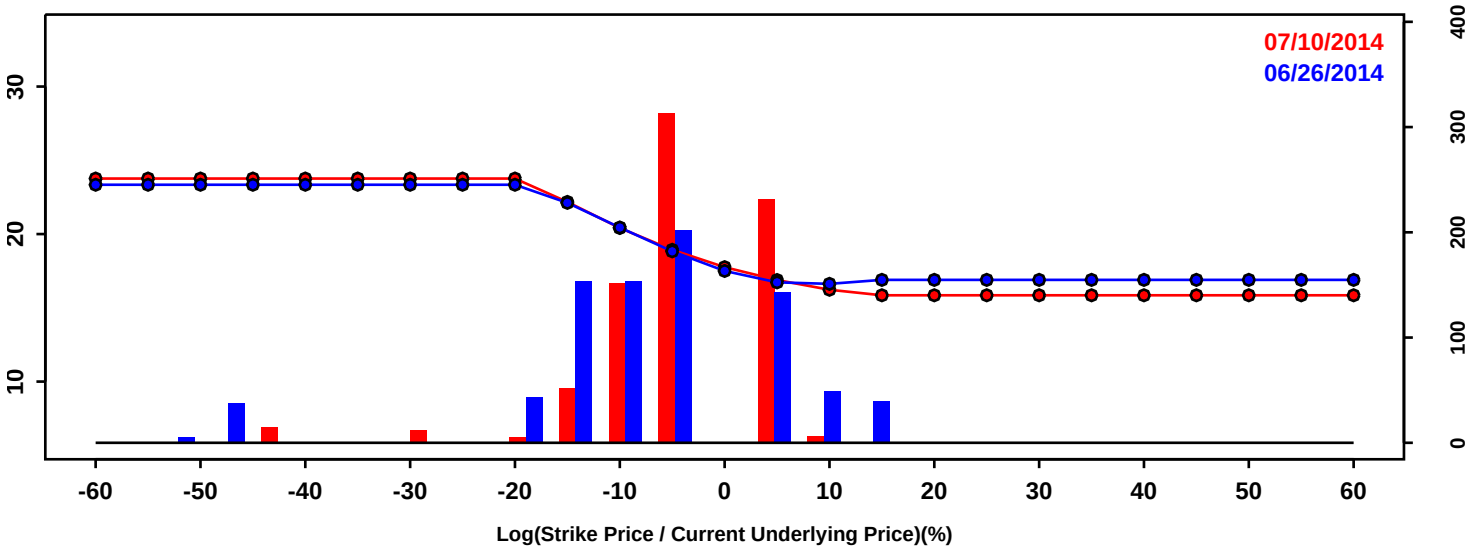
- MPD skews continue their recent upward trends for both Gold and Silver. This indicates increased market probability bias toward higher precious metals prices. (*See Gold and Silver reports*)



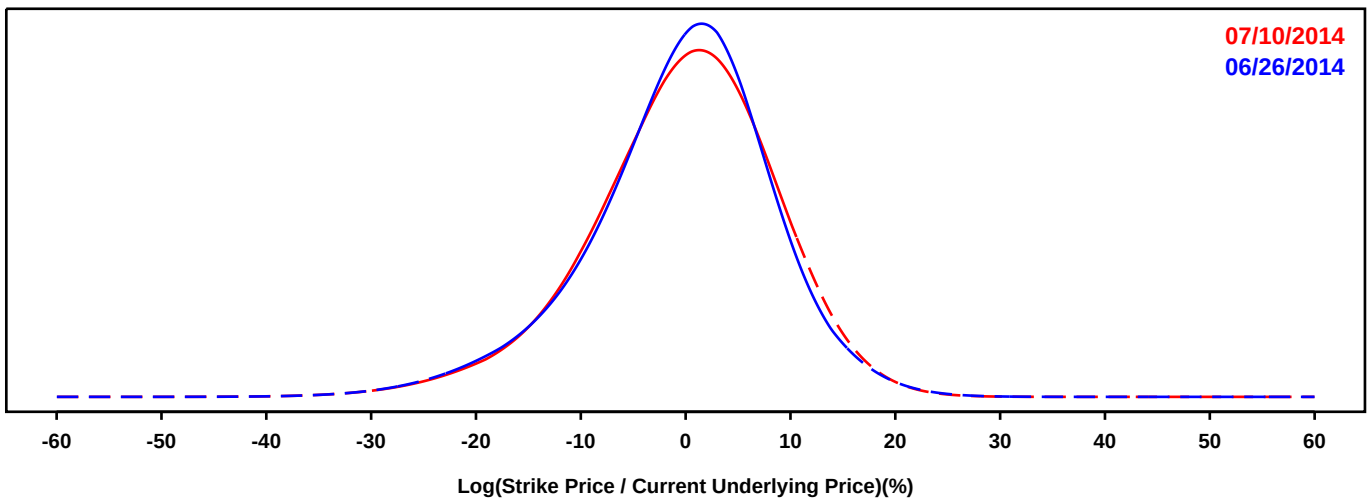
MARKET PROBABILITY DENSITY FUNCTIONS -- AMERICAN EXPRESS

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

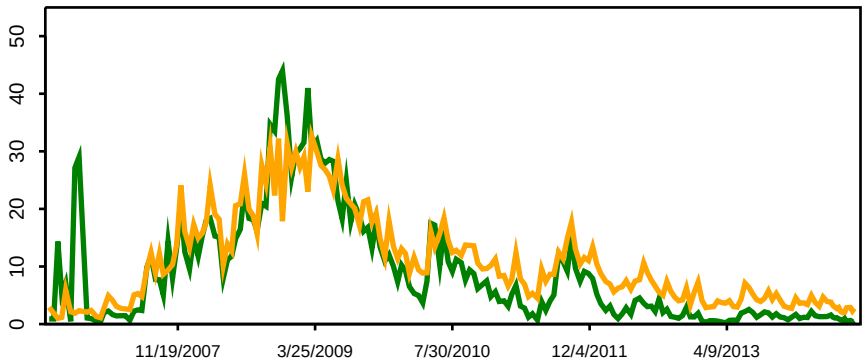
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

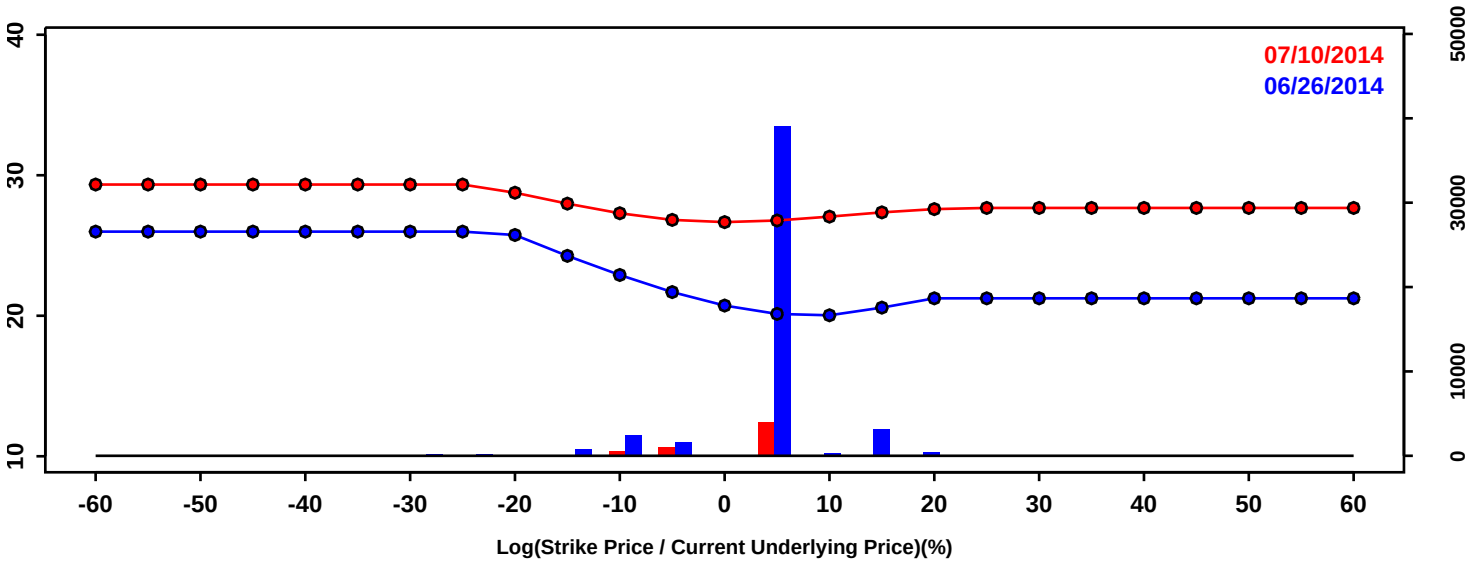
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-12.04%	-11.90%	0.14%
50th Pct	0.28%	0.30%	0.02%
90th Pct	9.79%	10.39%	0.60%
Mean	-0.51%	-0.33%	0.18%
Std Dev	8.88%	8.99%	0.11%
Skew	-0.52	-0.49	0.03
Kurtosis	0.85	0.69	-0.16

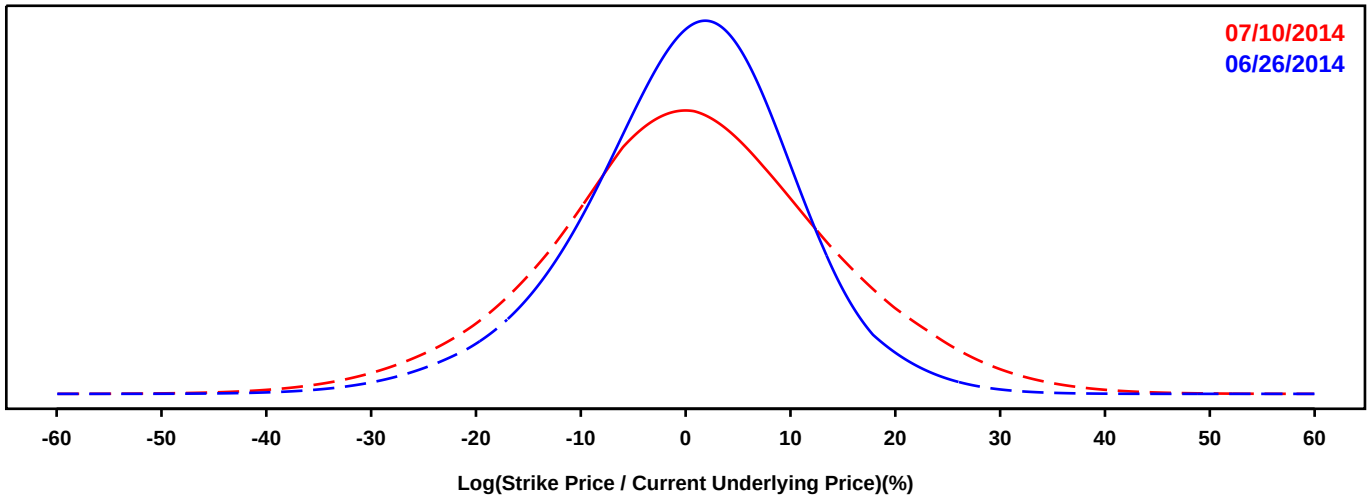
MARKET PROBABILITY DENSITY FUNCTIONS -- BANK OF AMERICA

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

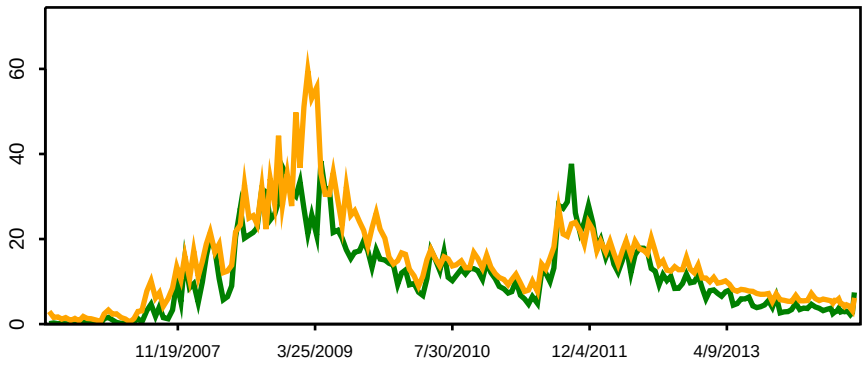
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

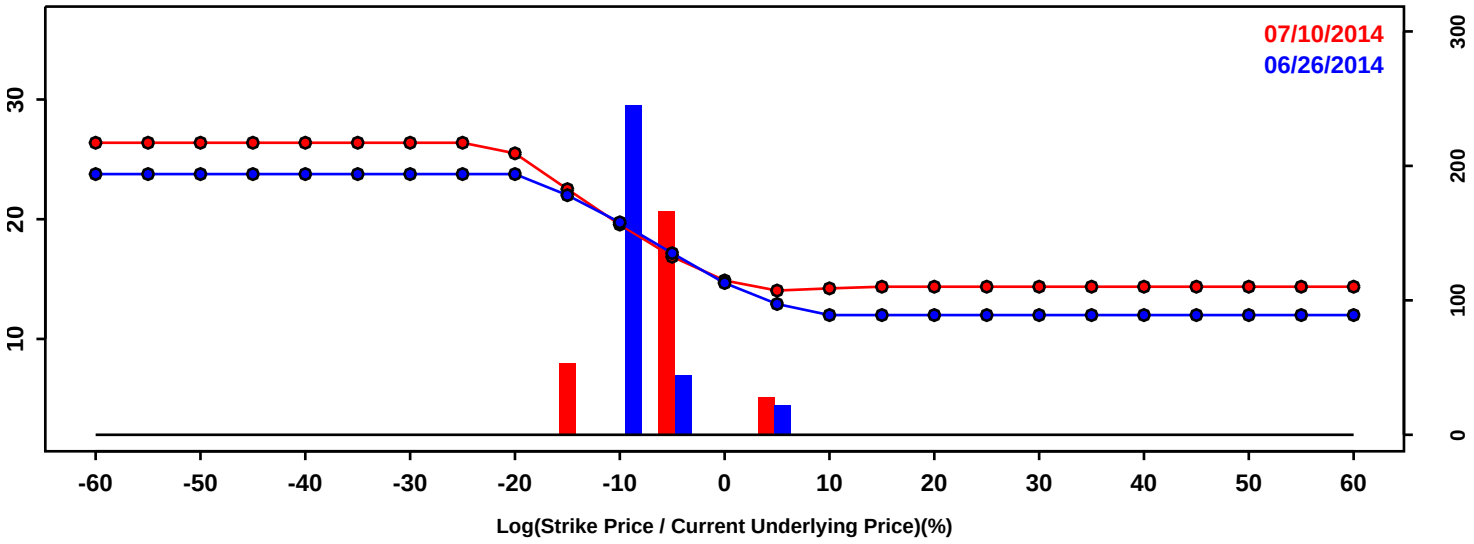
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-13.23%	-16.17%	-2.94%
50th Pct	0.72%	0.47%	-0.25%
90th Pct	12.38%	17.66%	5.28%
Mean	0.10%	0.63%	0.52%
Std Dev	10.35%	13.37%	3.02%
Skew	-0.34	-0.02	0.32
Kurtosis	0.64	0.30	-0.34

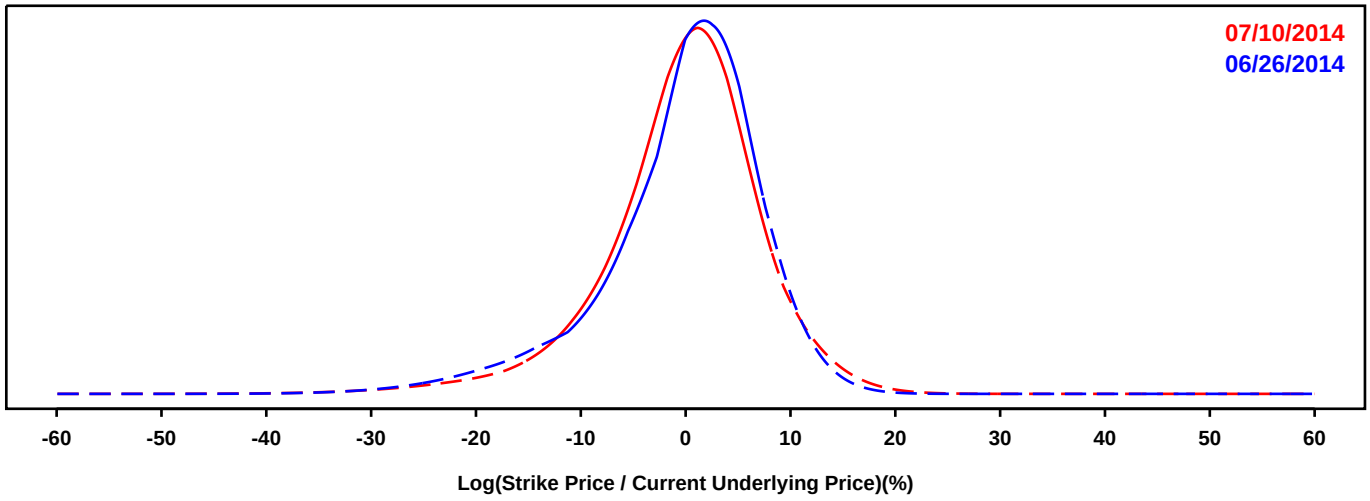
MARKET PROBABILITY DENSITY FUNCTIONS -- BB&T

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

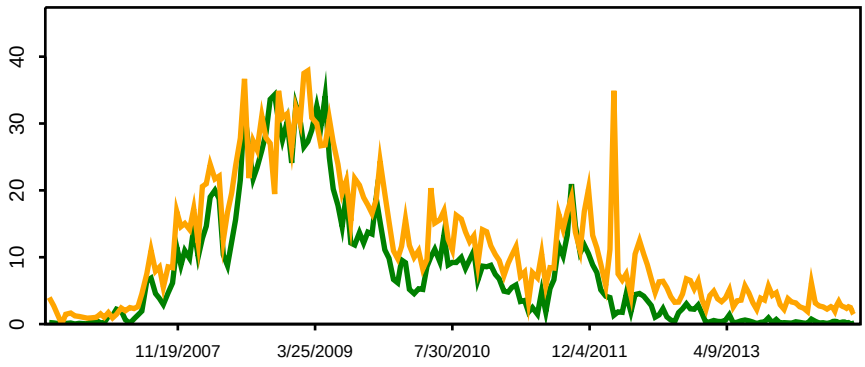
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

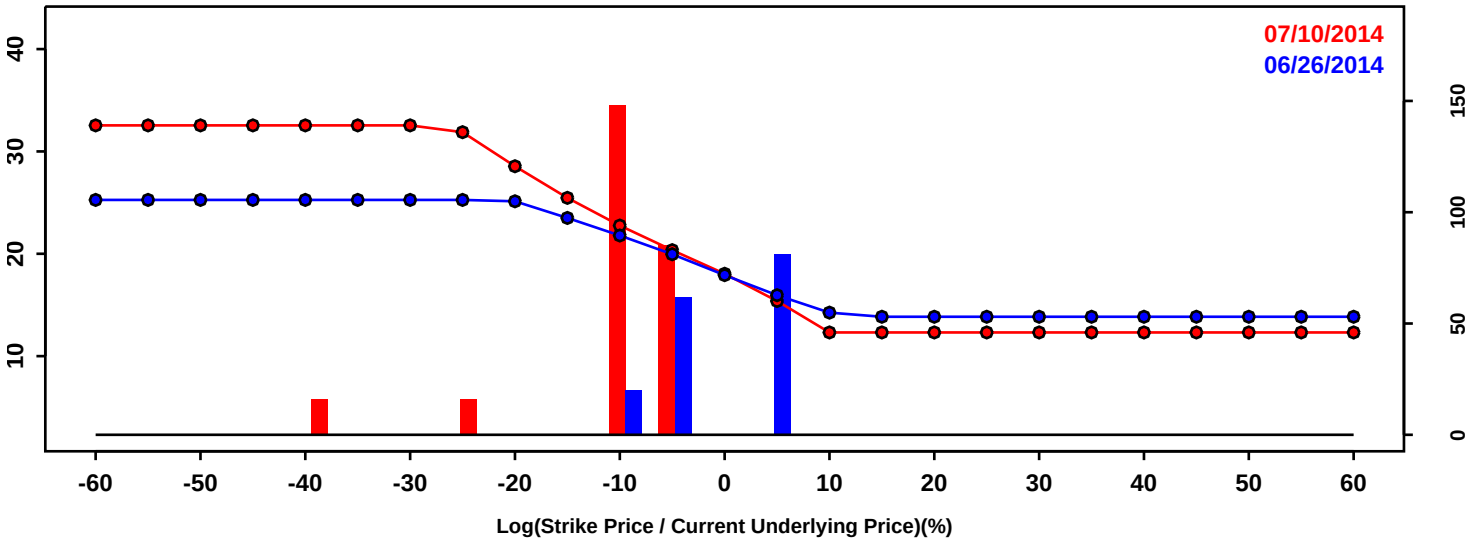
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-10.36%	-9.52%	0.85%
50th Pct	0.83%	0.41%	-0.42%
90th Pct	7.98%	8.17%	0.20%
Mean	-0.32%	-0.28%	0.04%
Std Dev	7.72%	7.59%	-0.13%
Skew	-1.06	-0.85	0.21
Kurtosis	1.98	2.33	0.35

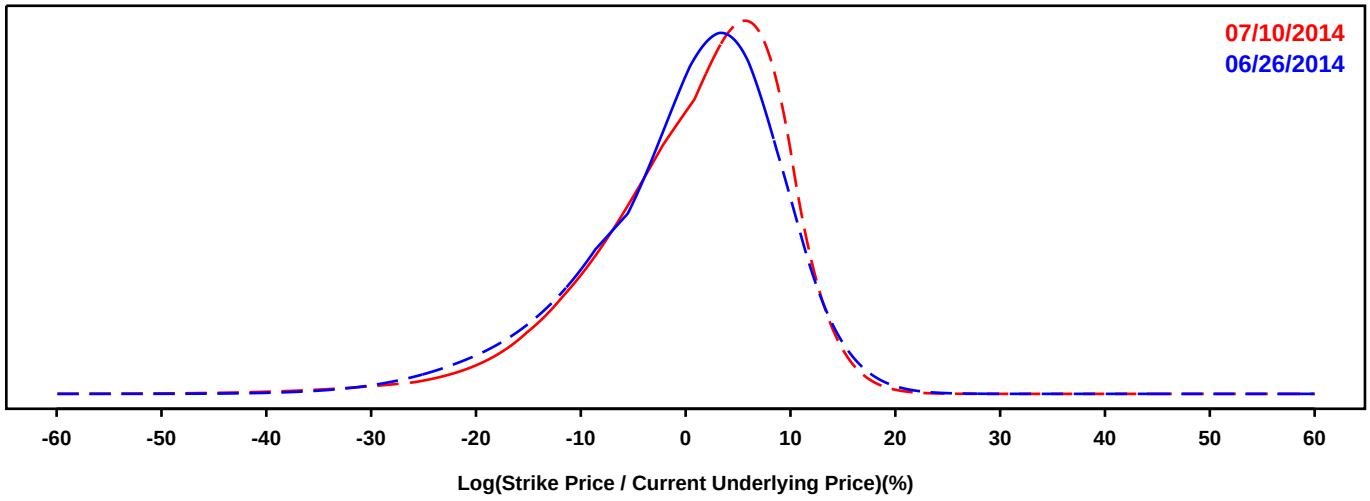
MARKET PROBABILITY DENSITY FUNCTIONS -- BANK OF NEW YORK MELLON

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

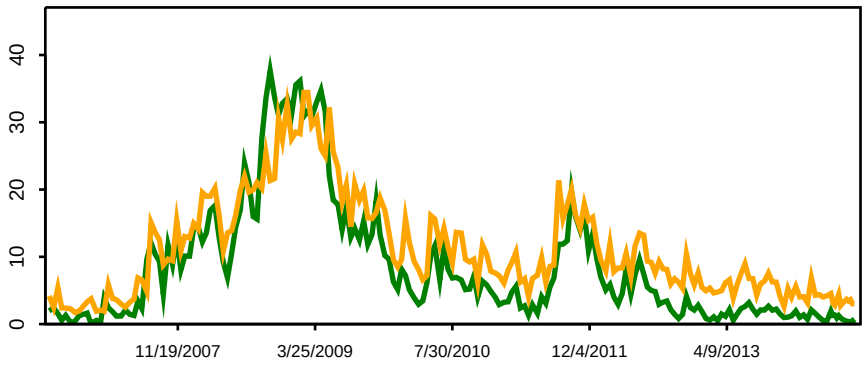
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



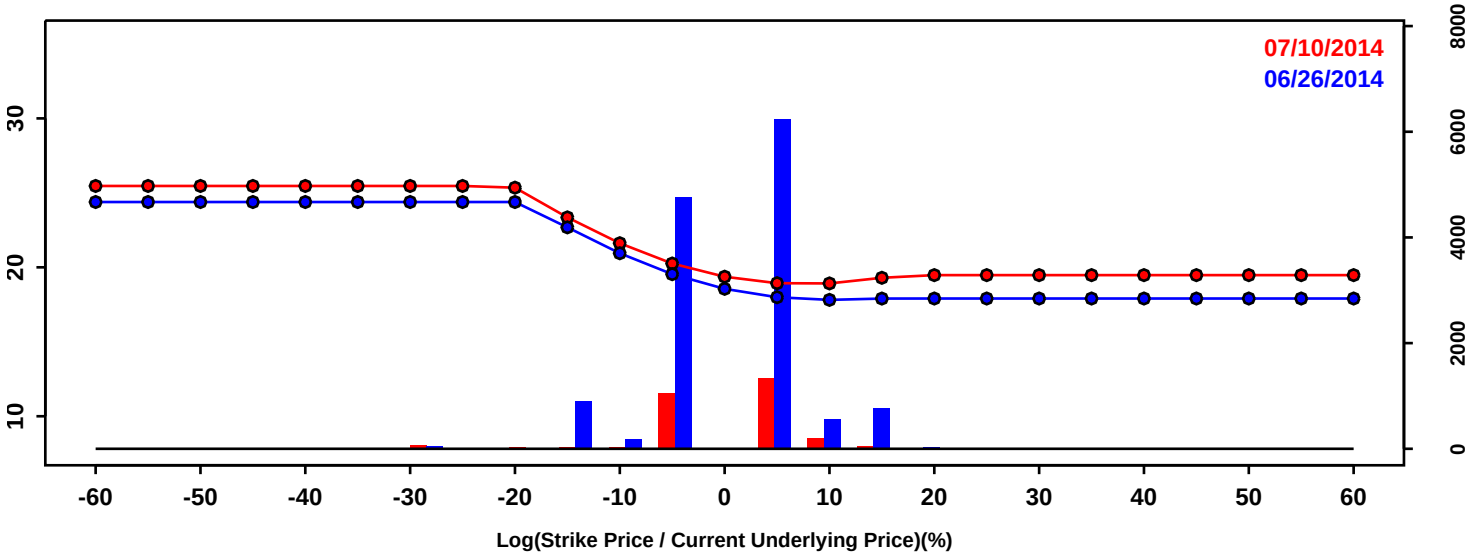
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-12.80%	-11.63%	1.16%
50th Pct	1.24%	1.96%	0.72%
90th Pct	10.06%	10.09%	0.04%
Mean	-0.21%	0.35%	0.56%
Std Dev	9.24%	9.11%	-0.13%
Skew	-0.83	-1.09	-0.26
Kurtosis	1.00	2.09	1.09

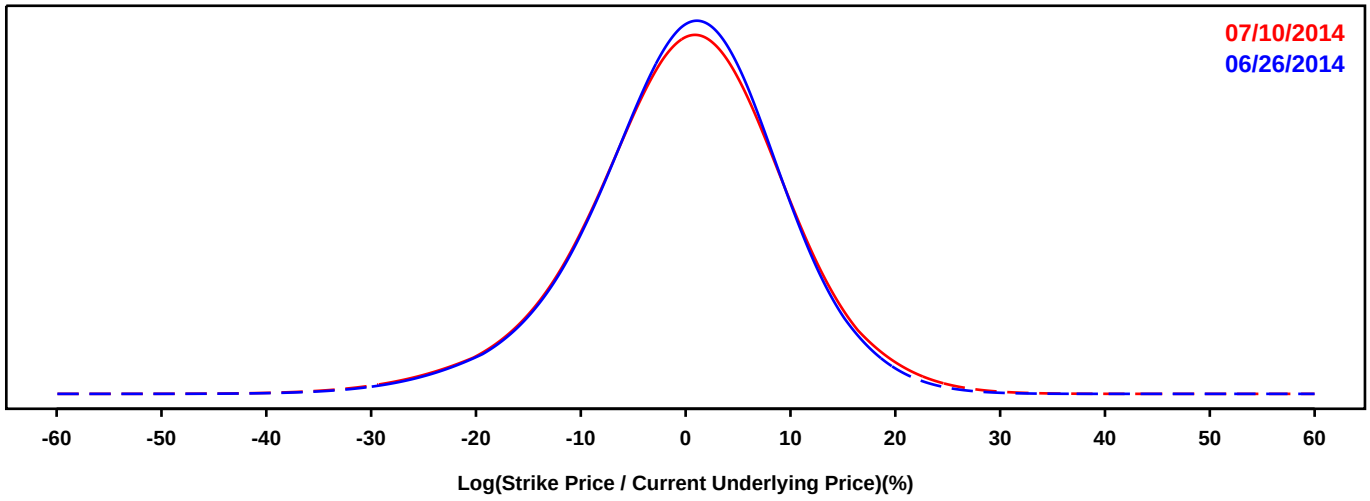
MARKET PROBABILITY DENSITY FUNCTIONS -- CITIGROUP

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

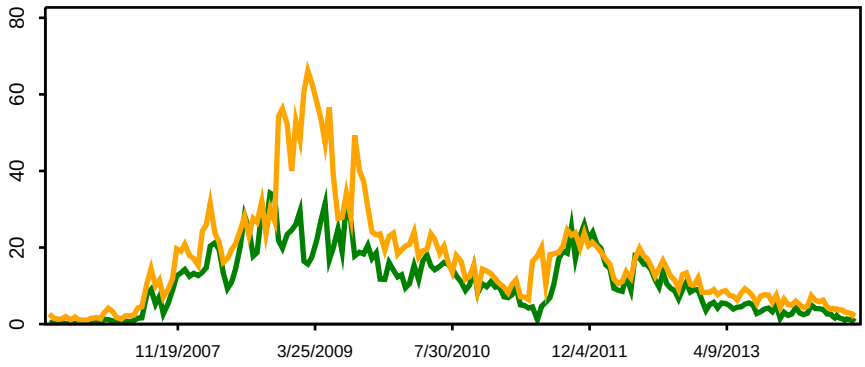
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

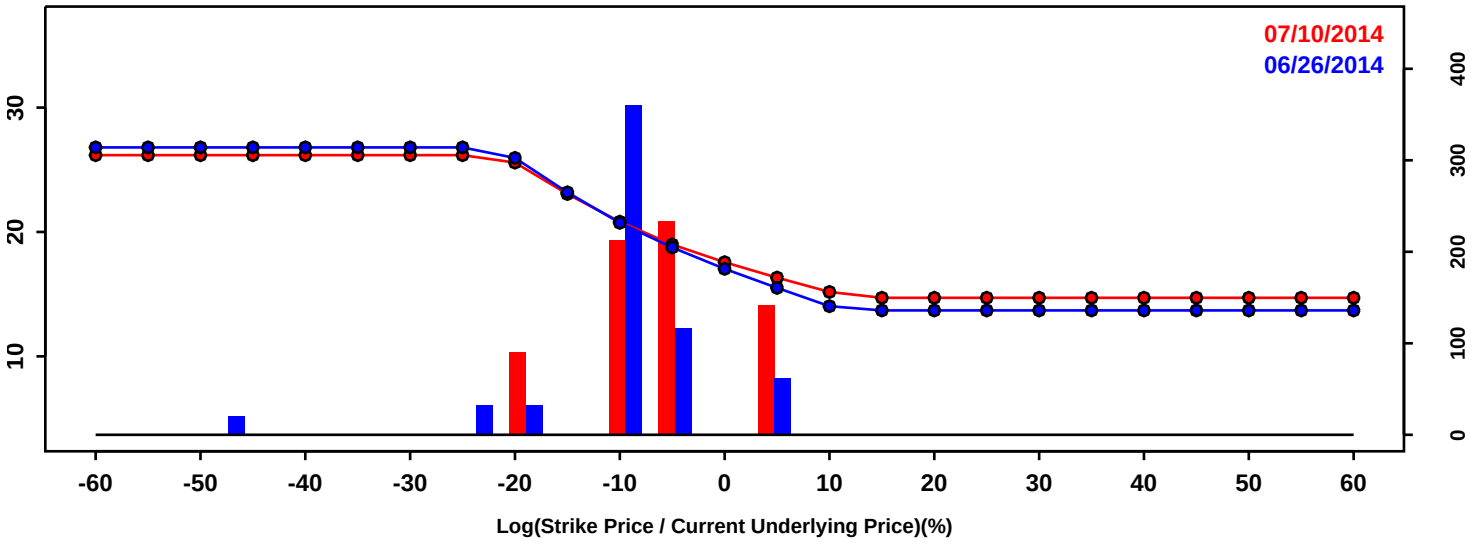
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-11.96%	-12.25%	-0.29%
50th Pct	0.37%	0.36%	-0.02%
90th Pct	11.02%	11.61%	0.59%
Mean	-0.13%	-0.05%	0.08%
Std Dev	9.31%	9.70%	0.39%
Skew	-0.39	-0.34	0.05
Kurtosis	0.71	0.74	0.03

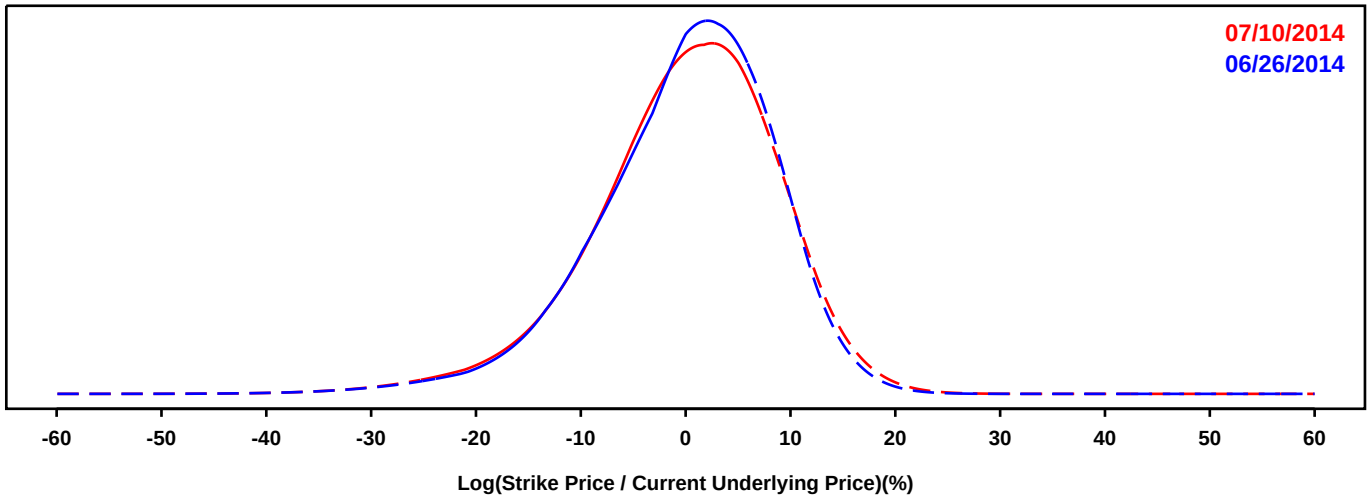
MARKET PROBABILITY DENSITY FUNCTIONS -- CAPITAL ONE

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

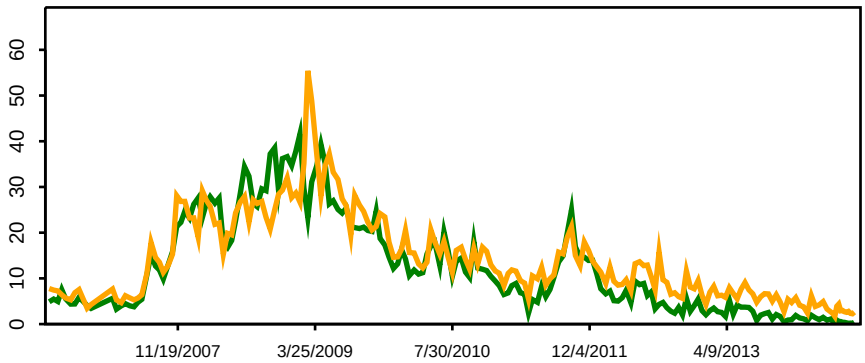
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



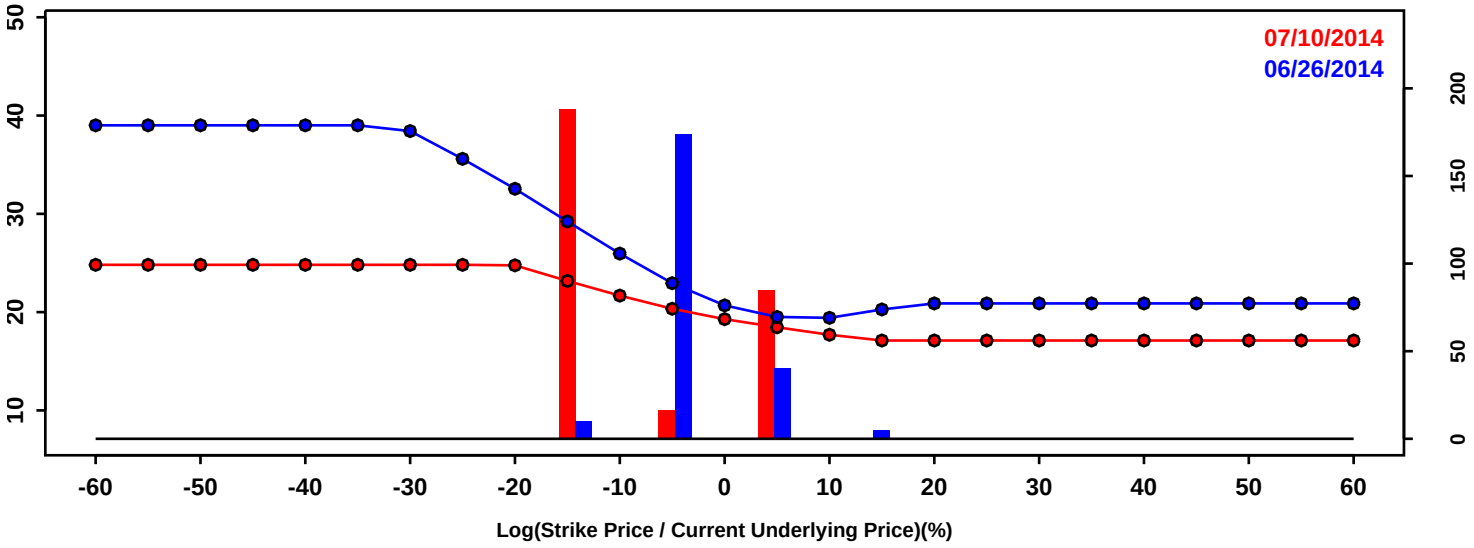
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-11.08%	-11.35%	-0.27%
50th Pct	0.88%	0.71%	-0.17%
90th Pct	9.84%	10.32%	0.48%
Mean	-0.03%	-0.05%	-0.02%
Std Dev	8.56%	8.85%	0.30%
Skew	-0.74	-0.64	0.10
Kurtosis	1.26	1.04	-0.21

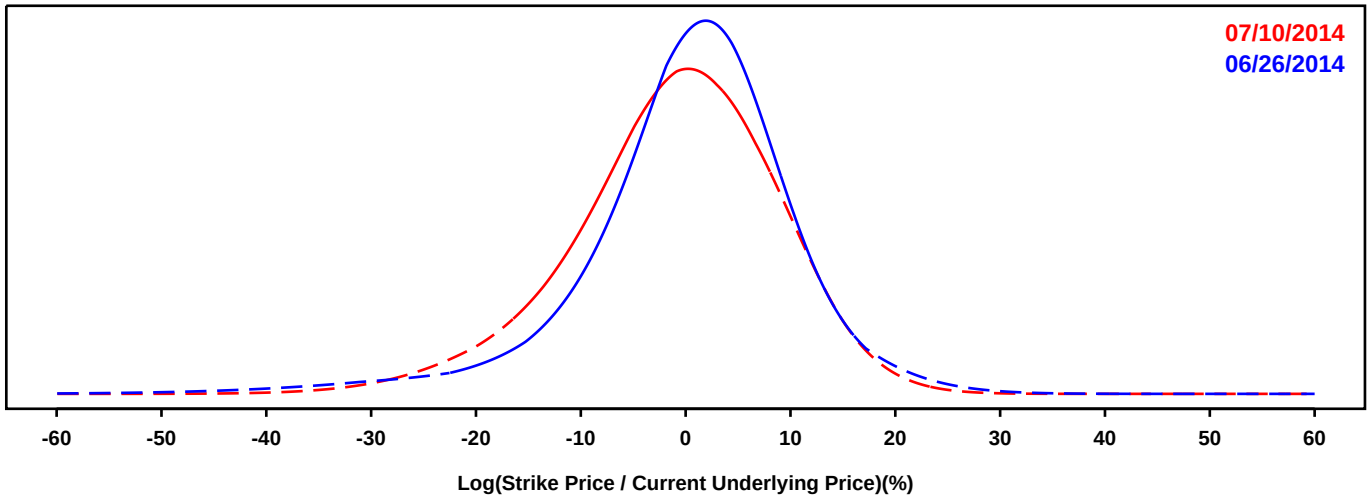
MARKET PROBABILITY DENSITY FUNCTIONS -- FIFTH THIRD

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

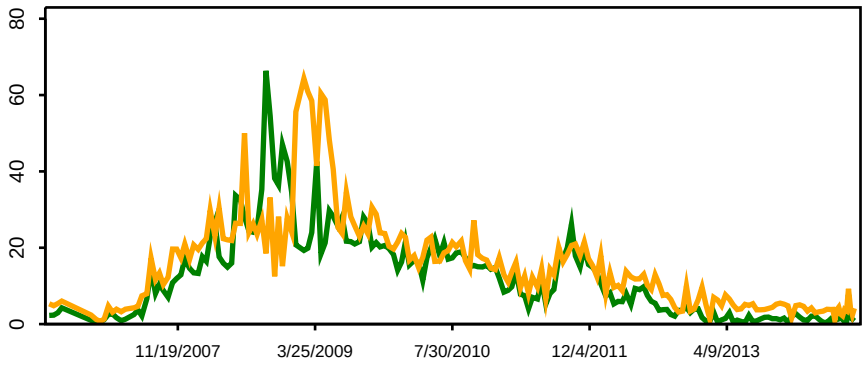
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

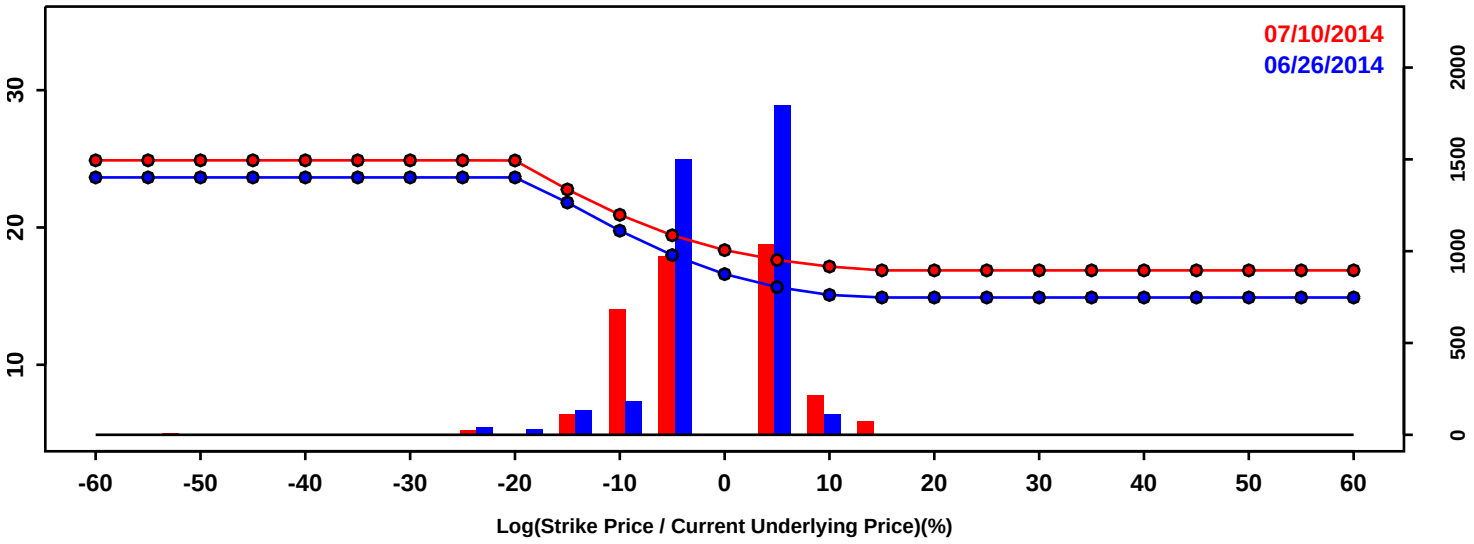
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-11.72%	-13.93%	-2.21%
50th Pct	1.14%	-0.37%	-1.51%
90th Pct	11.39%	10.82%	-0.57%
Mean	0.16%	-1.05%	-1.21%
Std Dev	10.44%	9.88%	-0.56%
Skew	-1.06	-0.46	0.59
Kurtosis	3.36	0.53	-2.83

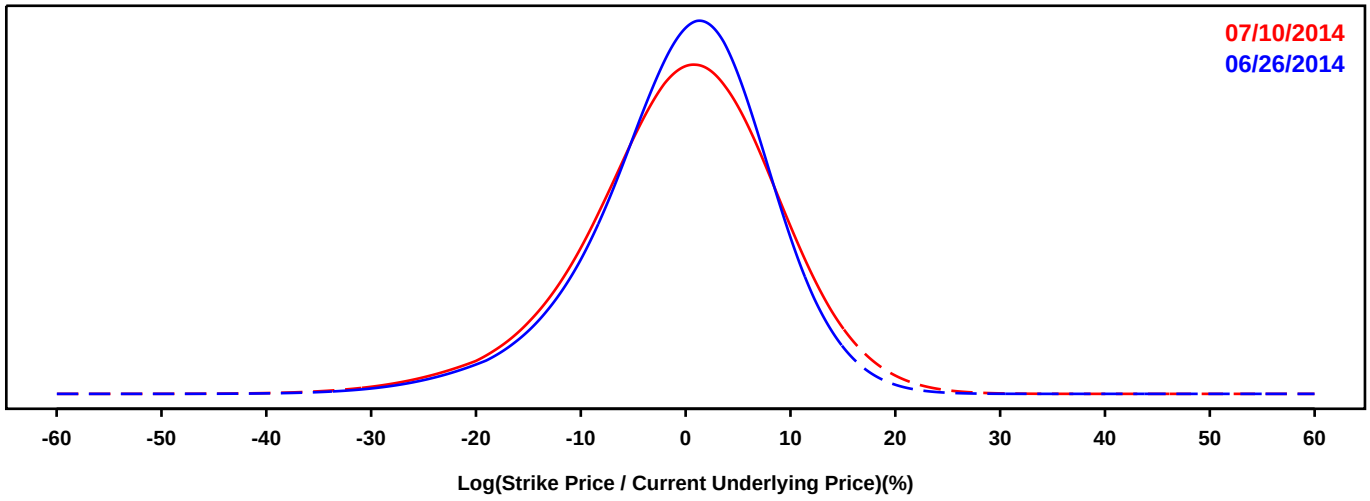
MARKET PROBABILITY DENSITY FUNCTIONS -- GOLDMAN SACHS

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

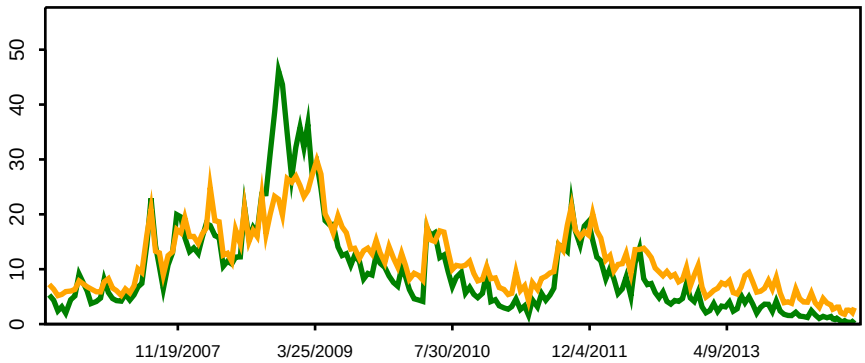
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



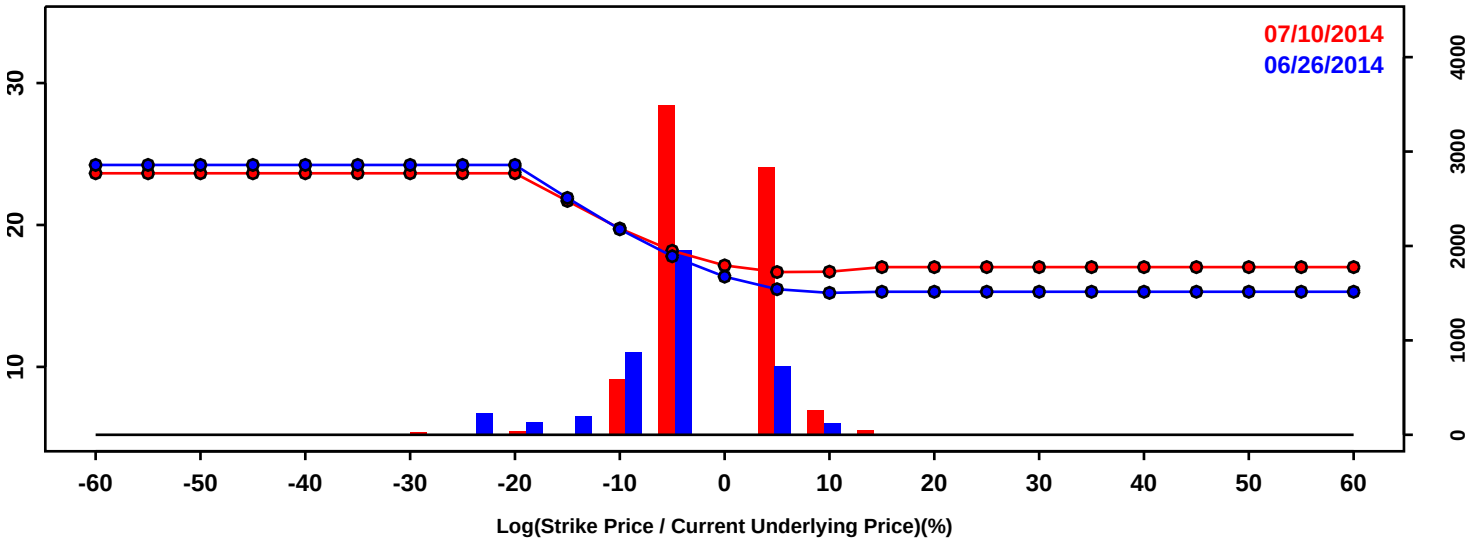
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-11.31%	-12.24%	-0.93%
50th Pct	0.24%	0.09%	-0.15%
90th Pct	9.47%	10.66%	1.19%
Mean	-0.46%	-0.45%	0.00%
Std Dev	8.47%	9.27%	0.80%
Skew	-0.59	-0.46	0.13
Kurtosis	0.96	0.75	-0.22

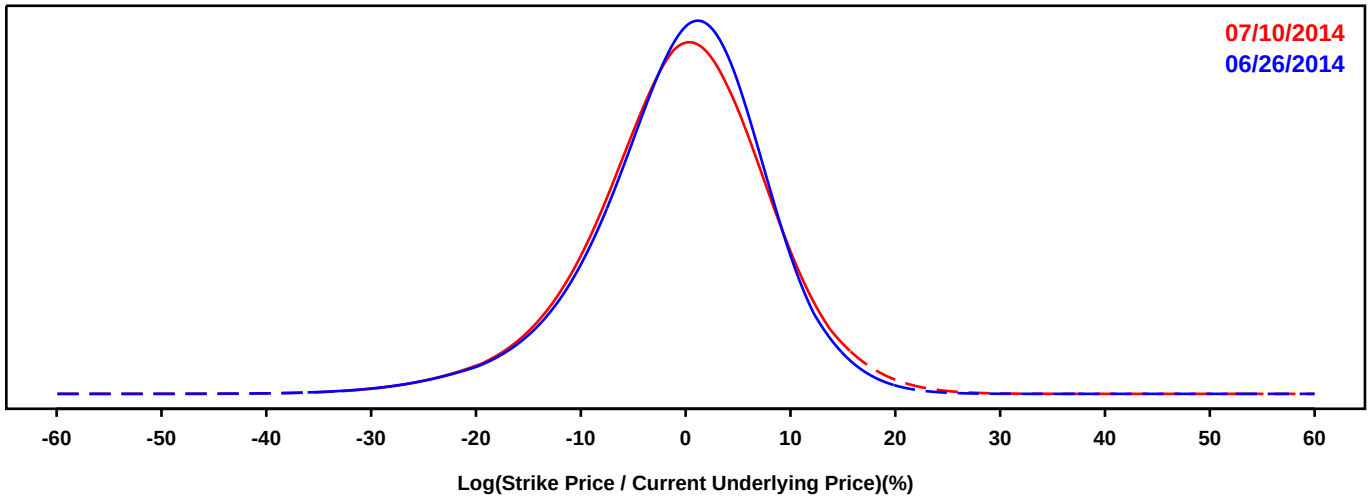
MARKET PROBABILITY DENSITY FUNCTIONS -- JP MORGAN

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

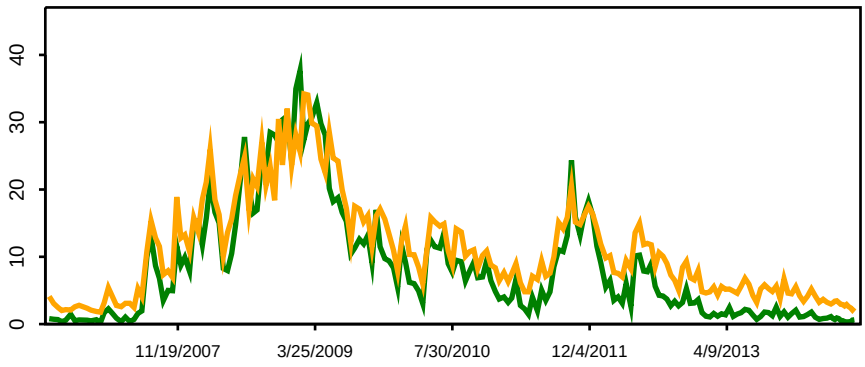
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

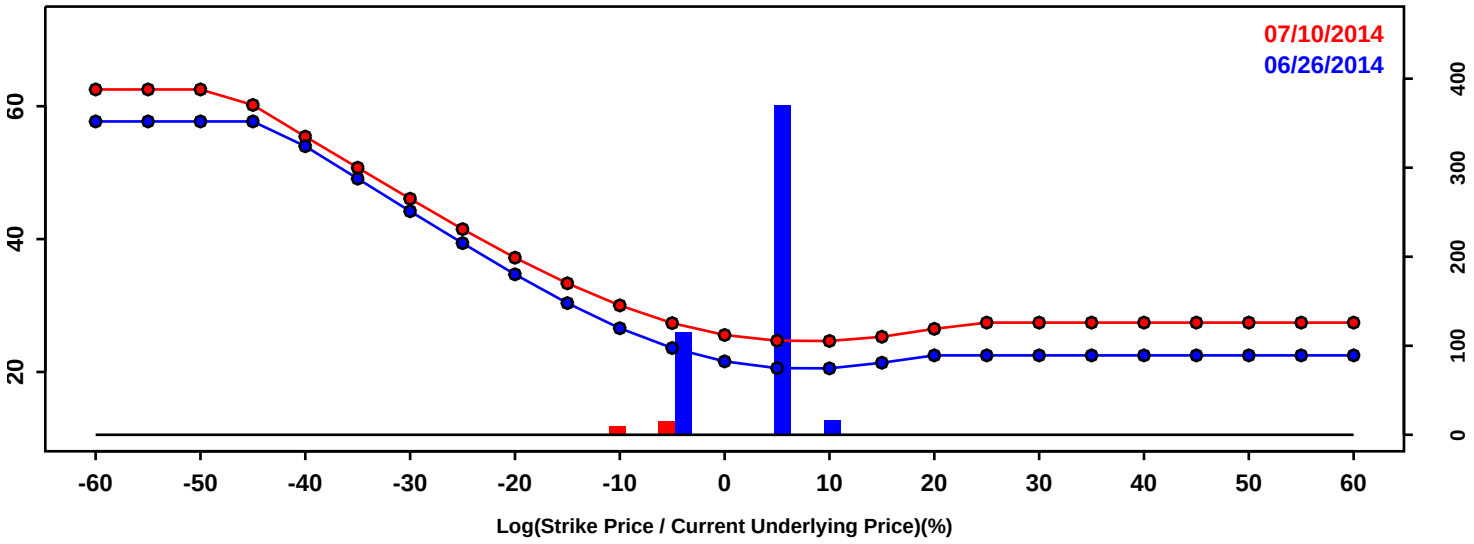
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-11.19%	-11.47%	-0.28%
50th Pct	0.14%	-0.10%	-0.24%
90th Pct	9.04%	9.72%	0.68%
Mean	-0.59%	-0.56%	0.03%
Std Dev	8.33%	8.65%	0.32%
Skew	-0.62	-0.42	0.20
Kurtosis	1.17	0.88	-0.29

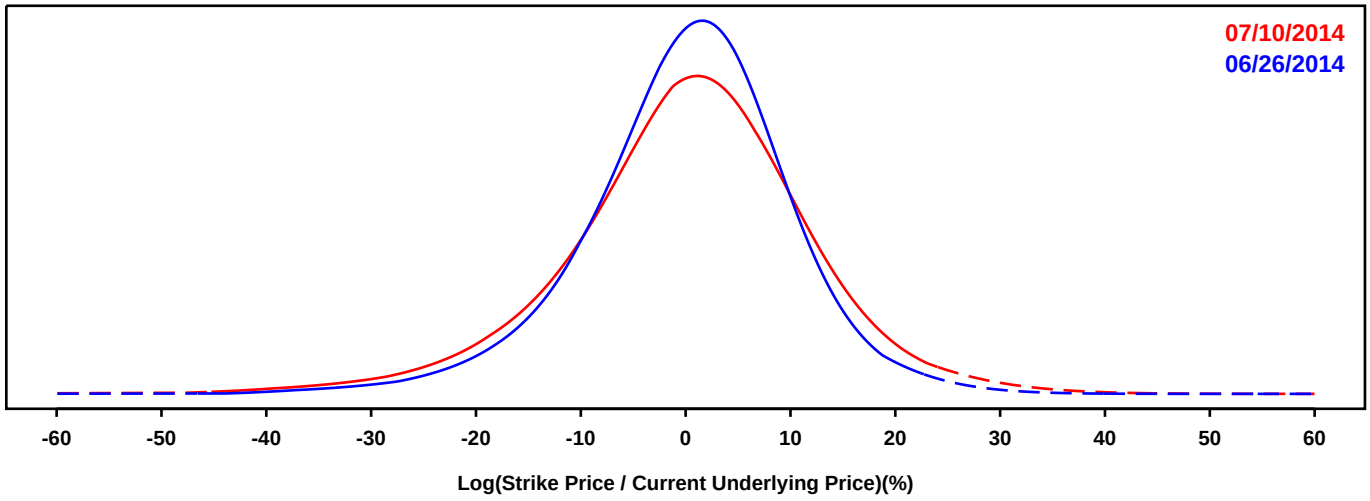
MARKET PROBABILITY DENSITY FUNCTIONS -- KEYCORP

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

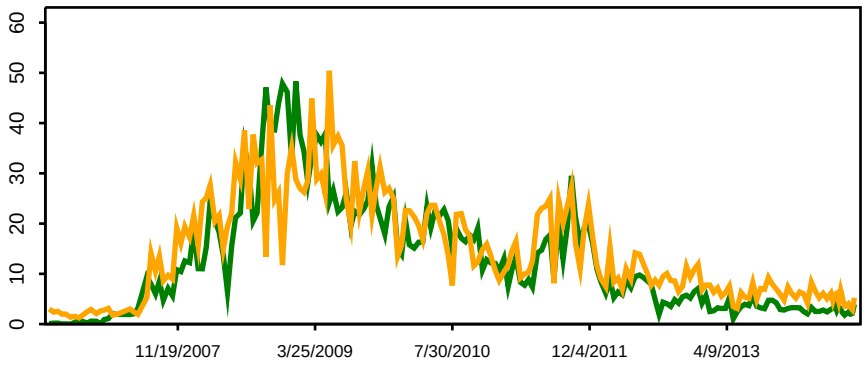
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

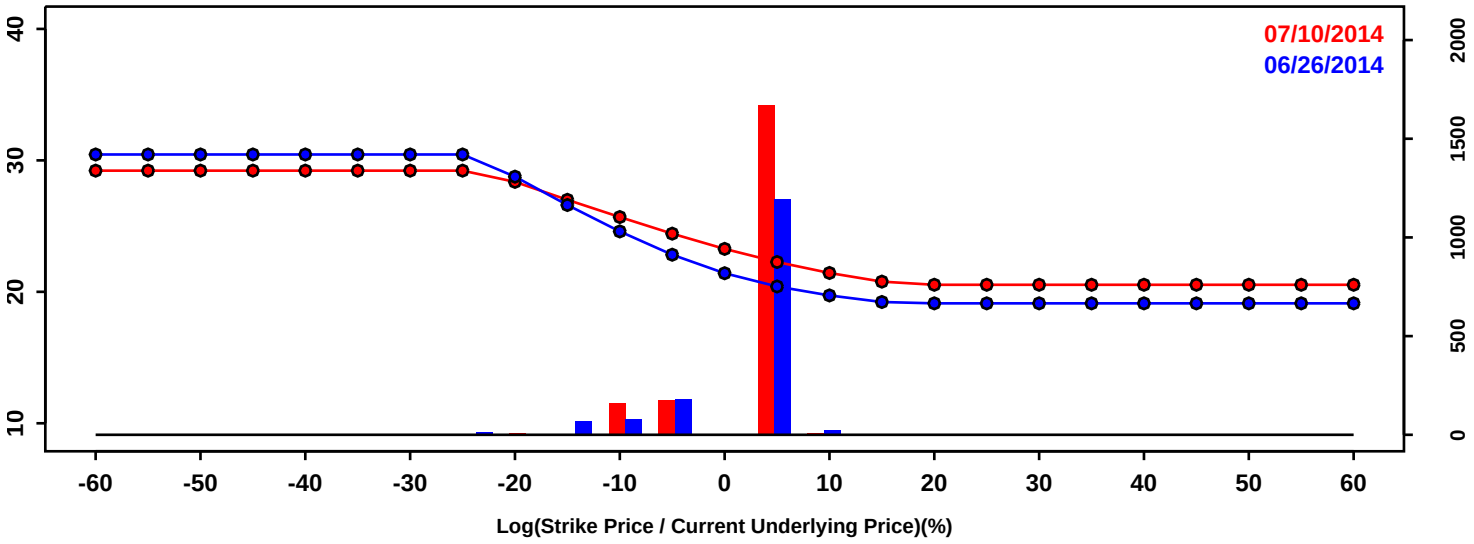
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-12.17%	-14.48%	-2.31%
50th Pct	0.69%	0.71%	0.02%
90th Pct	11.68%	14.10%	2.42%
Mean	0.14%	0.14%	0.00%
Std Dev	10.01%	12.12%	2.11%
Skew	-0.50	-0.58	-0.08
Kurtosis	1.92	2.58	0.65

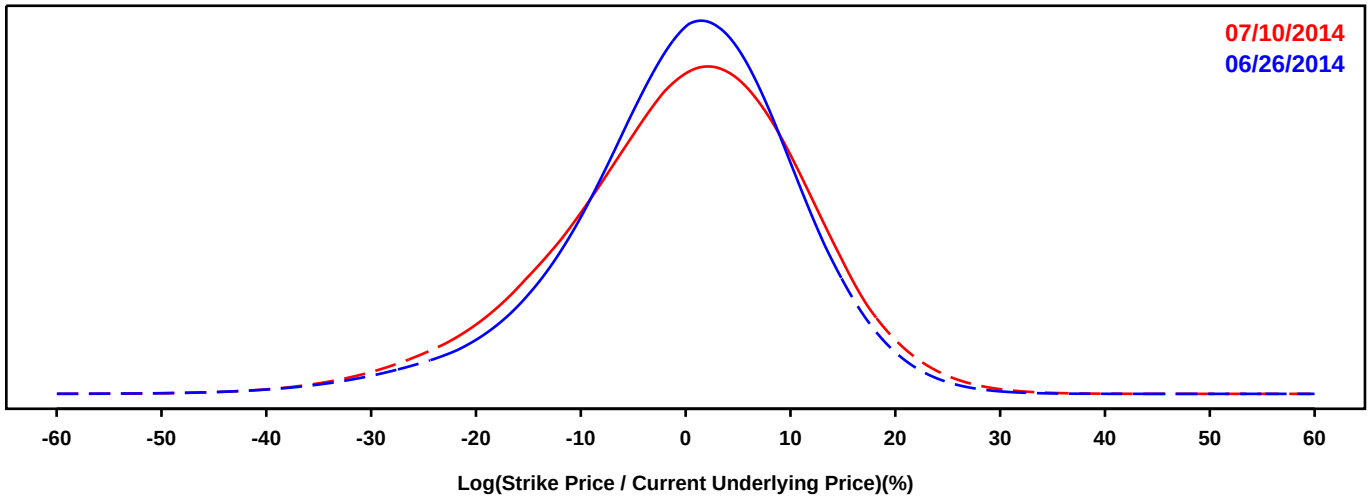
MARKET PROBABILITY DENSITY FUNCTIONS -- MORGAN STANLEY

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

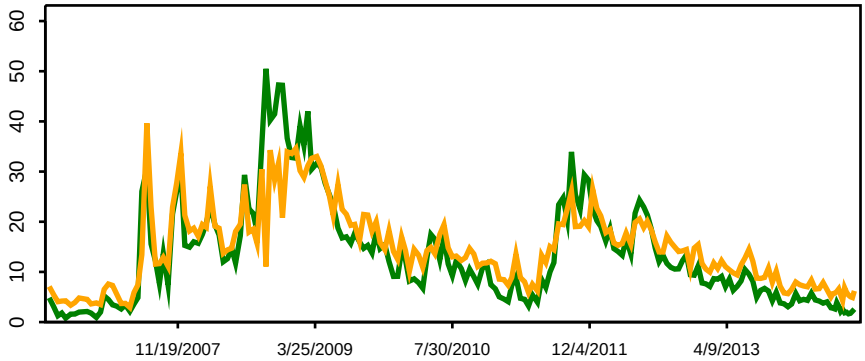
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

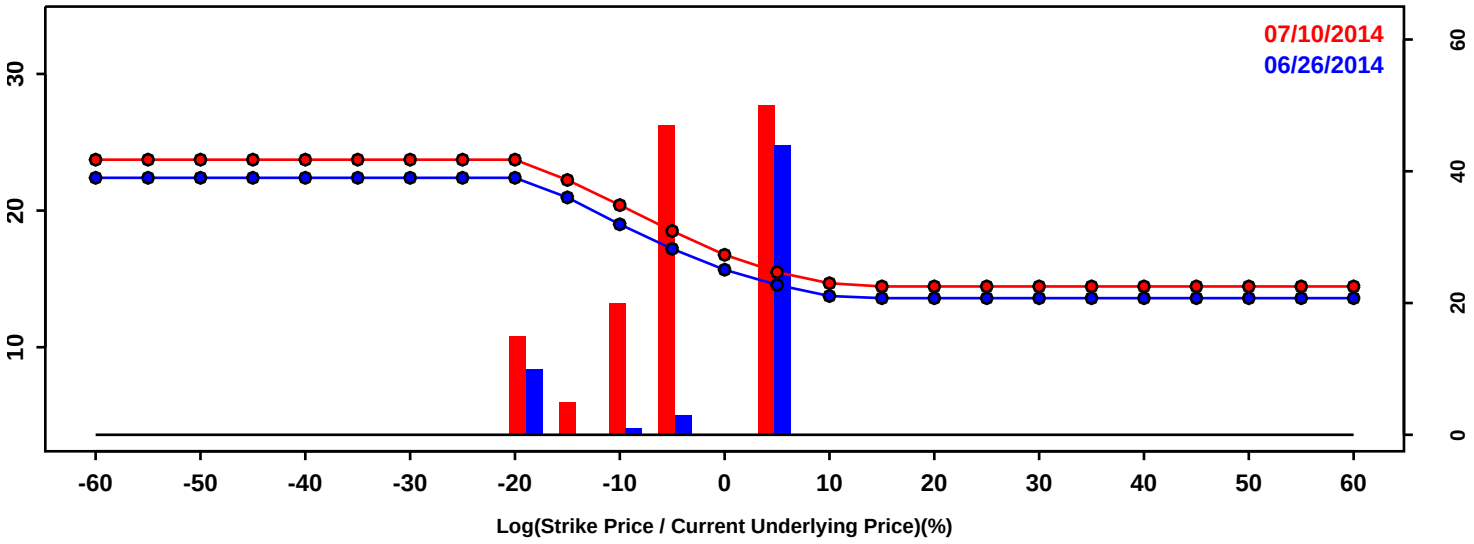
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-14.32%	-16.06%	-1.75%
50th Pct	0.48%	0.47%	-0.01%
90th Pct	12.35%	13.50%	1.15%
Mean	-0.41%	-0.50%	-0.09%
Std Dev	10.90%	11.79%	0.89%
Skew	-0.61	-0.48	0.13
Kurtosis	1.03	0.48	-0.55

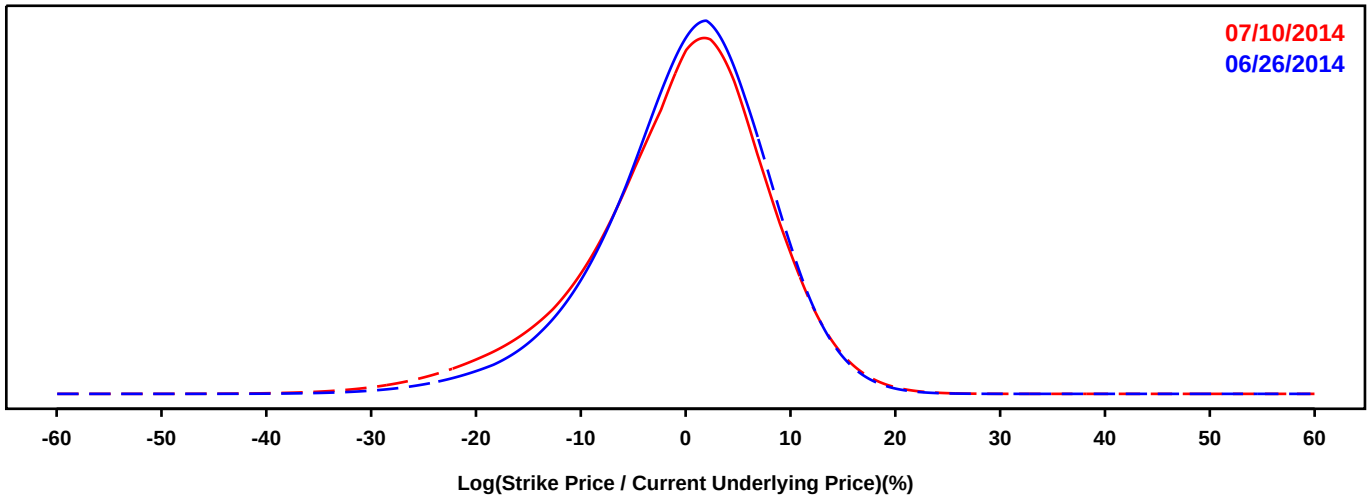
MARKET PROBABILITY DENSITY FUNCTIONS -- PNC FINANCIAL

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

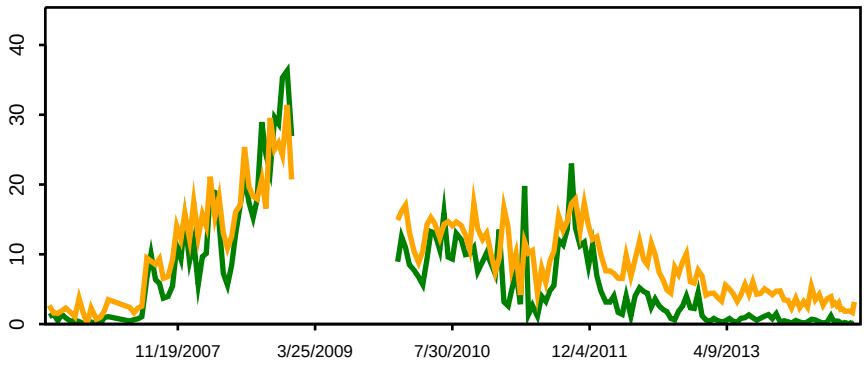
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



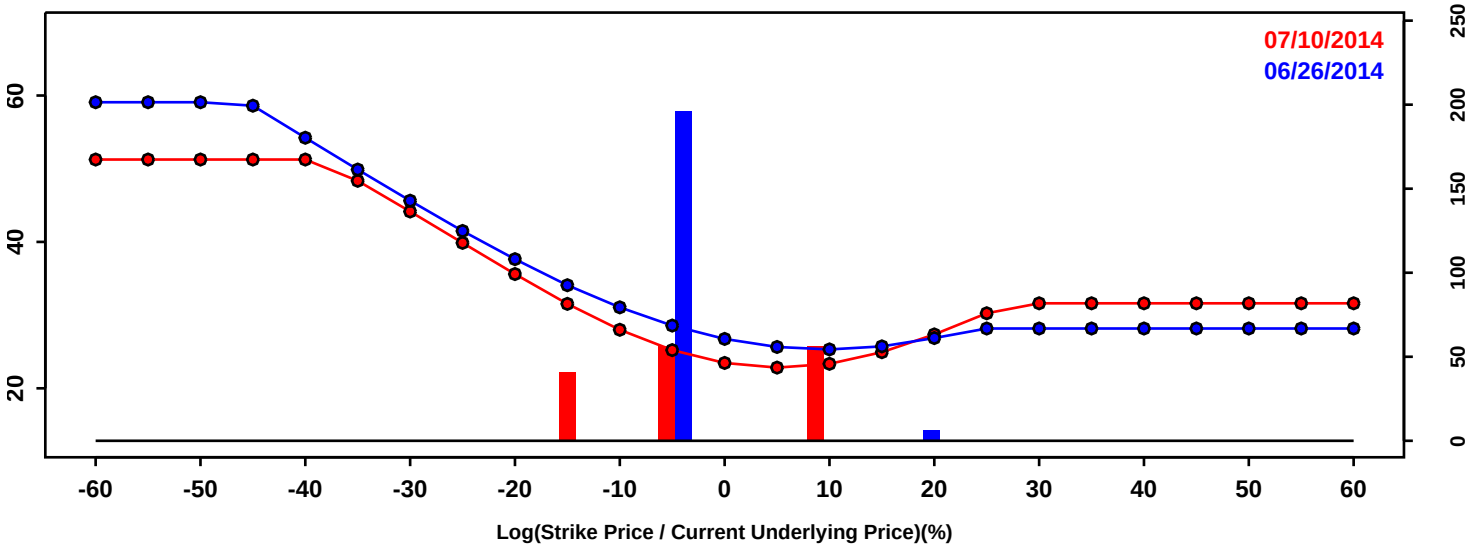
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-10.35%	-12.33%	-1.98%
50th Pct	0.66%	0.30%	-0.36%
90th Pct	9.22%	9.19%	-0.03%
Mean	-0.06%	-0.77%	-0.71%
Std Dev	7.93%	8.72%	0.79%
Skew	-0.62	-0.72	-0.09
Kurtosis	0.97	1.02	0.05

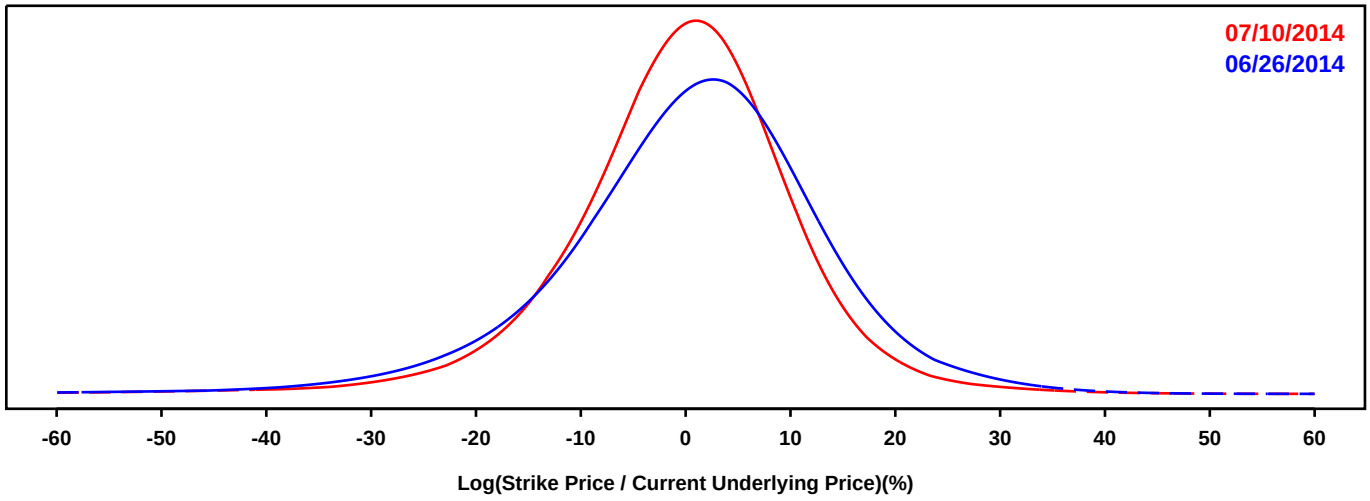
MARKET PROBABILITY DENSITY FUNCTIONS -- REGIONS FINANCIAL

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

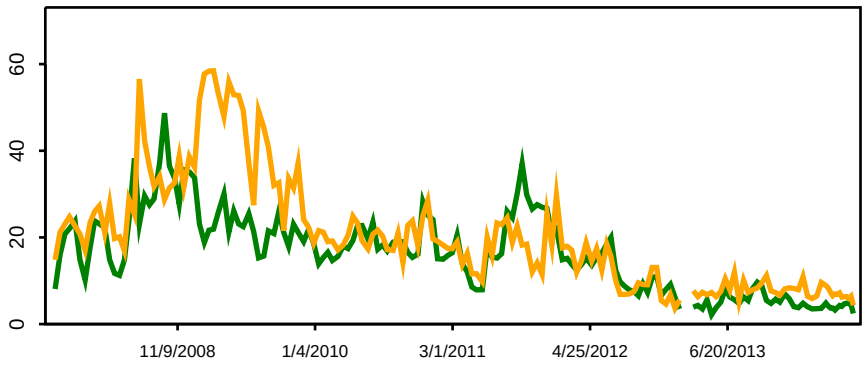
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

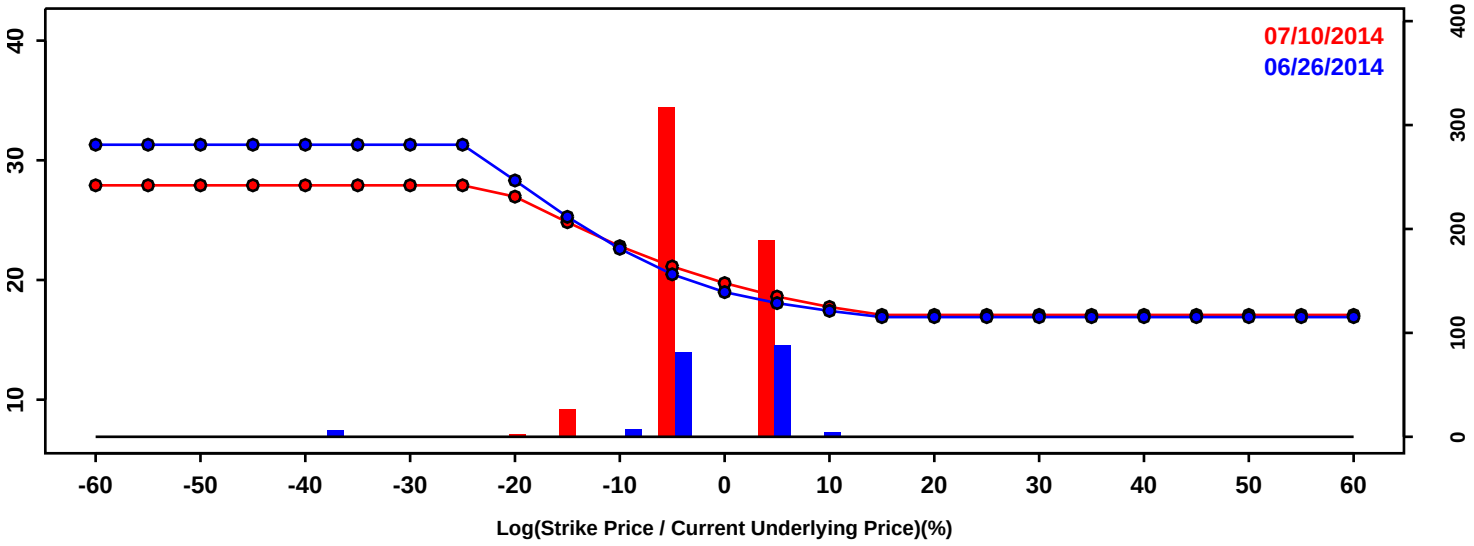
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-15.17%	-13.45%	1.72%
50th Pct	1.38%	0.19%	-1.19%
90th Pct	15.14%	11.92%	-3.22%
Mean	0.47%	-0.49%	-0.95%
Std Dev	13.08%	11.31%	-1.77%
Skew	-0.78	-0.81	-0.03
Kurtosis	3.04	4.04	1.00

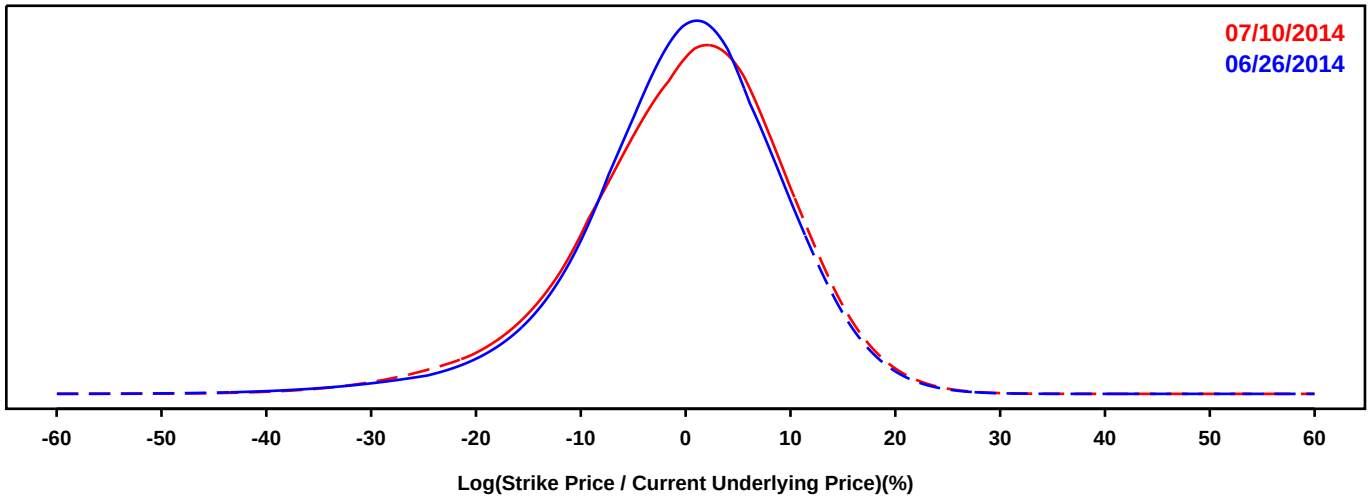
MARKET PROBABILITY DENSITY FUNCTIONS -- SUNTRUST

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

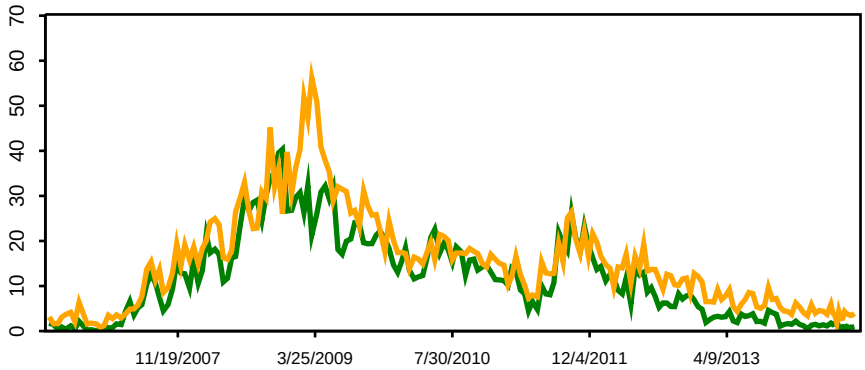
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

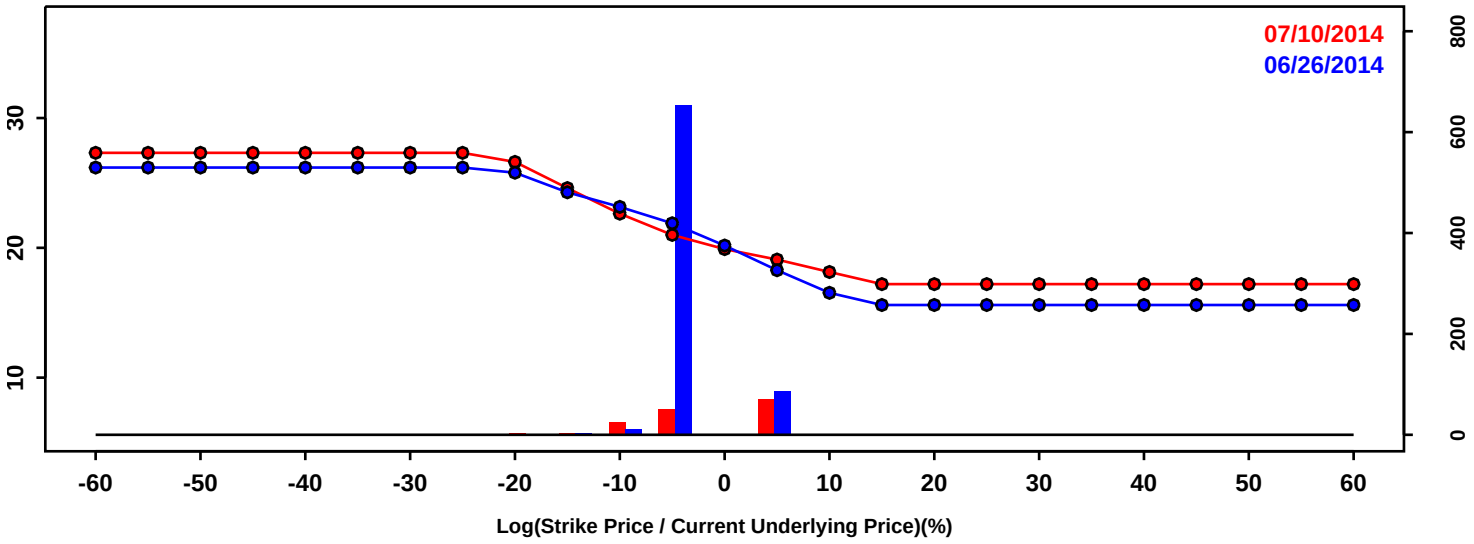
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-12.18%	-13.02%	-0.84%
50th Pct	0.36%	0.60%	0.24%
90th Pct	11.04%	11.46%	0.42%
Mean	-0.33%	-0.27%	0.06%
Std Dev	9.67%	9.99%	0.32%
Skew	-0.69	-0.60	0.09
Kurtosis	1.60	0.95	-0.65

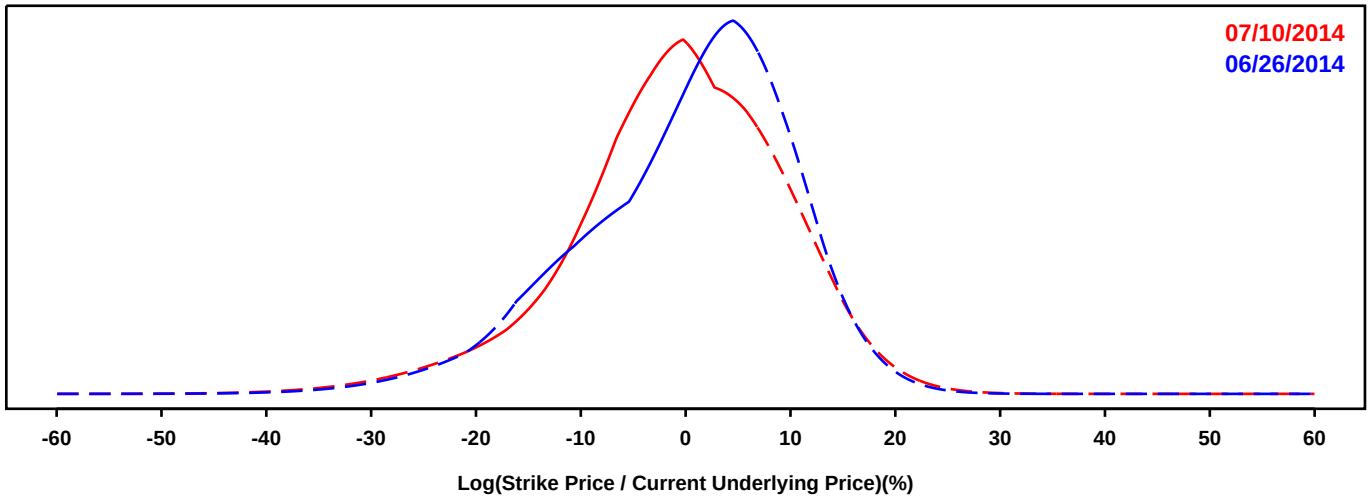
MARKET PROBABILITY DENSITY FUNCTIONS -- STATE STREET

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

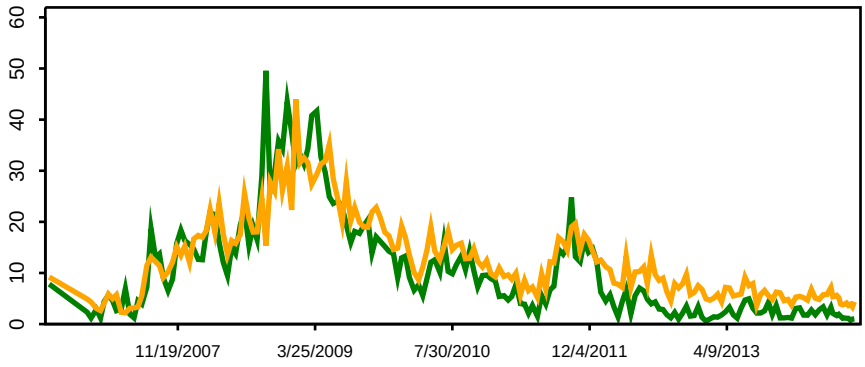
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



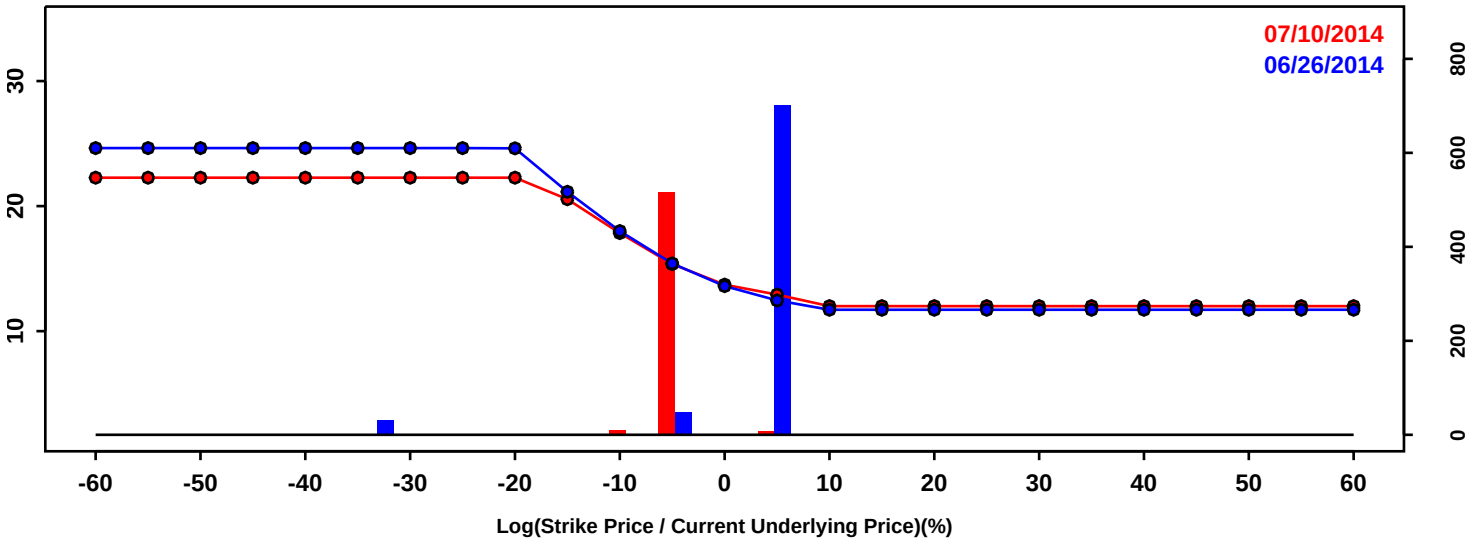
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-13.97%	-13.54%	0.43%
50th Pct	1.67%	-0.18%	-1.86%
90th Pct	11.66%	11.56%	-0.10%
Mean	0.12%	-0.71%	-0.82%
Std Dev	10.15%	10.17%	0.02%
Skew	-0.66	-0.53	0.12
Kurtosis	0.48	0.81	0.33

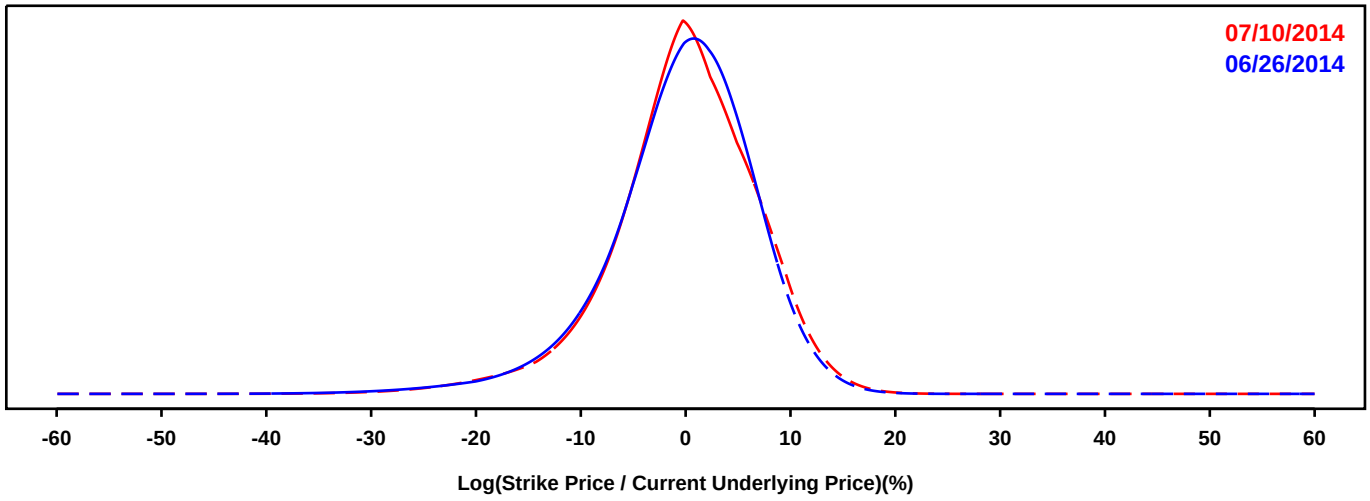
MARKET PROBABILITY DENSITY FUNCTIONS -- US BANCORP

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

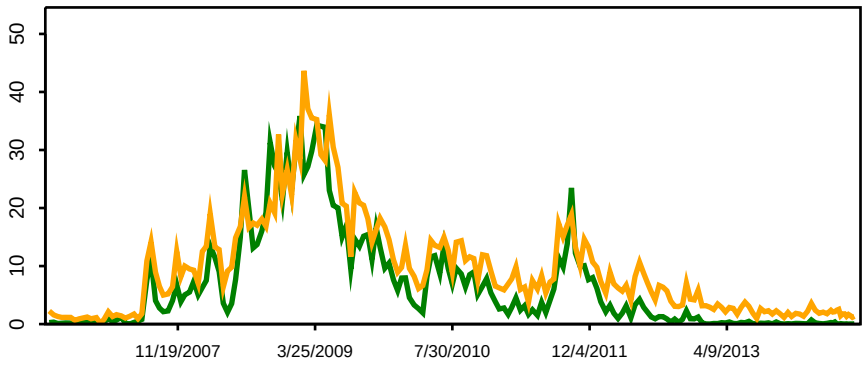
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

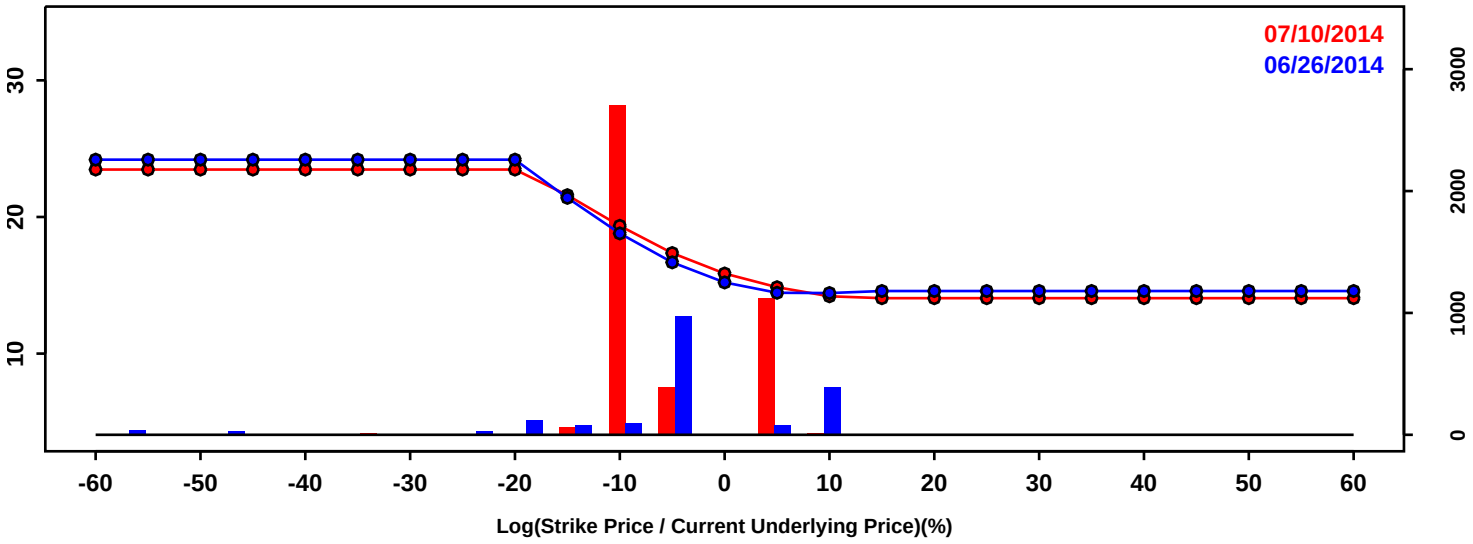
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-8.94%	-8.64%	0.30%
50th Pct	0.28%	0.20%	-0.07%
90th Pct	7.67%	8.17%	0.50%
Mean	-0.33%	-0.14%	0.19%
Std Dev	7.00%	6.99%	-0.01%
Skew	-0.85	-0.70	0.16
Kurtosis	2.04	1.59	-0.44

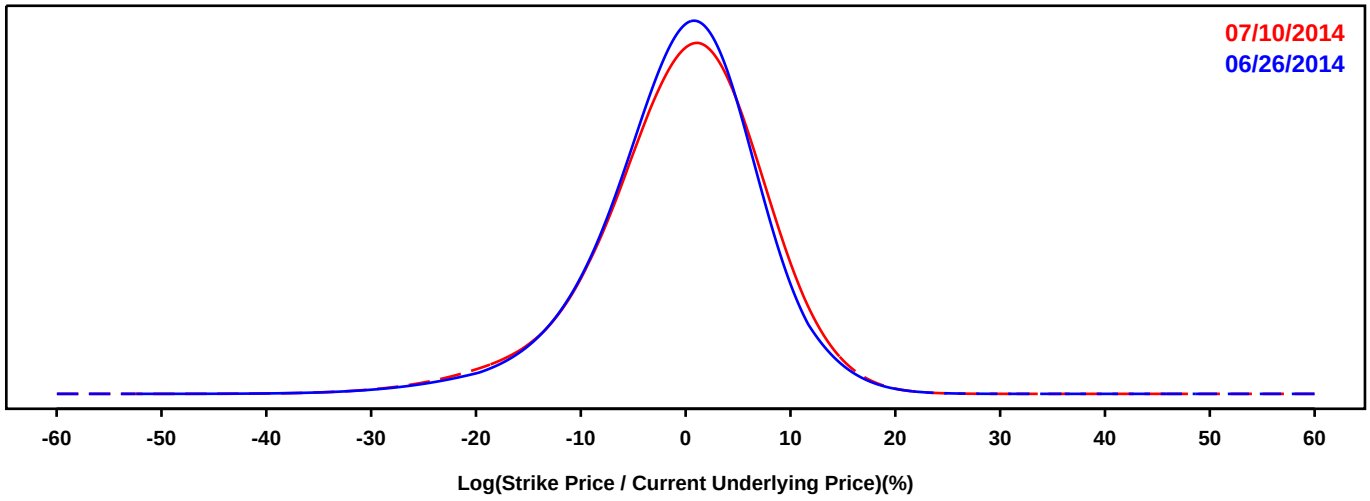
MARKET PROBABILITY DENSITY FUNCTIONS -- WELLS FARGO

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

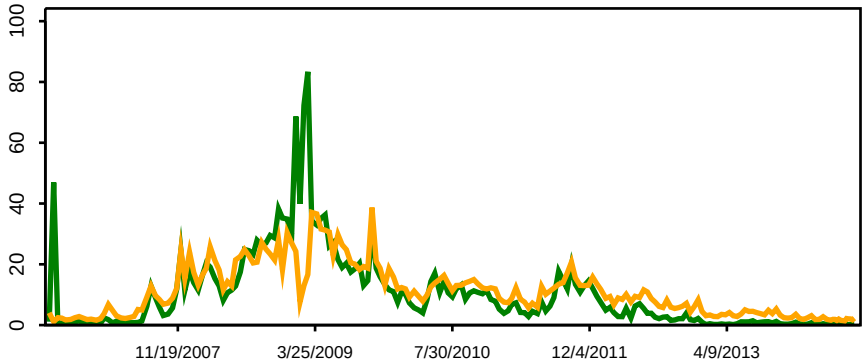
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

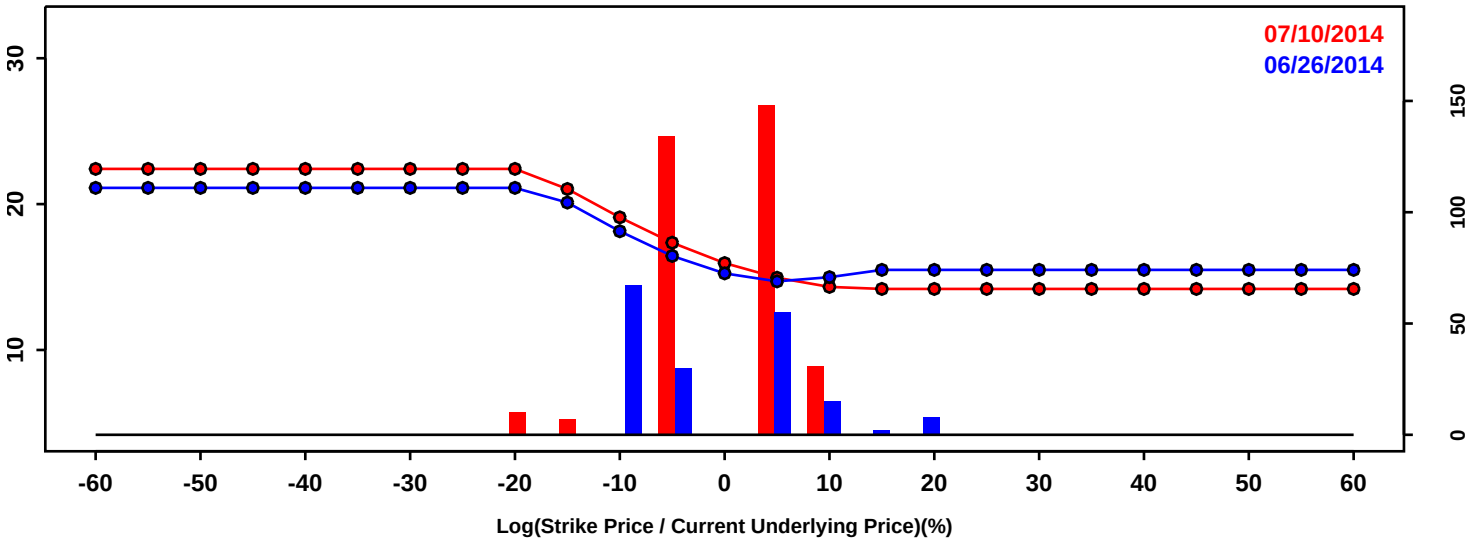
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-10.41%	-10.74%	-0.33%
50th Pct	-0.08%	0.17%	0.25%
90th Pct	8.23%	8.88%	0.65%
Mean	-0.71%	-0.52%	0.19%
Std Dev	7.78%	8.09%	0.30%
Skew	-0.66	-0.65	0.00
Kurtosis	1.47	1.19	-0.28

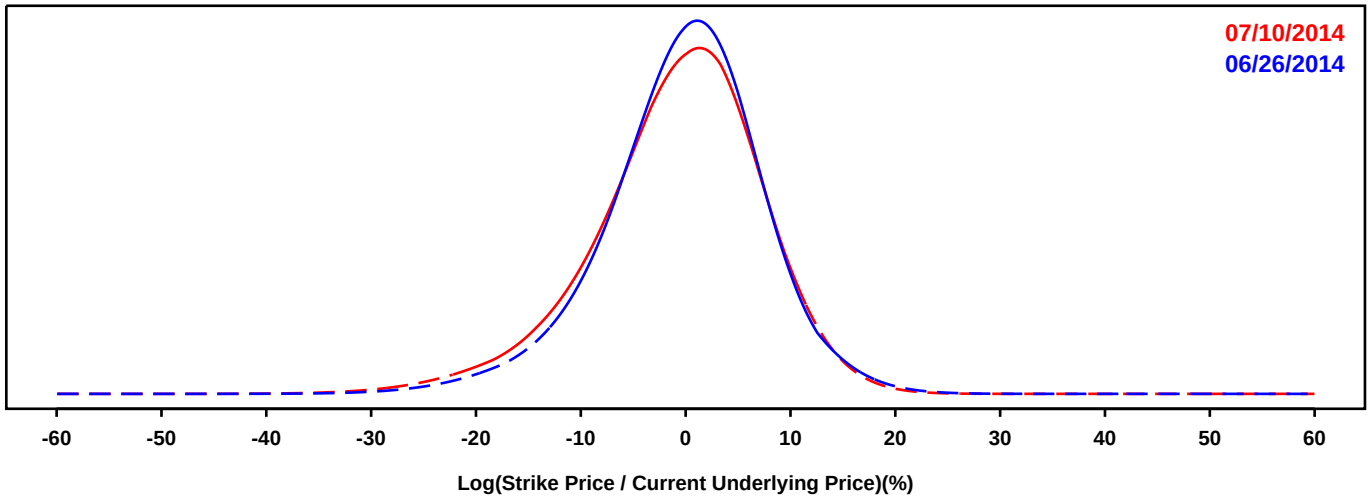
MARKET PROBABILITY DENSITY FUNCTIONS -- AFLAC

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

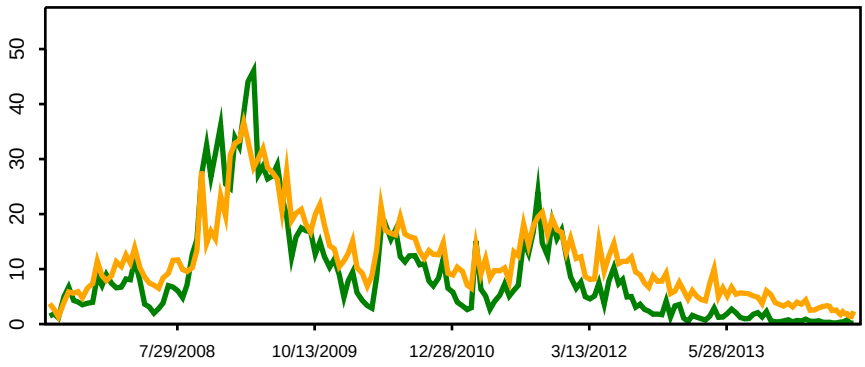
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

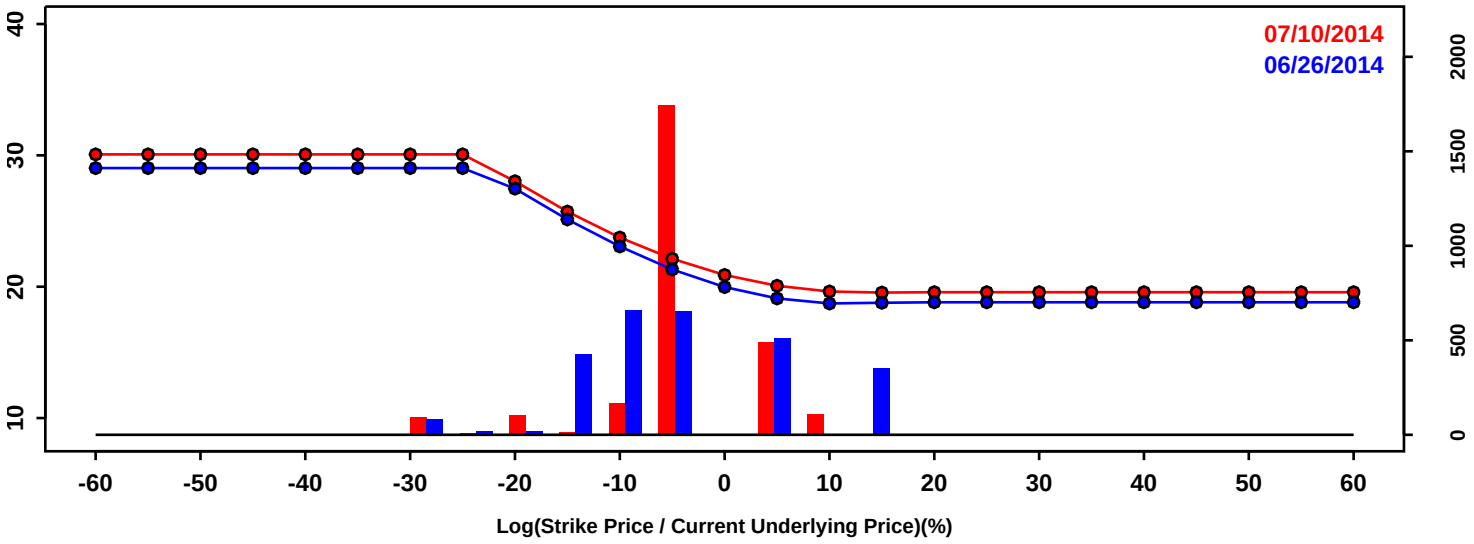
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-9.90%	-11.39%	-1.49%
50th Pct	0.24%	-0.11%	-0.35%
90th Pct	8.72%	8.72%	0.01%
Mean	-0.23%	-0.83%	-0.61%
Std Dev	7.63%	8.18%	0.54%
Skew	-0.44	-0.59	-0.15
Kurtosis	0.96	0.90	-0.06

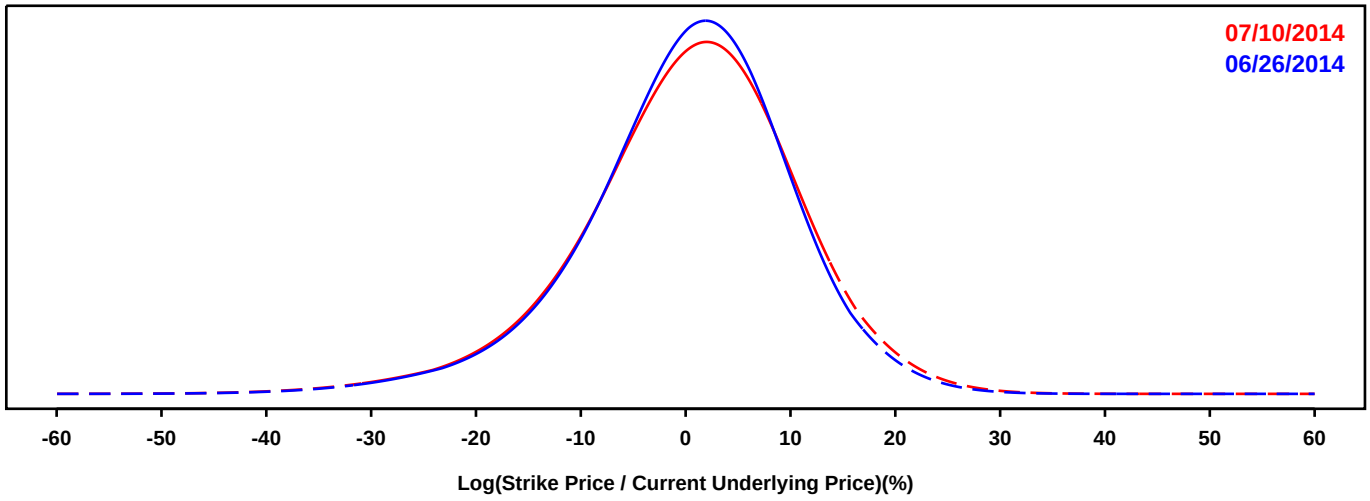
MARKET PROBABILITY DENSITY FUNCTIONS -- AIG

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

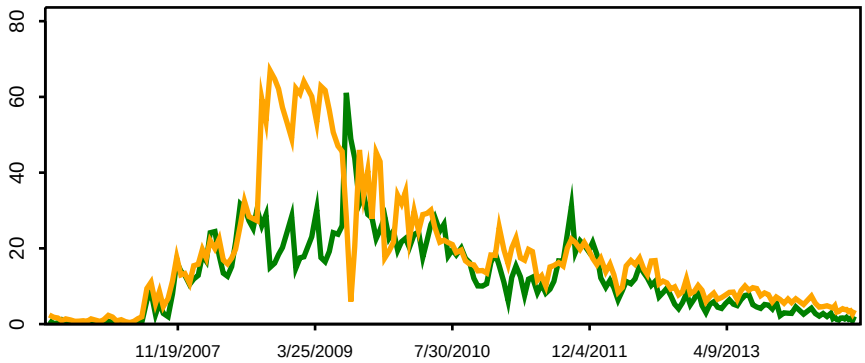
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

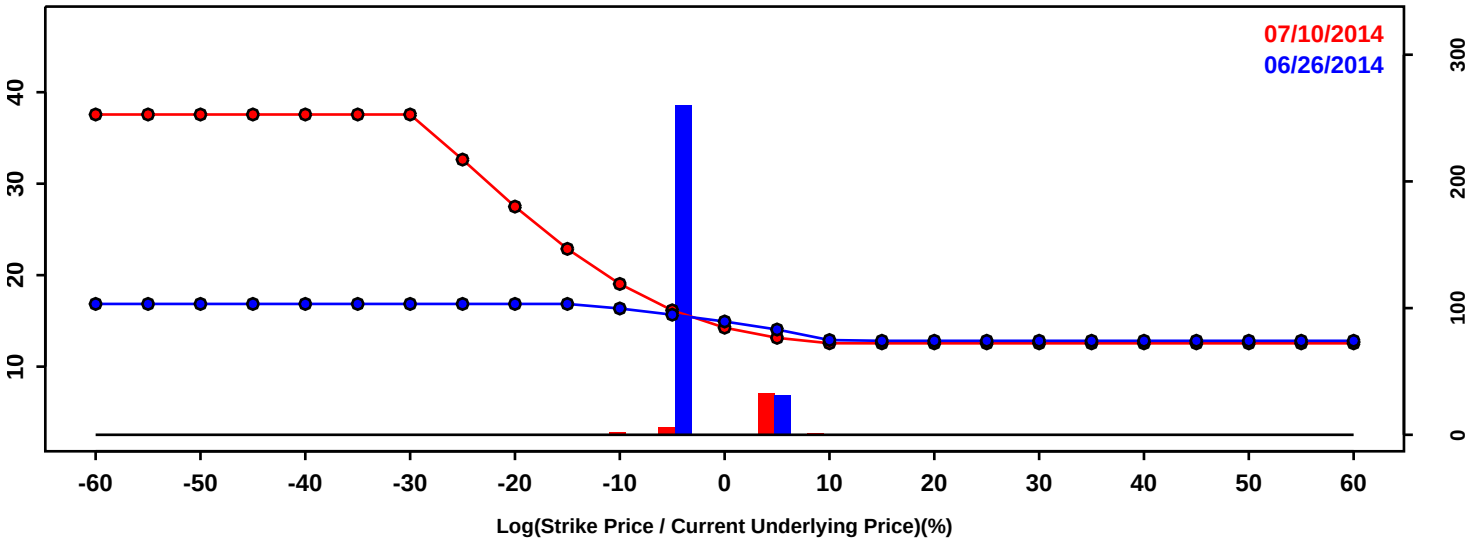
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-12.44%	-12.81%	-0.37%
50th Pct	0.90%	0.99%	0.09%
90th Pct	11.88%	12.64%	0.76%
Mean	0.17%	0.35%	0.18%
Std Dev	9.99%	10.42%	0.43%
Skew	-0.54	-0.50	0.04
Kurtosis	1.09	0.99	-0.10

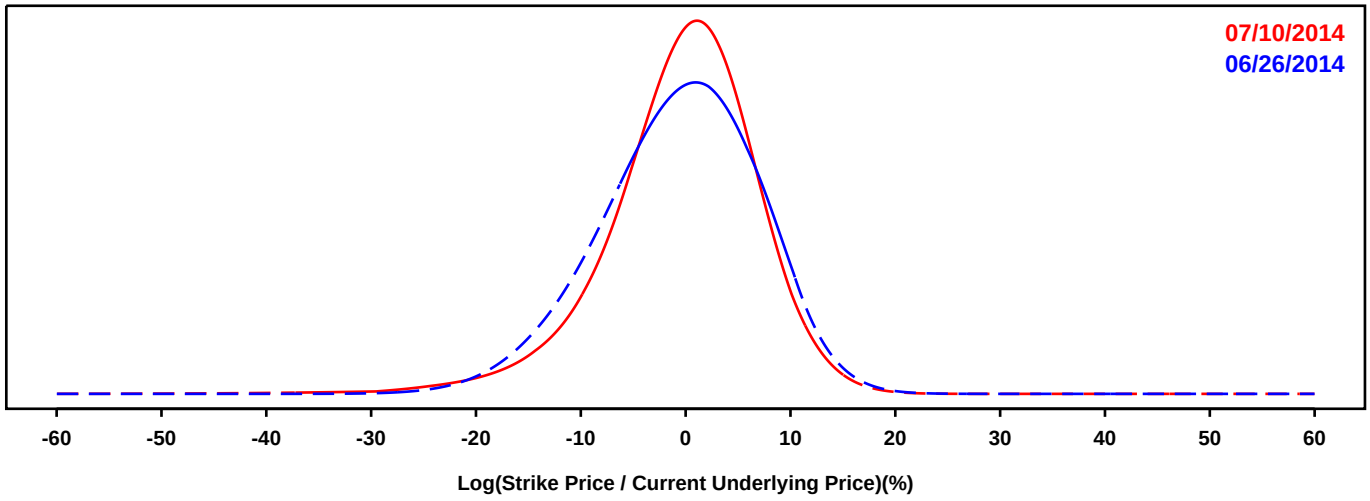
MARKET PROBABILITY DENSITY FUNCTIONS -- ALLSTATE

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

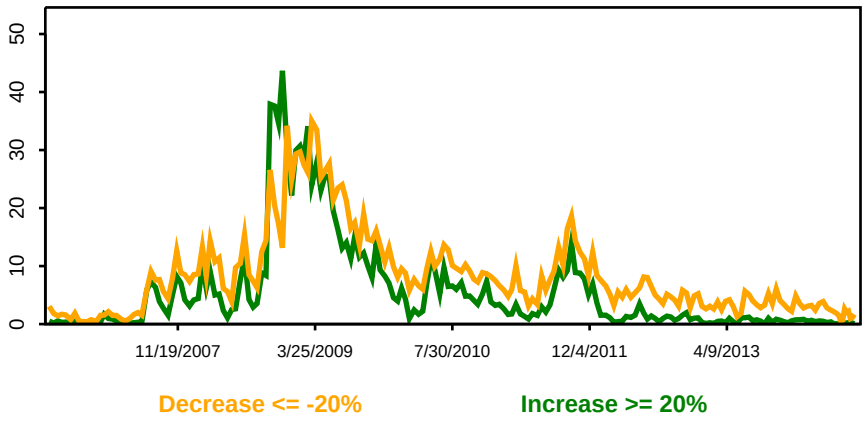
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



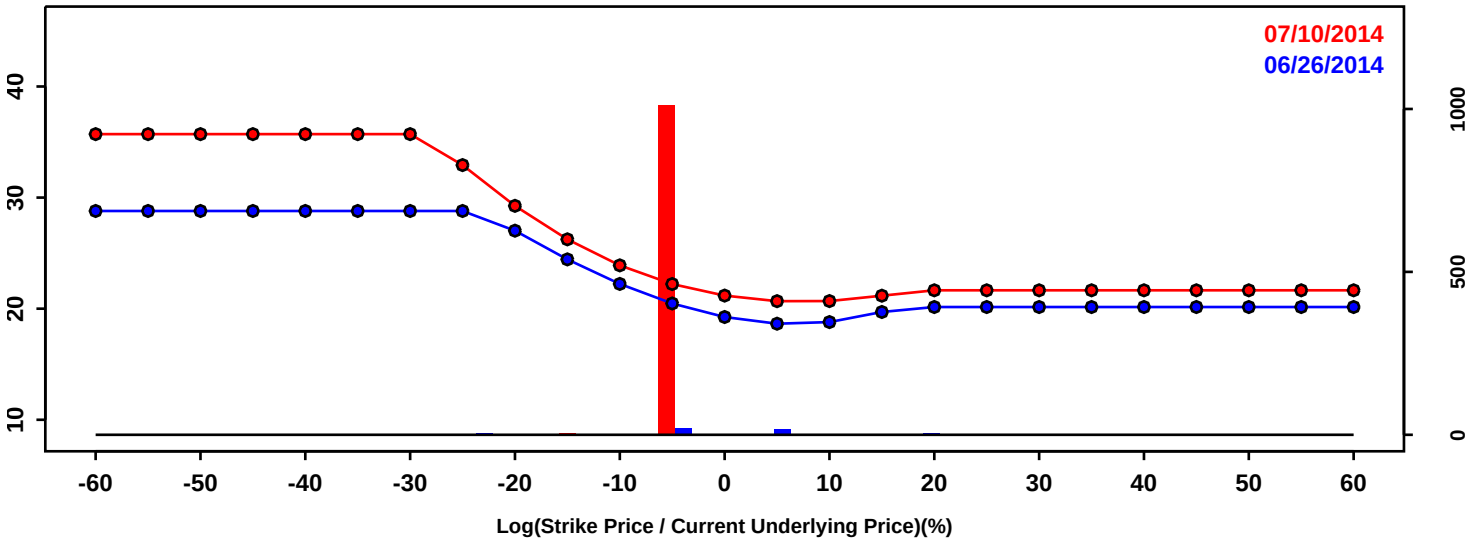
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-10.72%	-9.50%	1.22%
50th Pct	-0.16%	0.22%	0.37%
90th Pct	8.74%	7.94%	-0.81%
Mean	-0.60%	-0.46%	0.14%
Std Dev	7.58%	7.45%	-0.12%
Skew	-0.32	-1.02	-0.70
Kurtosis	0.06	3.43	3.38

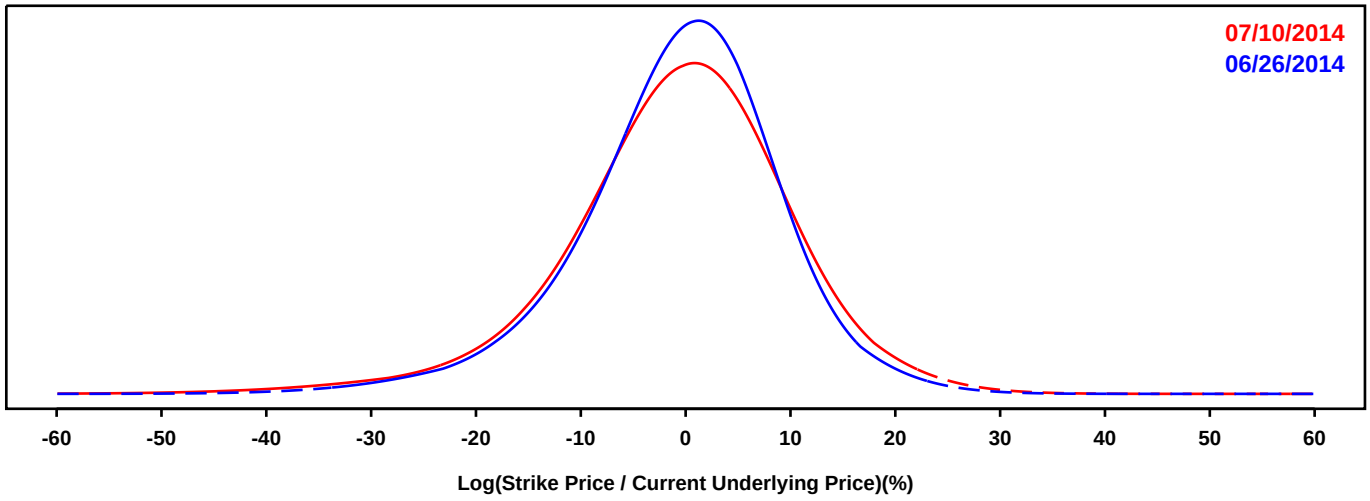
MARKET PROBABILITY DENSITY FUNCTIONS -- AMERIPRISE

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

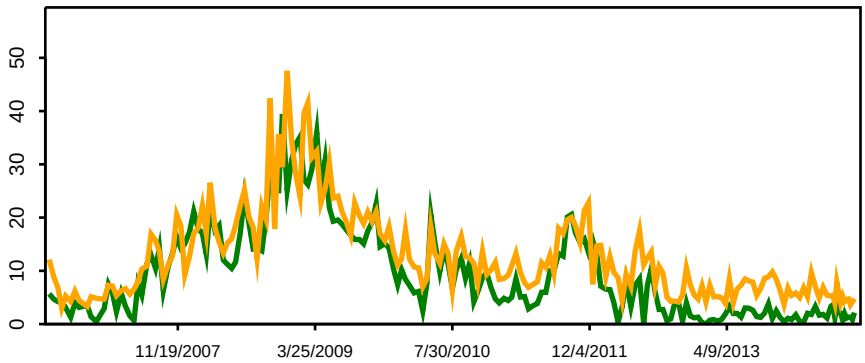
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

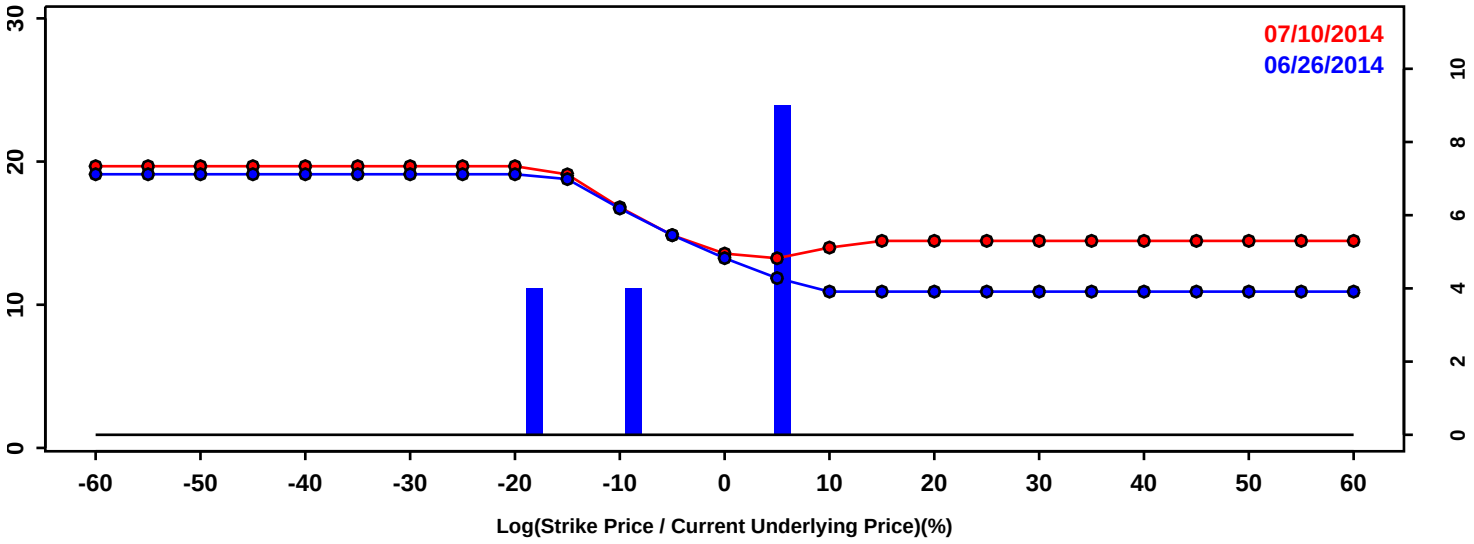
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-12.80%	-14.08%	-1.28%
50th Pct	0.09%	-0.05%	-0.14%
90th Pct	10.68%	12.07%	1.39%
Mean	-0.58%	-0.70%	-0.12%
Std Dev	9.76%	10.99%	1.23%
Skew	-0.52	-0.59	-0.07
Kurtosis	1.26	1.61	0.35

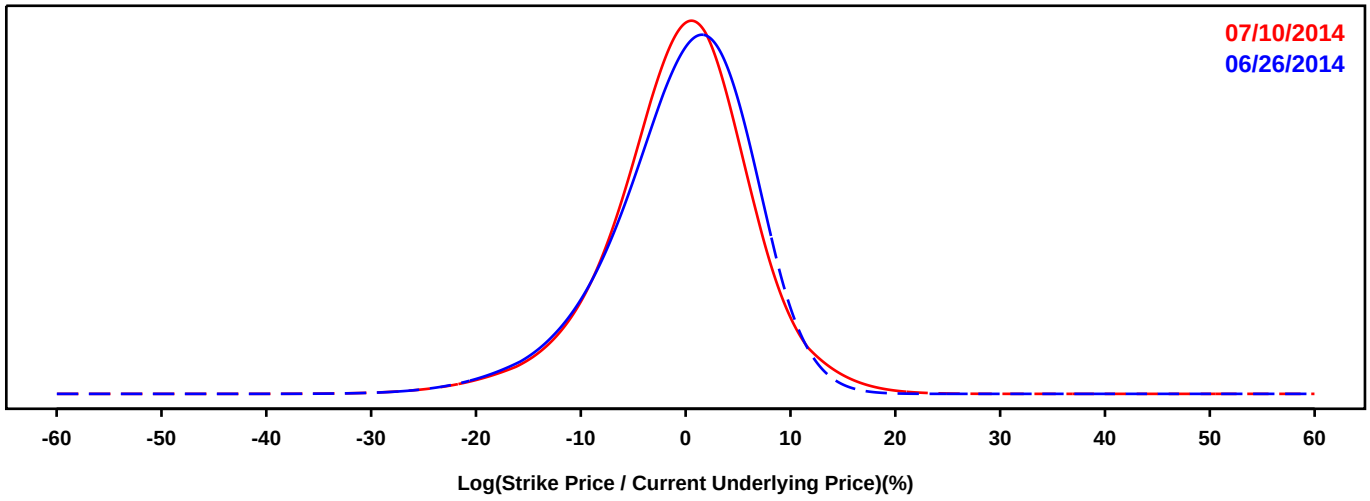
MARKET PROBABILITY DENSITY FUNCTIONS -- CHUBB

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

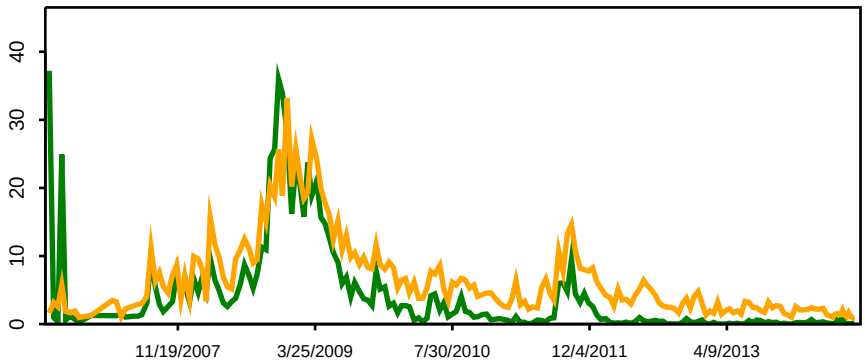
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

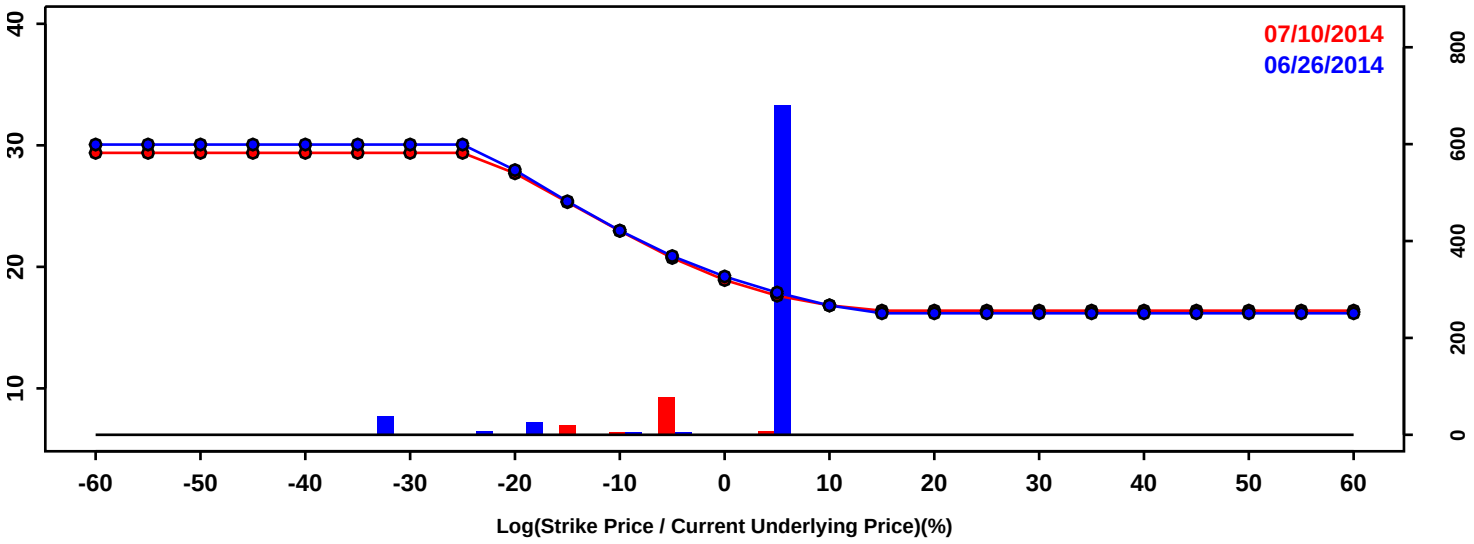
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-9.42%	-9.12%	0.30%
50th Pct	0.28%	-0.13%	-0.41%
90th Pct	7.39%	7.38%	-0.00%
Mean	-0.47%	-0.55%	-0.08%
Std Dev	6.82%	6.85%	0.03%
Skew	-0.70	-0.48	0.22
Kurtosis	0.96	1.20	0.24

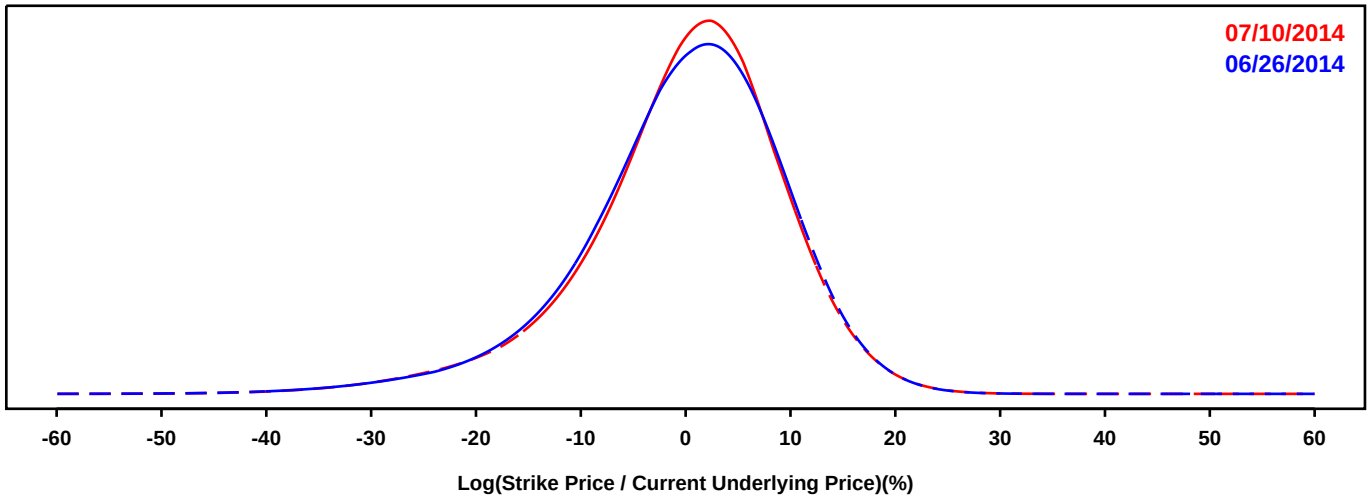
MARKET PROBABILITY DENSITY FUNCTIONS -- HARTFORD FINANCIAL

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

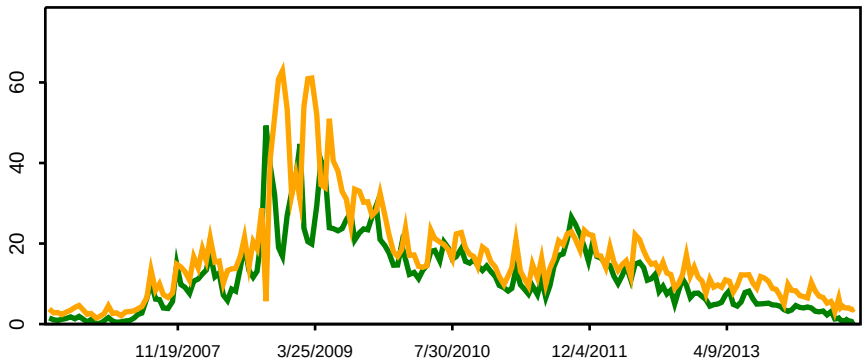
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

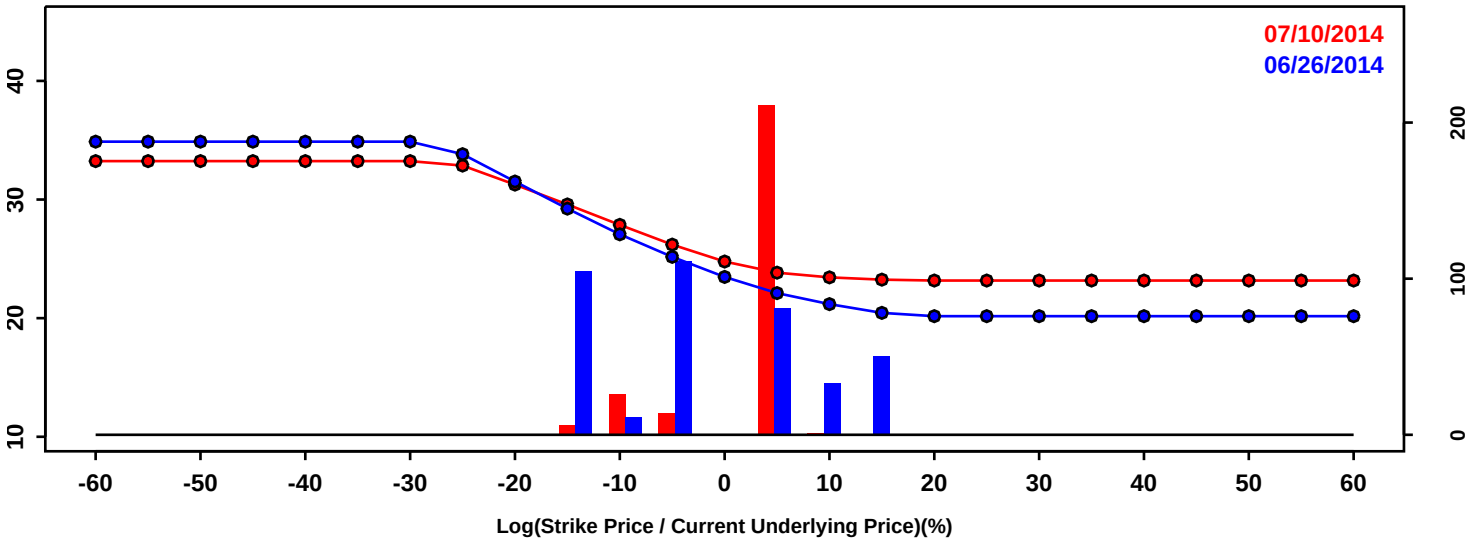
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-12.54%	-12.25%	0.28%
50th Pct	0.79%	0.91%	0.13%
90th Pct	11.06%	10.88%	-0.18%
Mean	-0.18%	-0.08%	0.10%
Std Dev	9.77%	9.64%	-0.13%
Skew	-0.76	-0.79	-0.03
Kurtosis	1.42	1.54	0.12

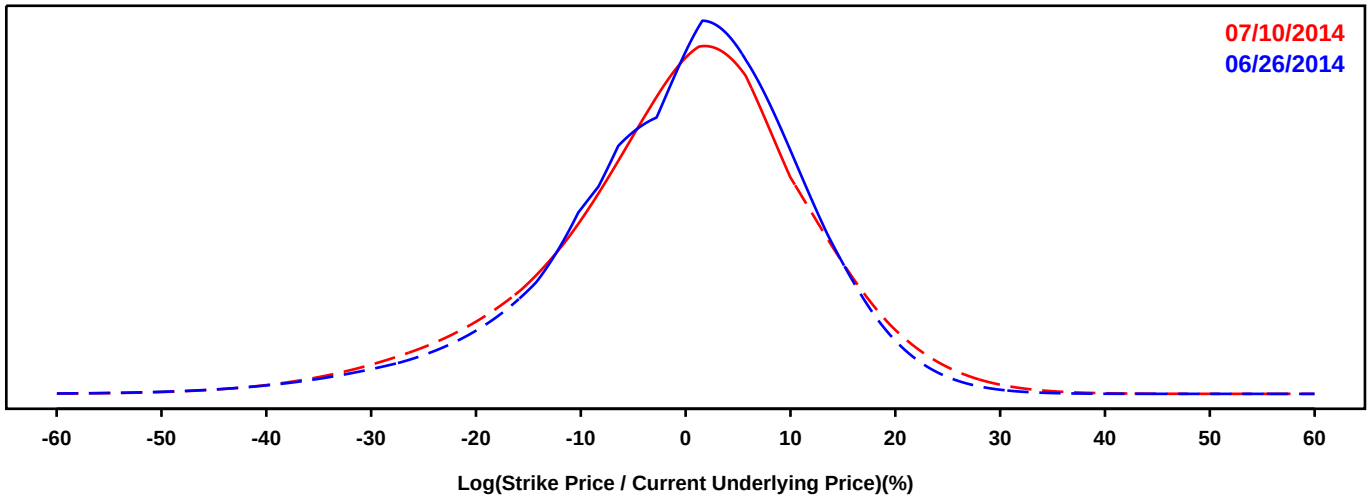
MARKET PROBABILITY DENSITY FUNCTIONS -- LINCOLN NATIONAL

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

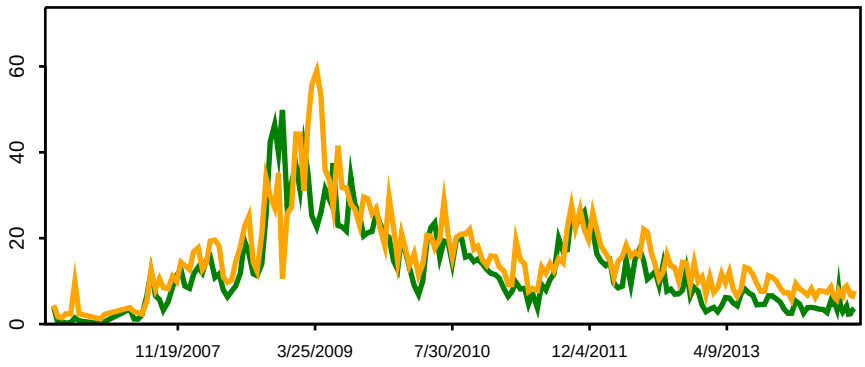
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

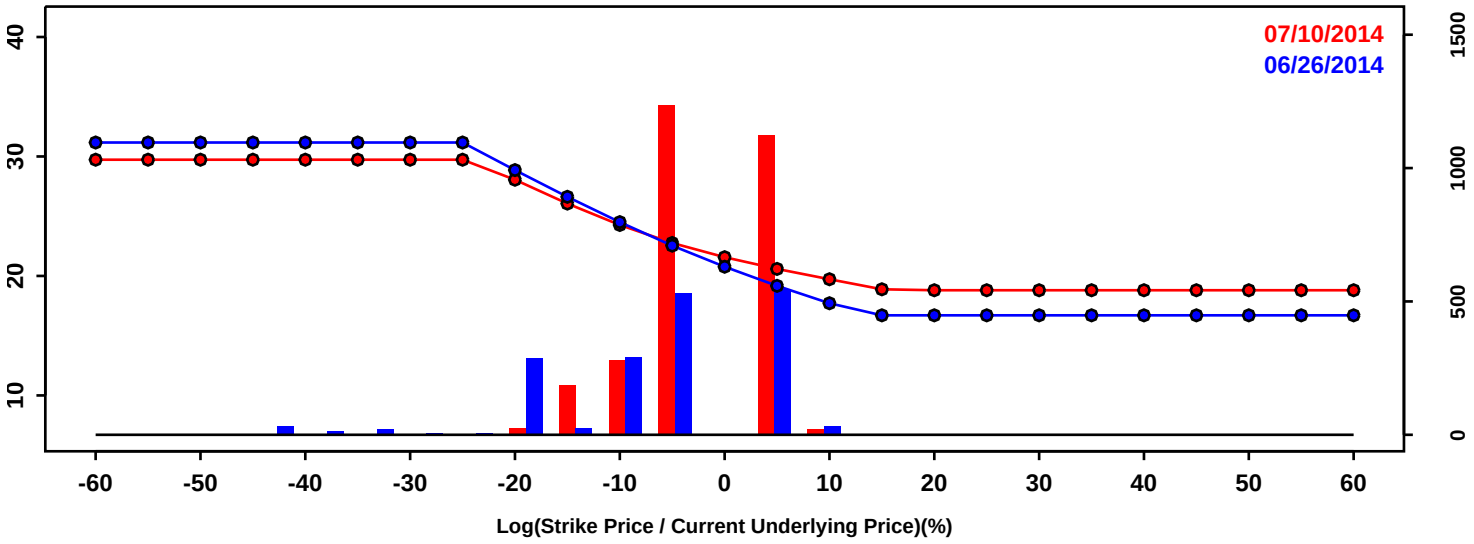
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-16.12%	-17.39%	-1.27%
50th Pct	0.80%	0.47%	-0.33%
90th Pct	13.25%	14.20%	0.95%
Mean	-0.60%	-0.70%	-0.10%
Std Dev	12.09%	12.73%	0.64%
Skew	-0.74	-0.55	0.19
Kurtosis	1.26	0.86	-0.40

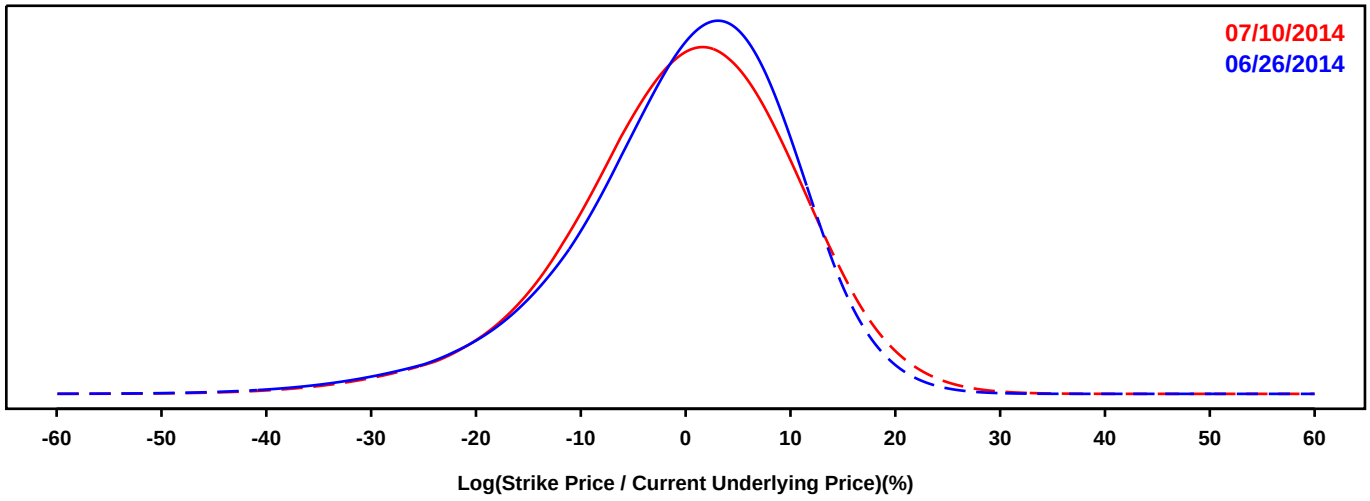
MARKET PROBABILITY DENSITY FUNCTIONS -- METLIFE

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

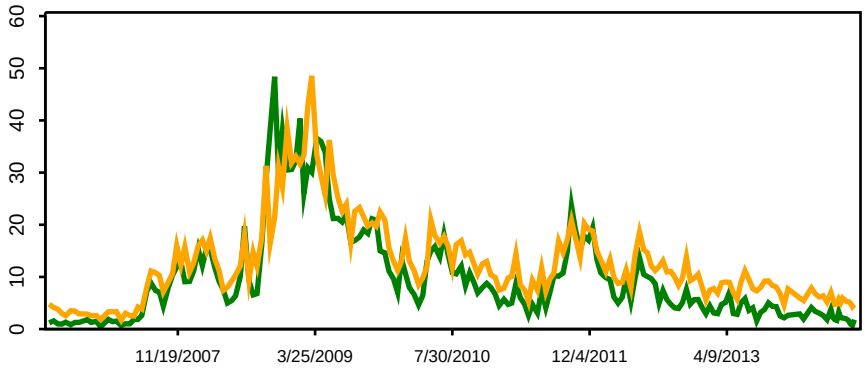
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

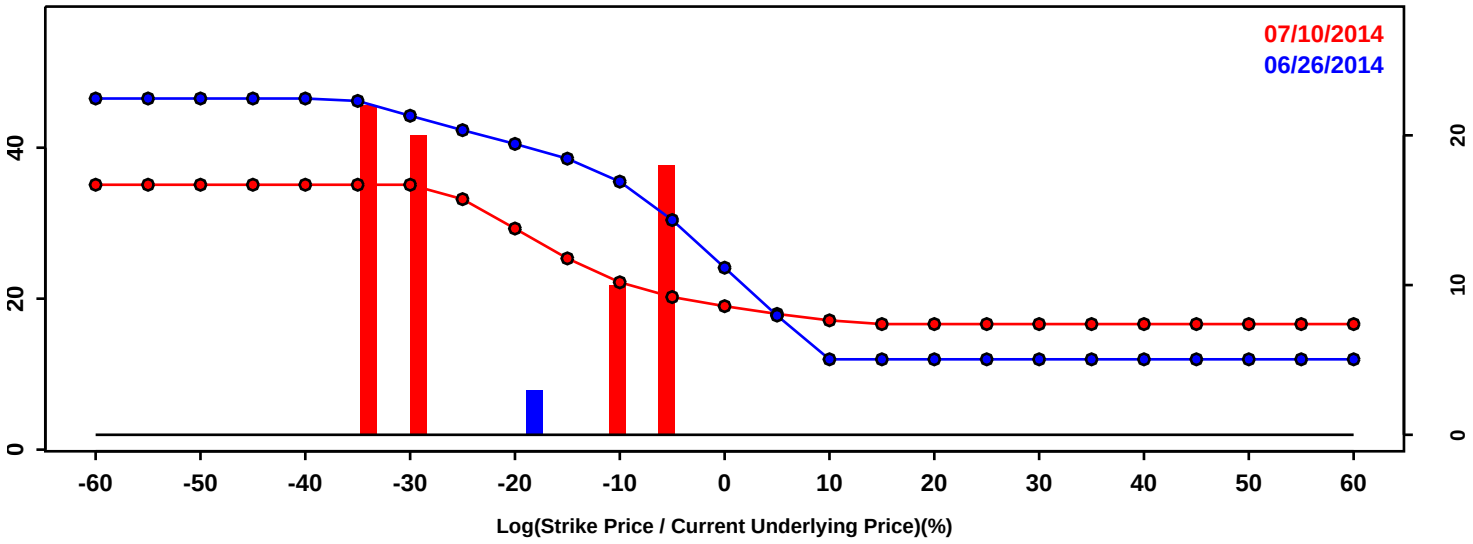
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-14.22%	-14.13%	0.09%
50th Pct	0.97%	0.51%	-0.46%
90th Pct	11.81%	12.71%	0.90%
Mean	-0.31%	-0.26%	0.05%
Std Dev	10.66%	10.86%	0.20%
Skew	-0.79	-0.52	0.26
Kurtosis	1.21	0.78	-0.43

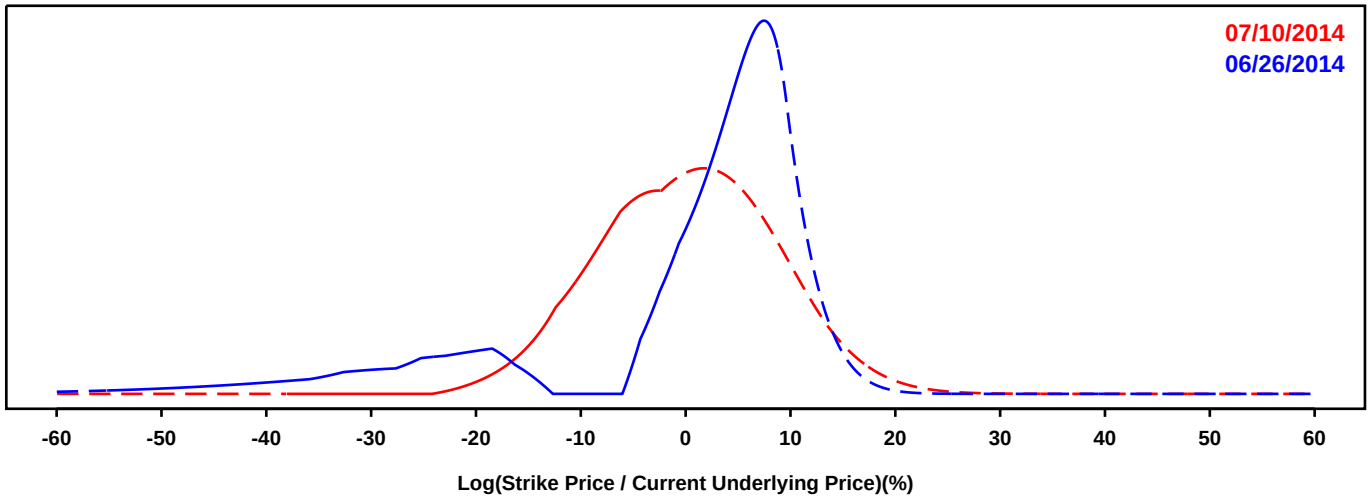
MARKET PROBABILITY DENSITY FUNCTIONS -- PRINCIPAL FINANCIAL

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

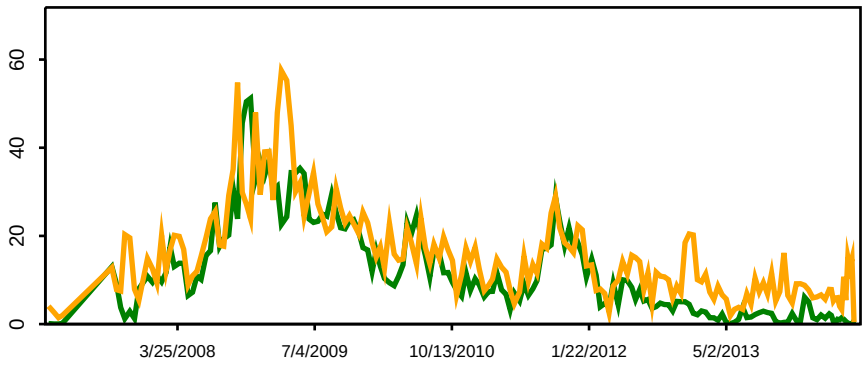
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

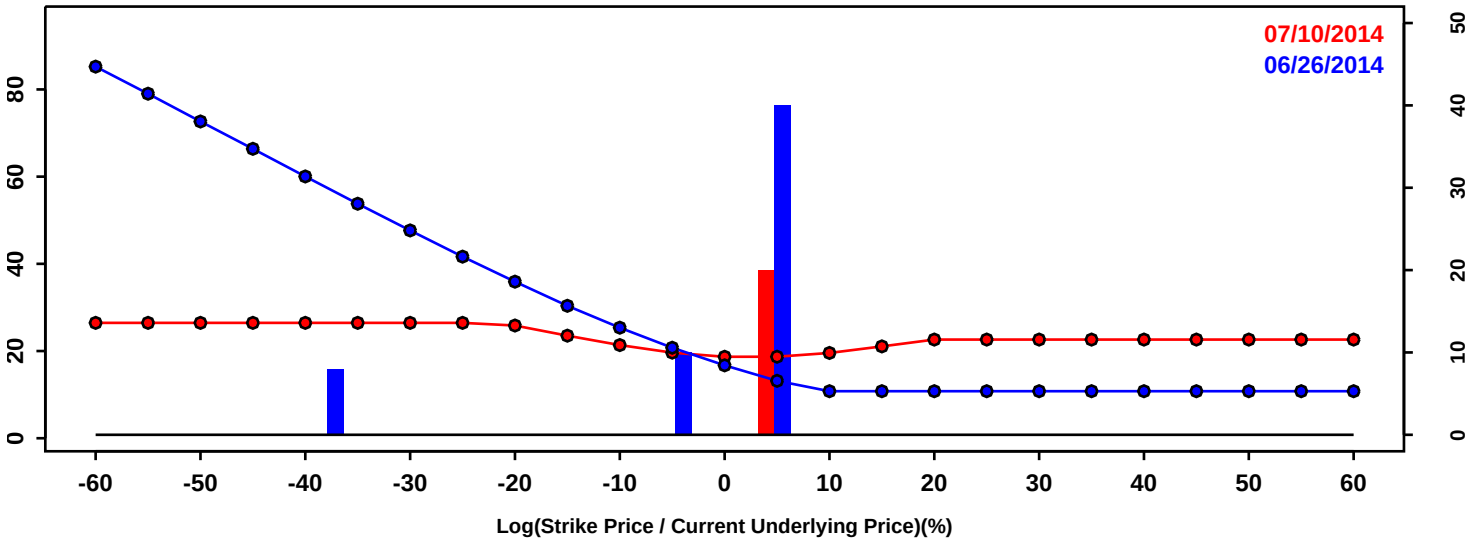
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-23.58%	-10.64%	12.94%
50th Pct	4.80%	0.39%	-4.42%
90th Pct	10.94%	10.93%	-0.01%
Mean	-0.10%	0.29%	0.39%
Std Dev	14.46%	8.31%	-6.15%
Skew	-1.94	0.02	1.96
Kurtosis	3.62	-0.28	-3.90

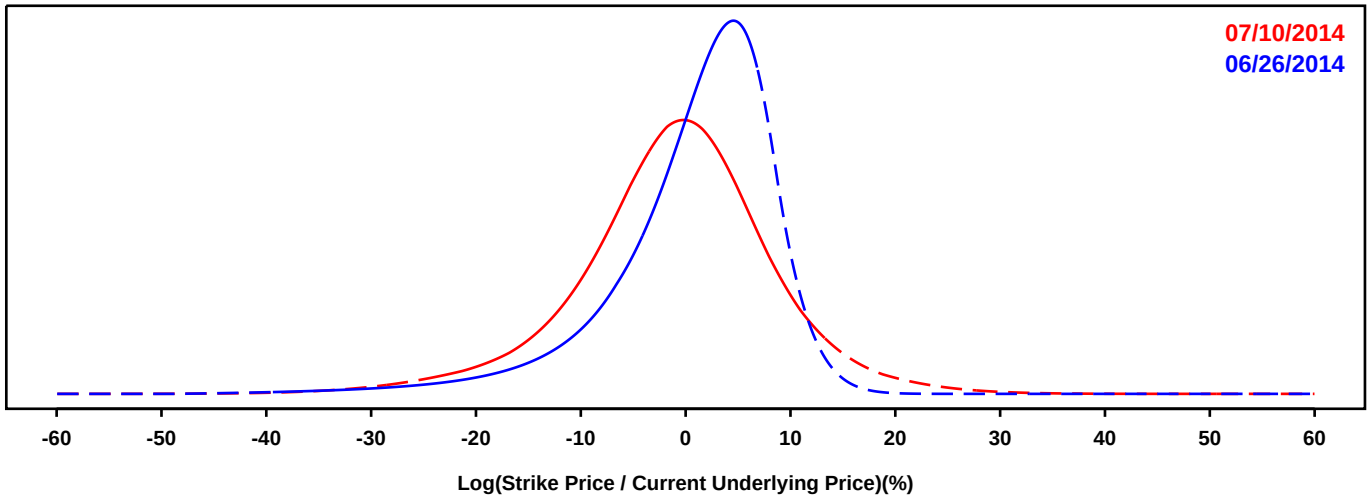
MARKET PROBABILITY DENSITY FUNCTIONS -- PROGRESSIVE

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

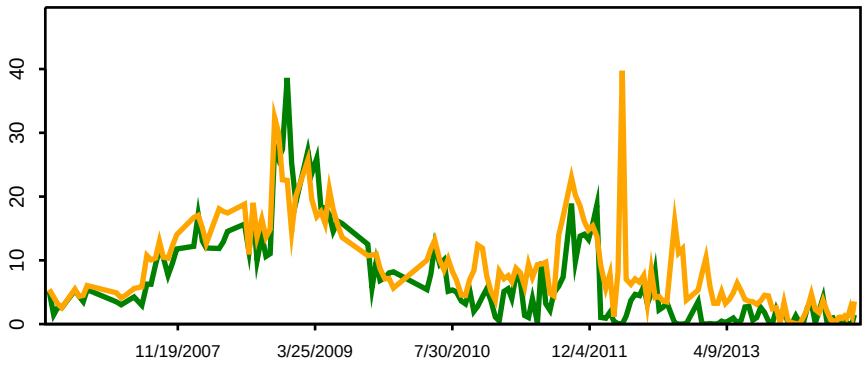
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

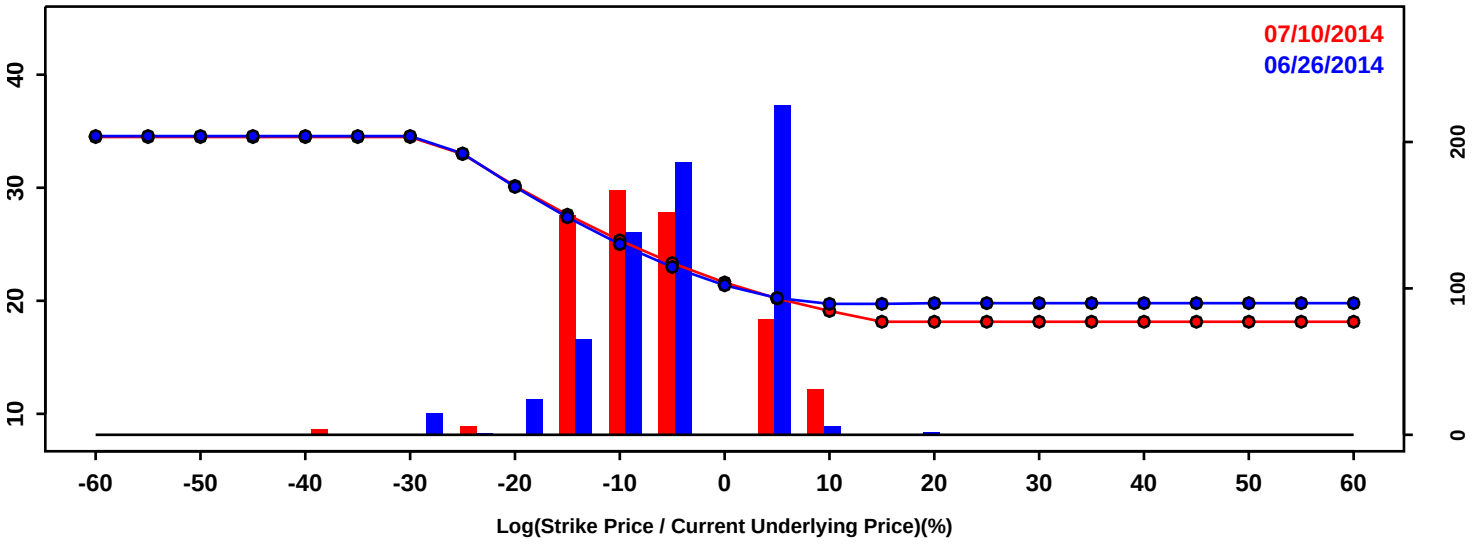
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-9.13%	-12.63%	-3.50%
50th Pct	2.32%	-0.63%	-2.95%
90th Pct	8.77%	10.01%	1.24%
Mean	0.80%	-1.03%	-1.83%
Std Dev	7.97%	9.51%	1.53%
Skew	-1.48	-0.35	1.13
Kurtosis	3.64	1.34	-2.30

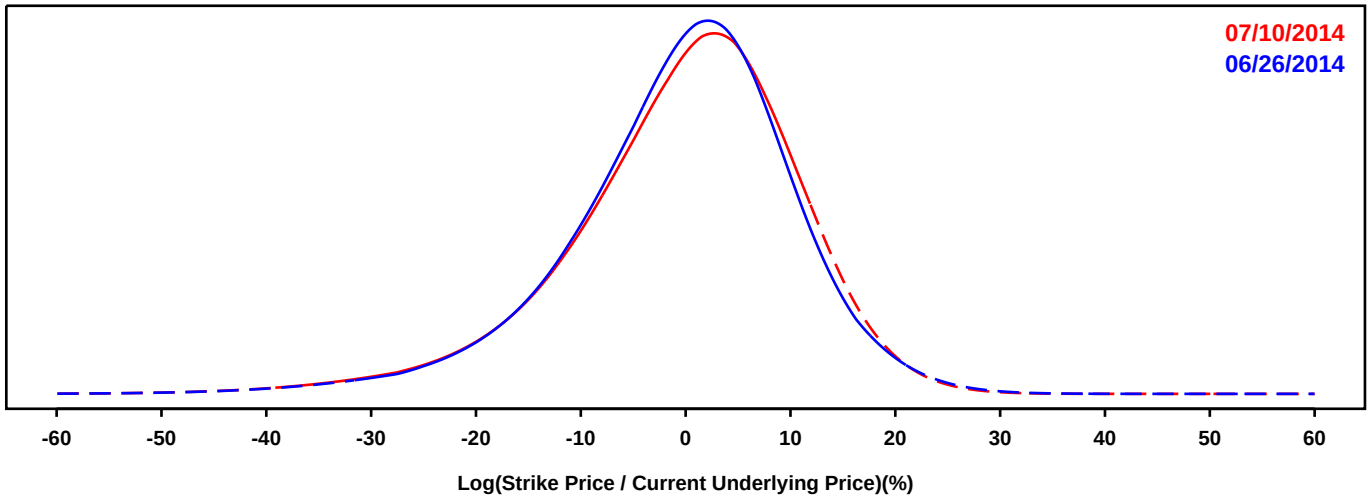
MARKET PROBABILITY DENSITY FUNCTIONS -- PRUDENTIAL

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

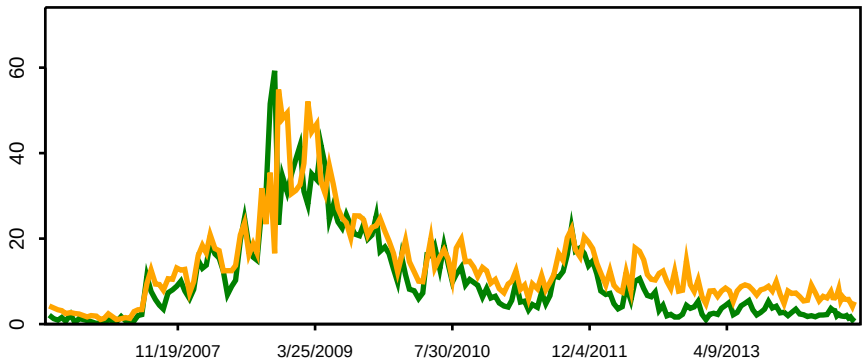
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



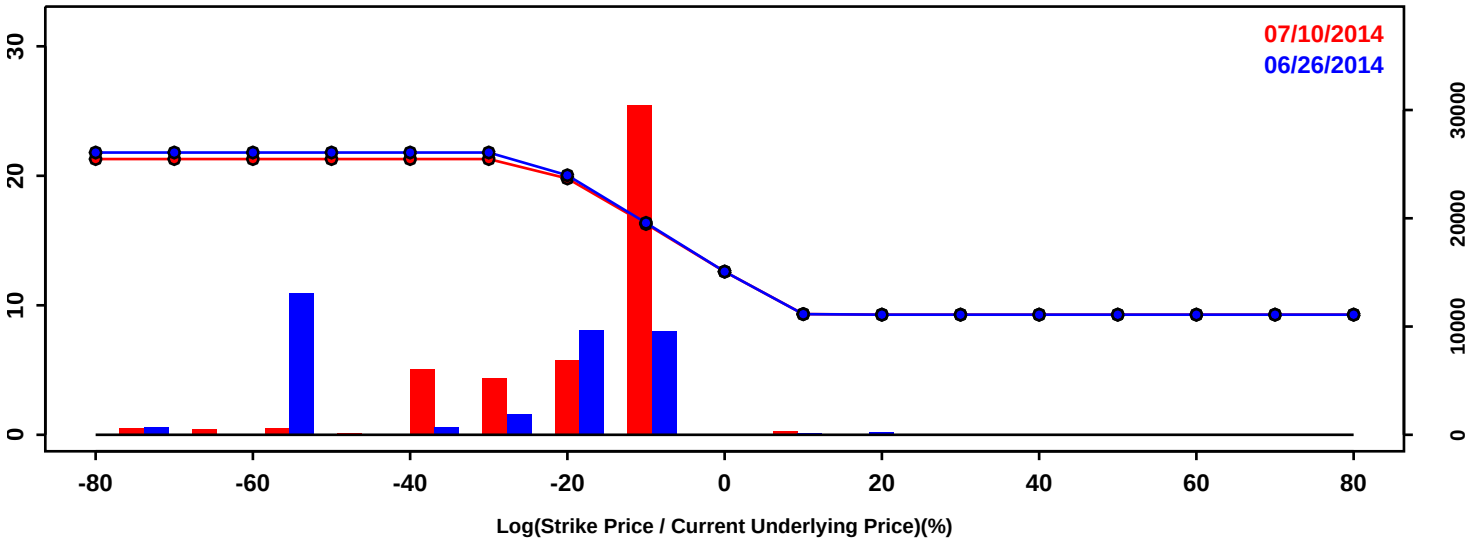
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-14.28%	-14.42%	-0.15%
50th Pct	0.51%	0.96%	0.45%
90th Pct	11.85%	12.39%	0.54%
Mean	-0.54%	-0.28%	0.26%
Std Dev	10.89%	11.09%	0.20%
Skew	-0.73	-0.79	-0.06
Kurtosis	1.57	1.45	-0.12

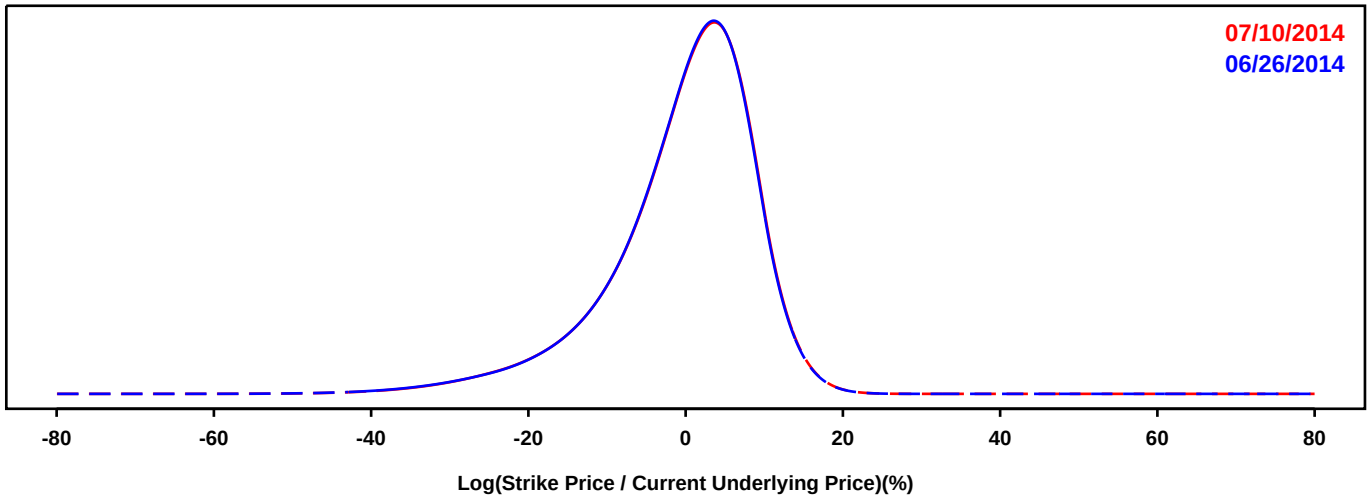
MARKET PROBABILITY DENSITY FUNCTIONS -- S&P 500

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

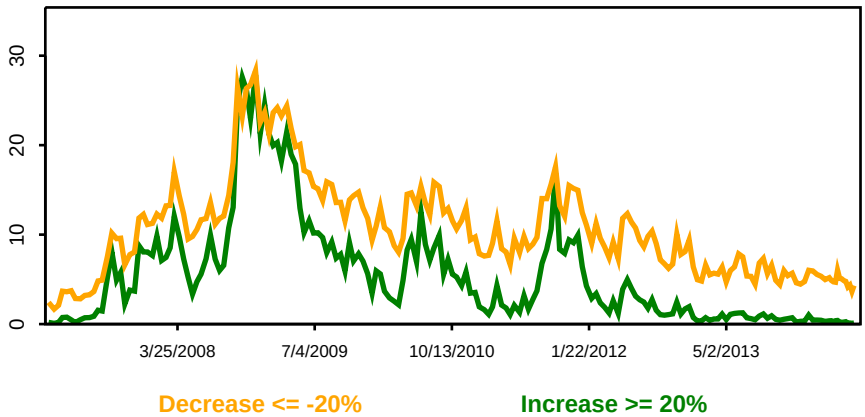
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



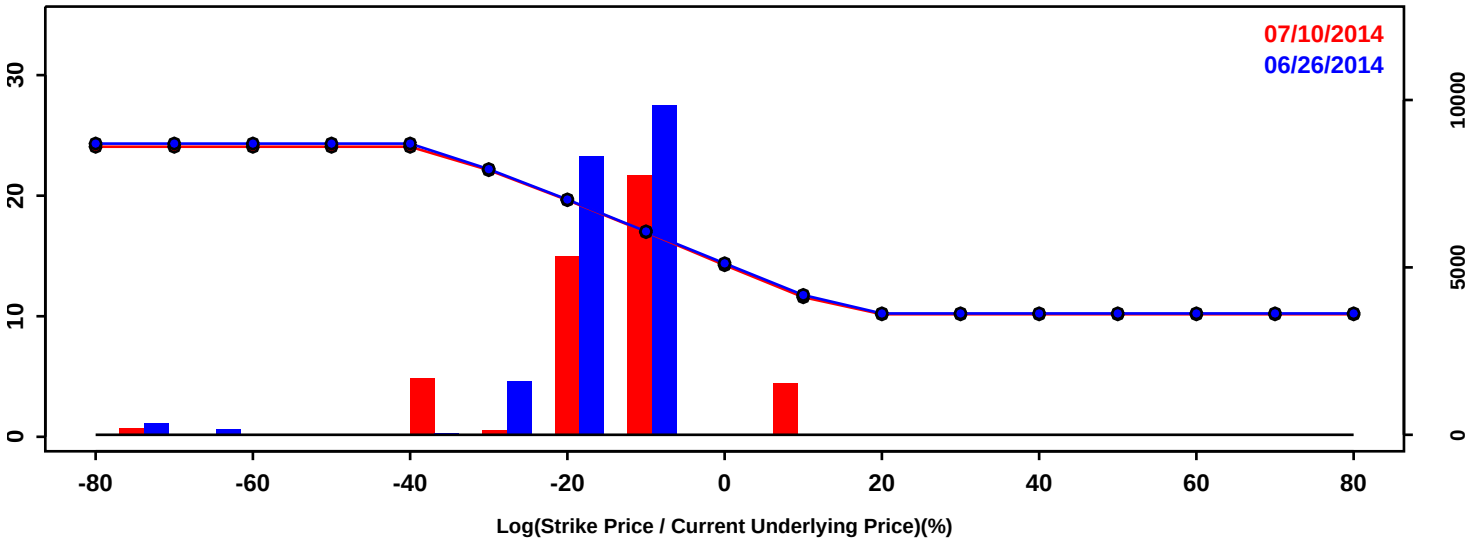
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-12.73%	-12.69%	0.04%
50th Pct	1.22%	1.23%	0.01%
90th Pct	9.42%	9.48%	0.06%
Mean	-0.48%	-0.41%	0.07%
Std Dev	9.43%	9.39%	-0.04%
Skew	-1.20	-1.16	0.03
Kurtosis	2.32	2.17	-0.15

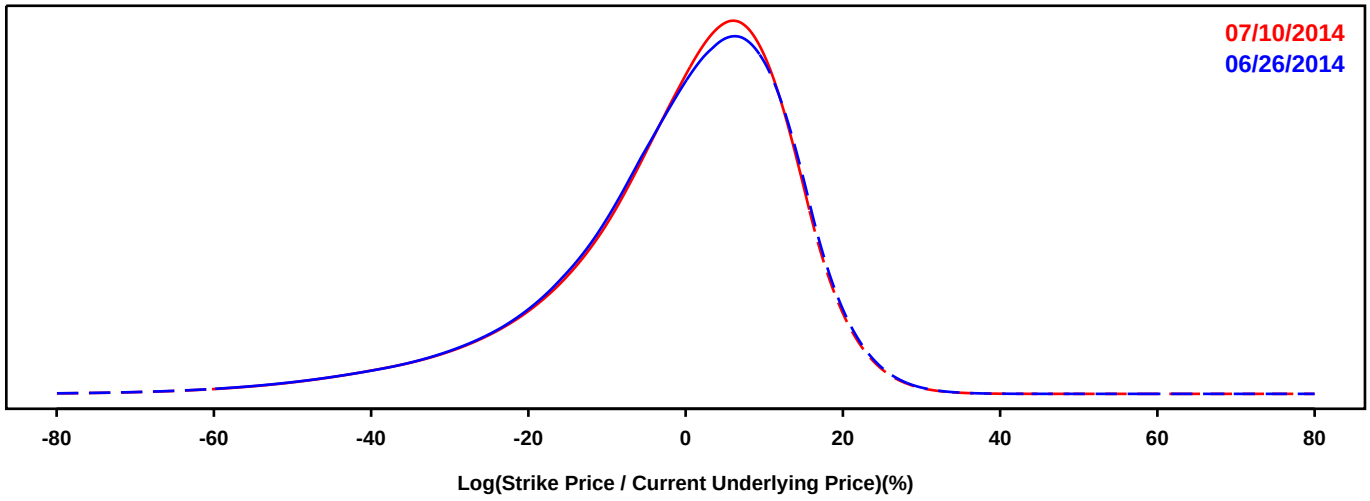
MARKET PROBABILITY DENSITY FUNCTIONS -- S&P 500

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

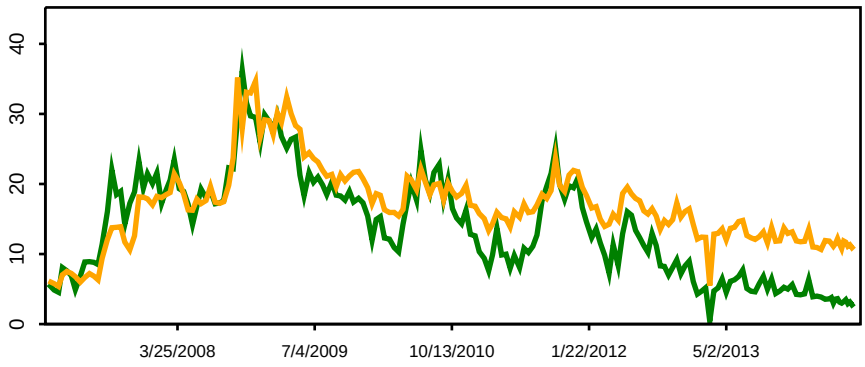
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

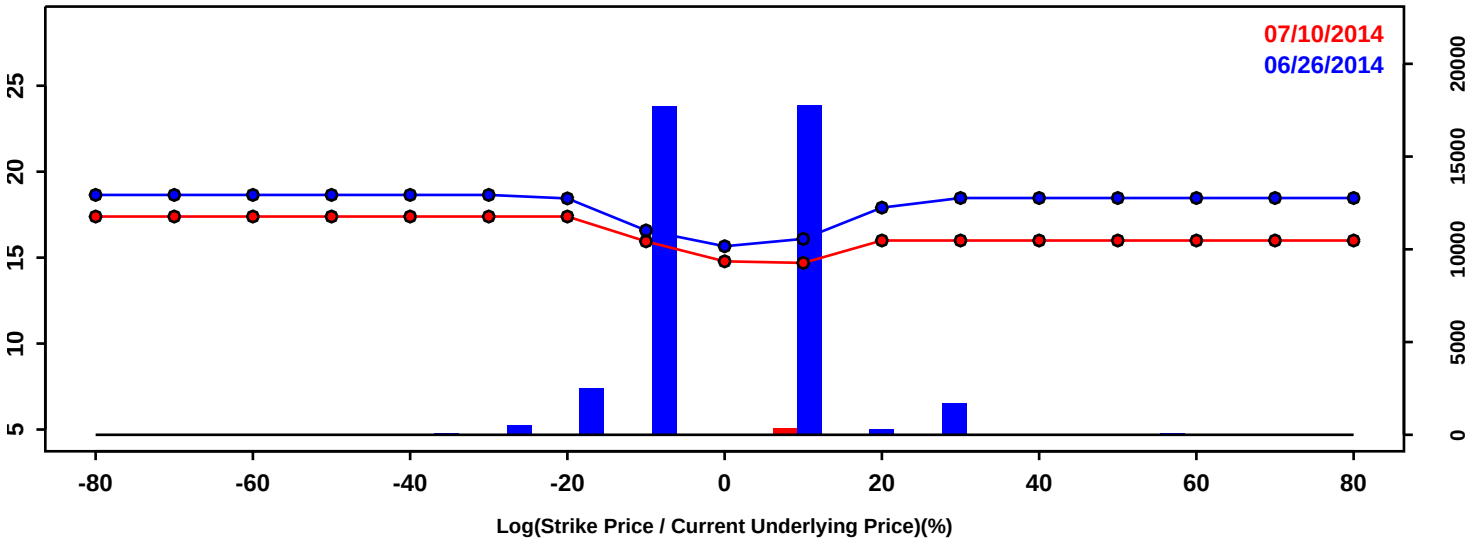
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-21.80%	-21.62%	0.18%
50th Pct	1.53%	1.69%	0.17%
90th Pct	14.89%	14.67%	-0.21%
Mean	-1.36%	-1.28%	0.08%
Std Dev	15.50%	15.33%	-0.16%
Skew	-1.19	-1.21	-0.03
Kurtosis	2.11	2.17	0.06

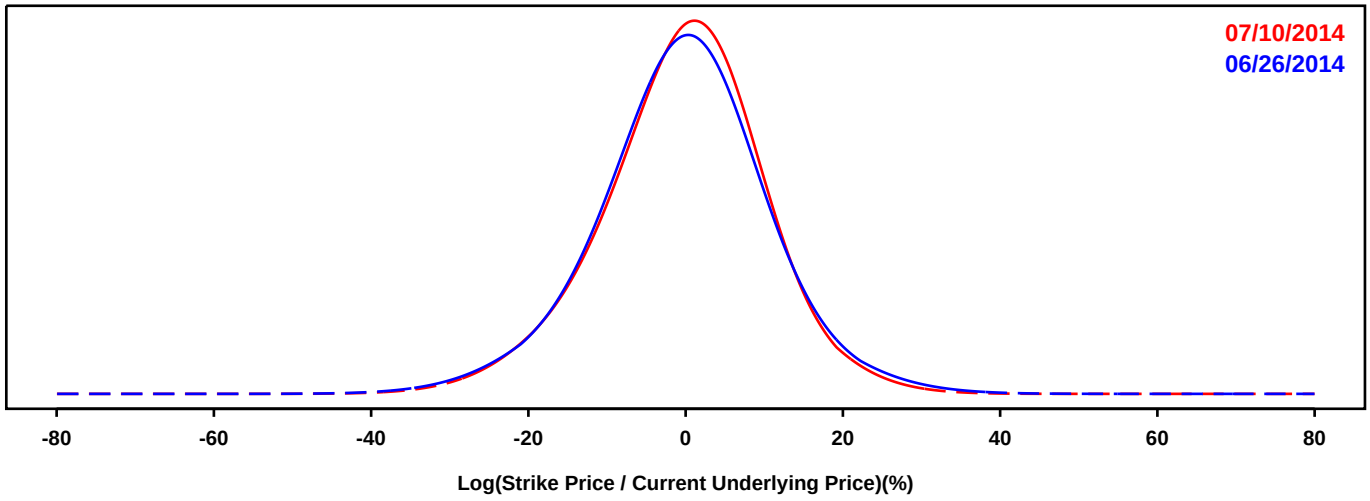
MARKET PROBABILITY DENSITY FUNCTIONS -- CRUDE OIL FUTURES (WTI)

Log returns are based on the market probability 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)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change

Decrease <= -20% Increase >= 20%

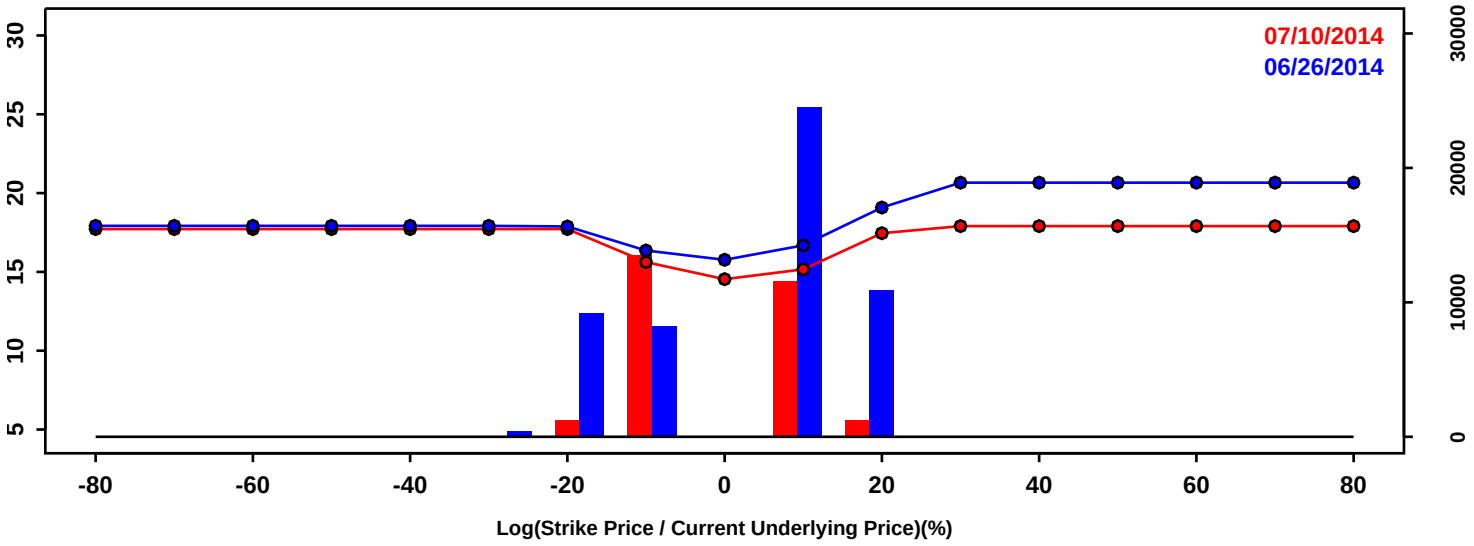
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-14.14%	-13.83%	0.32%
50th Pct	-0.10%	0.19%	0.29%
90th Pct	13.02%	12.25%	-0.77%
Mean	-0.32%	-0.29%	0.03%
Std Dev	11.04%	10.47%	-0.57%
Skew	-0.10	-0.22	-0.13
Kurtosis	0.70	0.51	-0.18

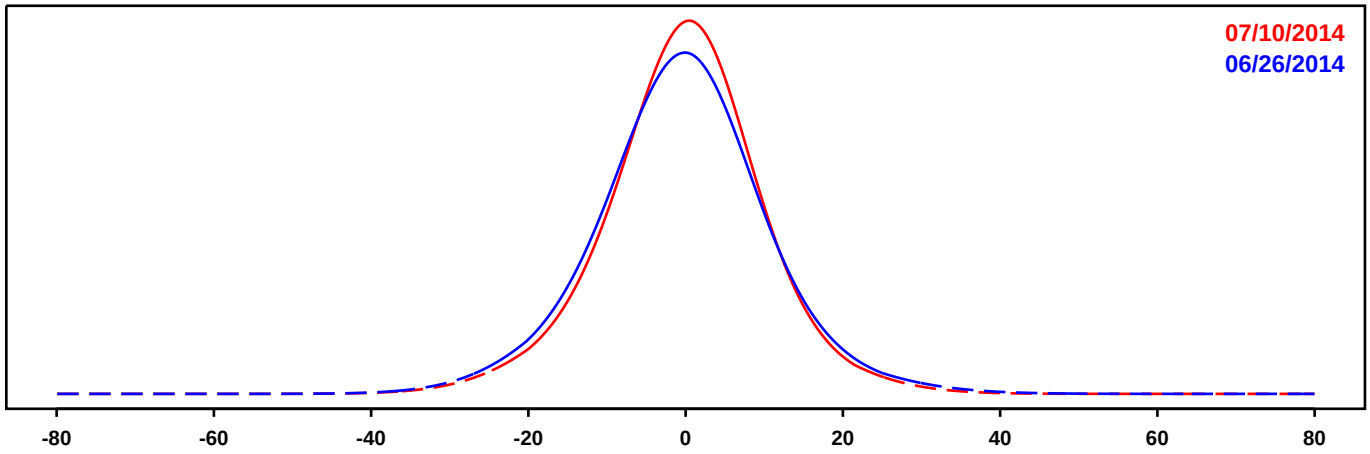
MARKET PROBABILITY DENSITY FUNCTIONS -- CRUDE OIL FUTURES (Brent)

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

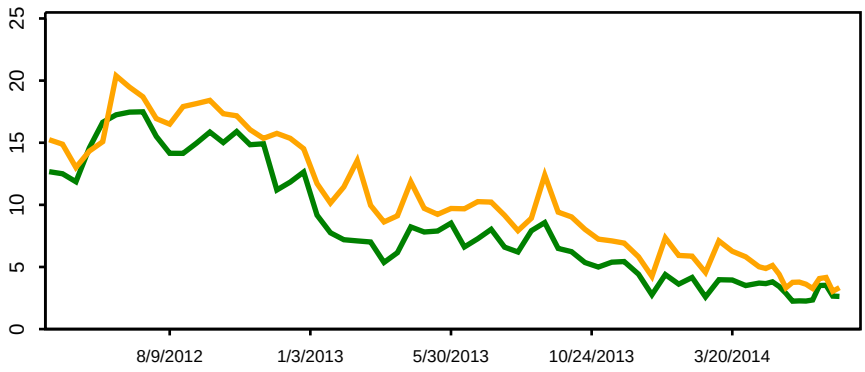
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

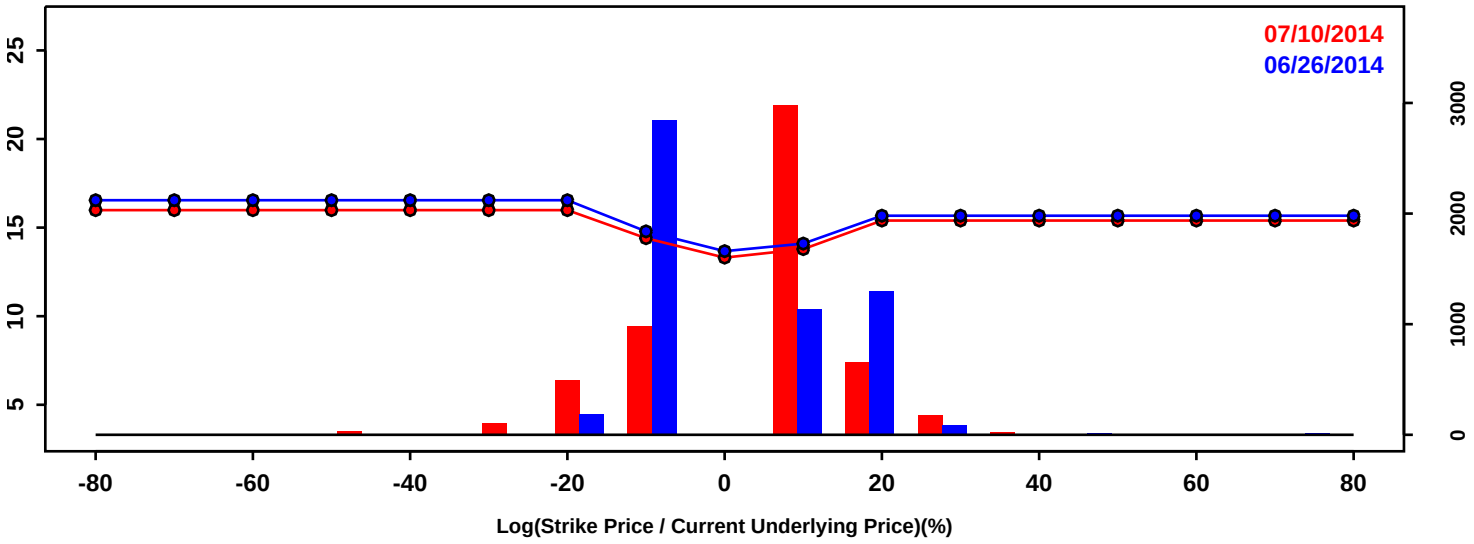
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-14.10%	-12.87%	1.23%
50th Pct	-0.36%	0.00%	0.36%
90th Pct	13.03%	12.10%	-0.94%
Mean	-0.39%	-0.16%	0.23%
Std Dev	11.10%	10.25%	-0.86%
Skew	0.05	-0.09	-0.14
Kurtosis	0.82	0.85	0.03

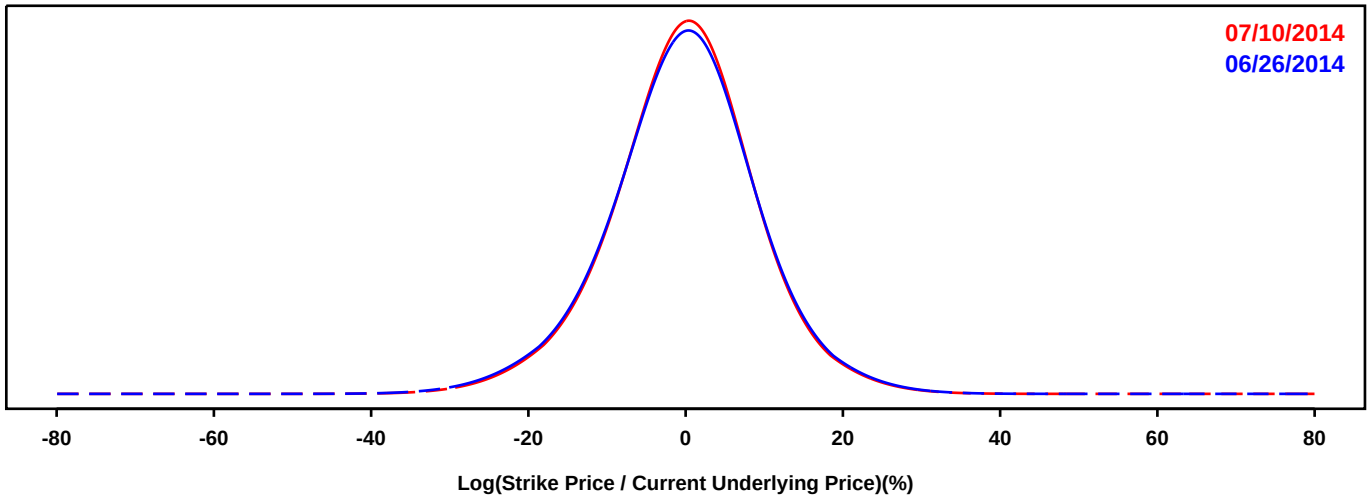
MARKET PROBABILITY DENSITY FUNCTIONS -- GOLD FUTURES

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

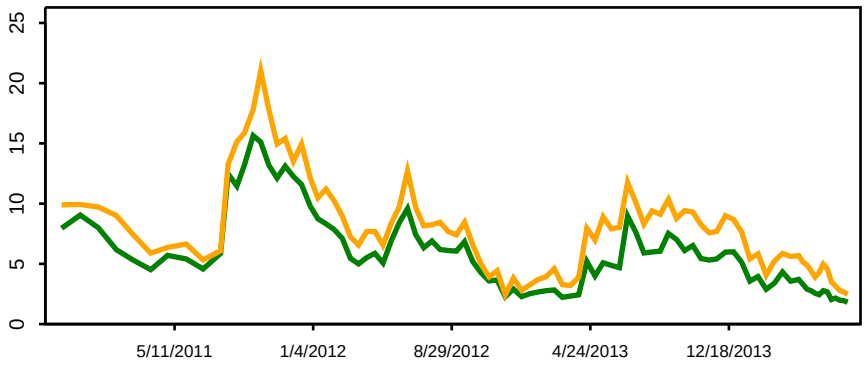
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

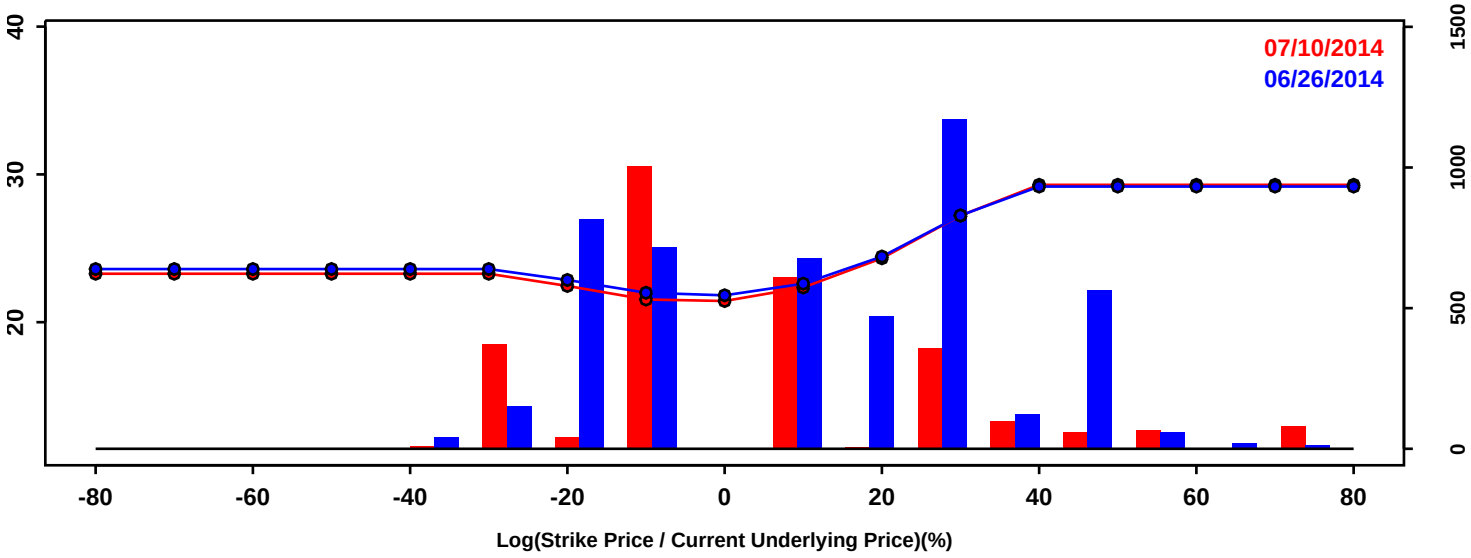
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-12.30%	-11.89%	0.41%
50th Pct	0.00%	0.05%	0.05%
90th Pct	11.43%	11.16%	-0.26%
Mean	-0.23%	-0.16%	0.07%
Std Dev	9.65%	9.39%	-0.26%
Skew	-0.14	-0.12	0.02
Kurtosis	0.70	0.69	-0.00

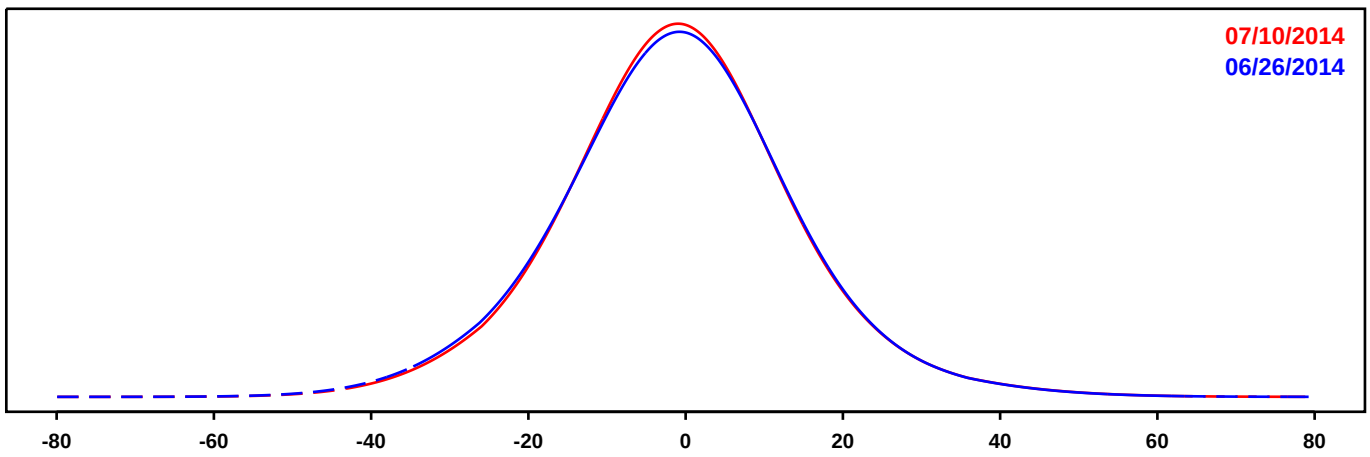
MARKET PROBABILITY DENSITY FUNCTIONS -- SILVER FUTURES

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

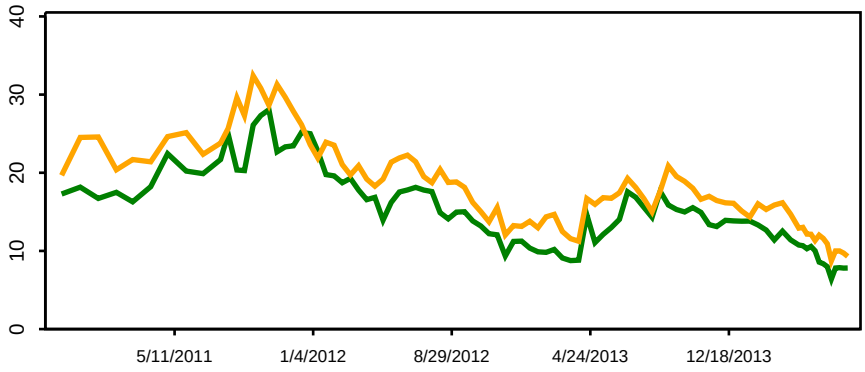
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

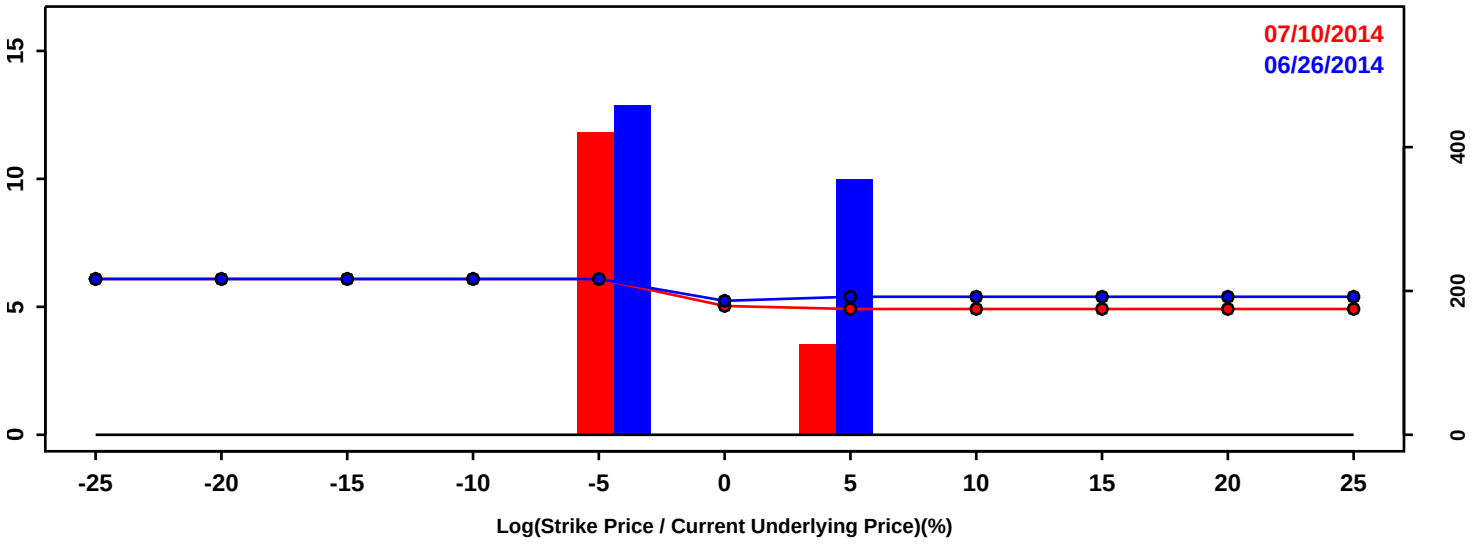
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-20.01%	-19.31%	0.71%
50th Pct	-0.99%	-0.94%	0.05%
90th Pct	17.74%	17.67%	-0.07%
Mean	-0.95%	-0.76%	0.19%
Std Dev	15.35%	15.11%	-0.24%
Skew	0.11	0.15	0.05
Kurtosis	0.74	0.81	0.08

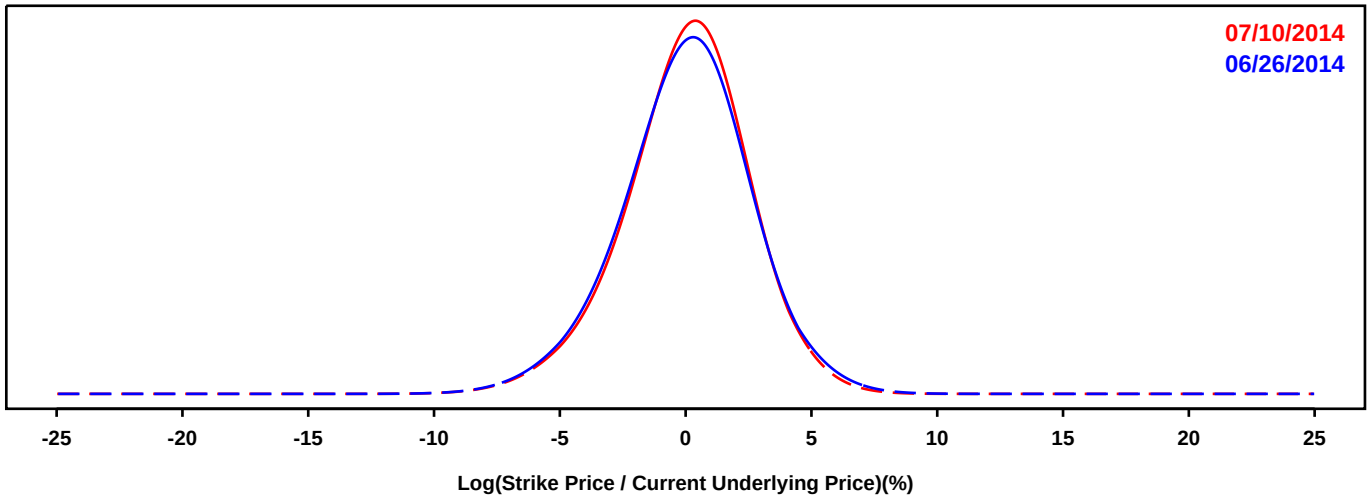
MARKET PROBABILITY DENSITY FUNCTIONS -- DOLLAR-EURO EXCHANGE RATE FUTURES

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

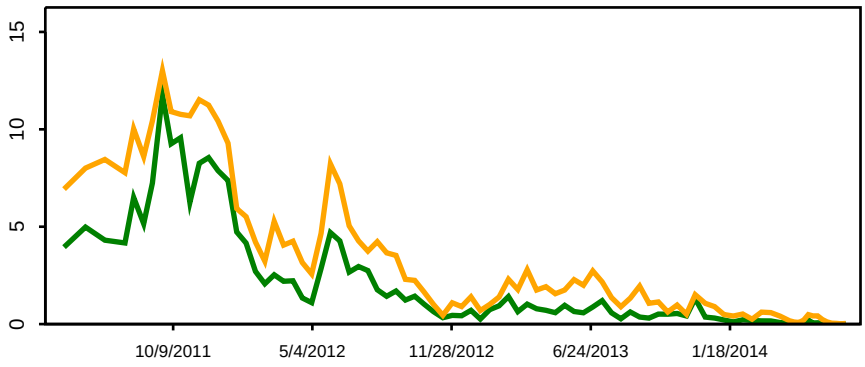
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



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

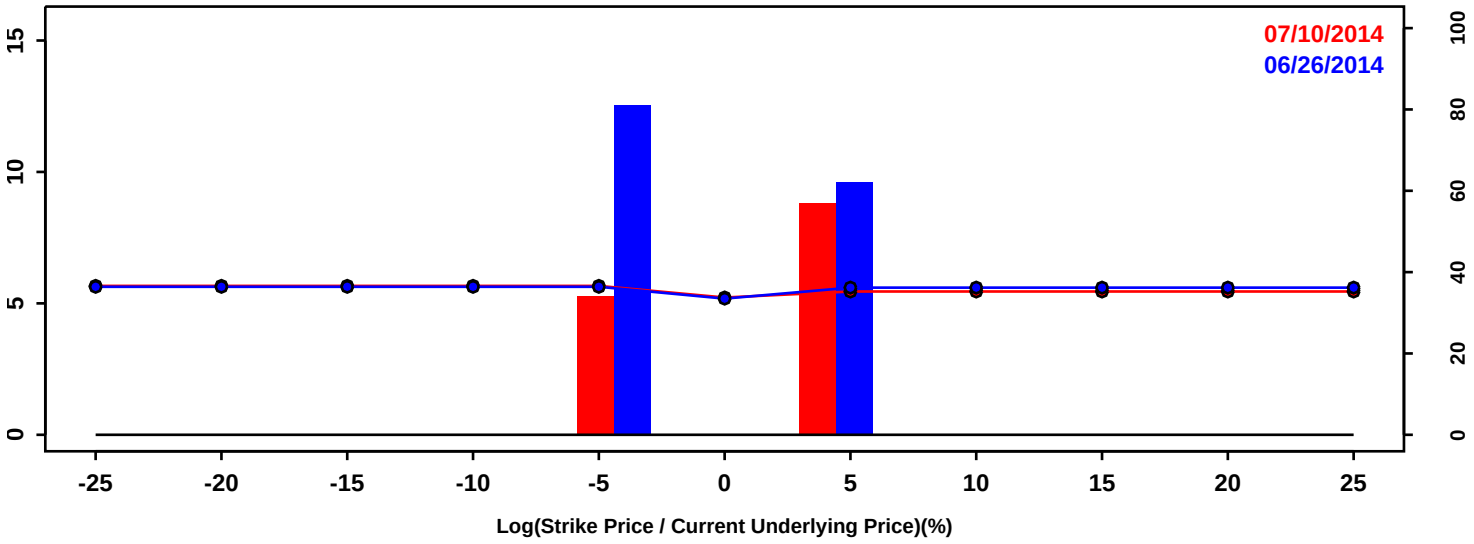
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-3.32%	-3.19%	0.13%
50th Pct	0.10%	0.17%	0.07%
90th Pct	3.23%	3.11%	-0.11%
Mean	0.04%	0.07%	0.03%
Std Dev	2.61%	2.51%	-0.10%
Skew	-0.19	-0.29	-0.10
Kurtosis	0.41	0.46	0.05

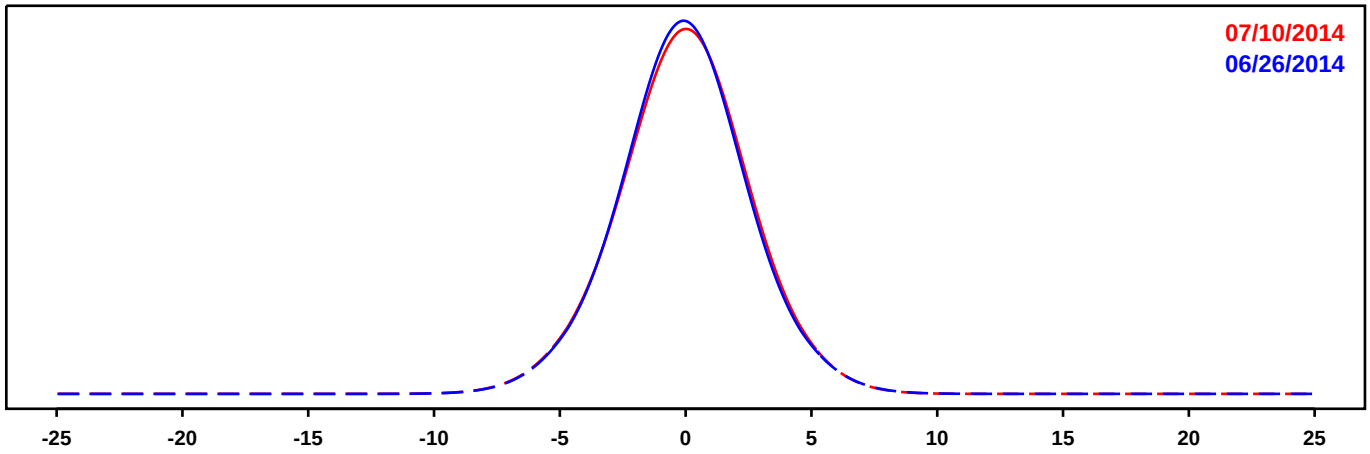
MARKET PROBABILITY DENSITY FUNCTIONS -- DOLLAR-POUND EXCHANGE RATE FUTURES

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

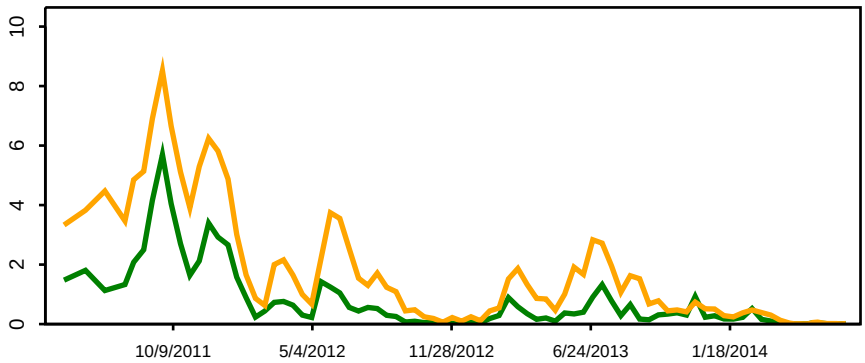
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



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

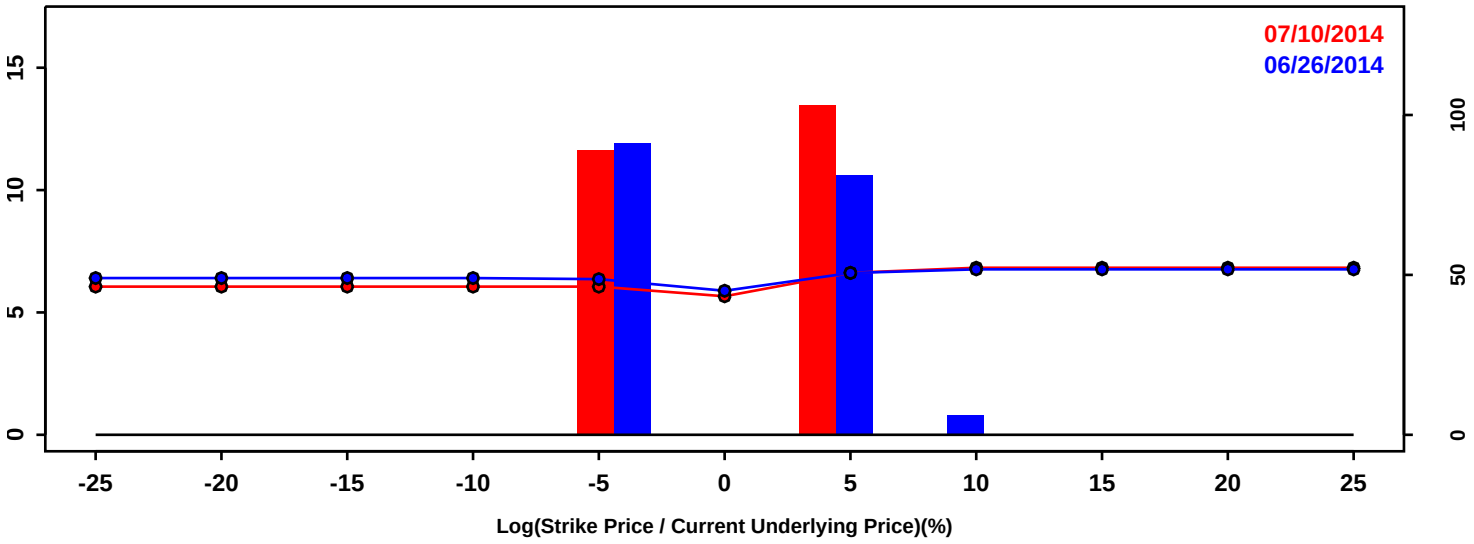
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-3.32%	-3.36%	-0.05%
50th Pct	-0.05%	0.00%	0.05%
90th Pct	3.18%	3.22%	0.05%
Mean	-0.05%	-0.02%	0.03%
Std Dev	2.58%	2.61%	0.02%
Skew	-0.01	-0.05	-0.04
Kurtosis	0.33	0.26	-0.08

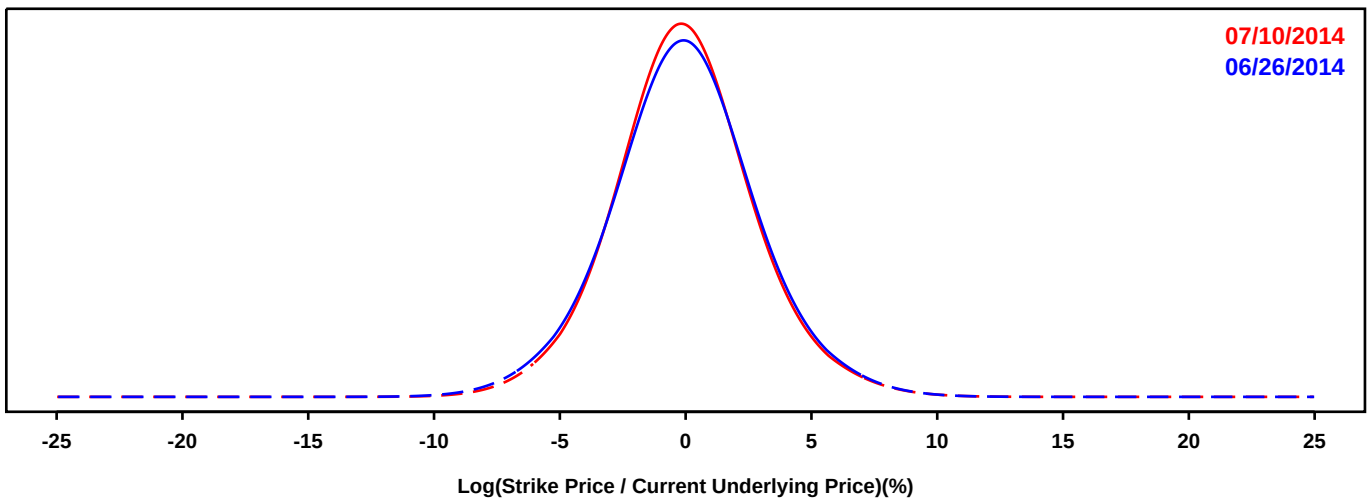
MARKET PROBABILITY DENSITY FUNCTIONS -- DOLLAR-YEN EXCHANGE RATE FUTURES

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

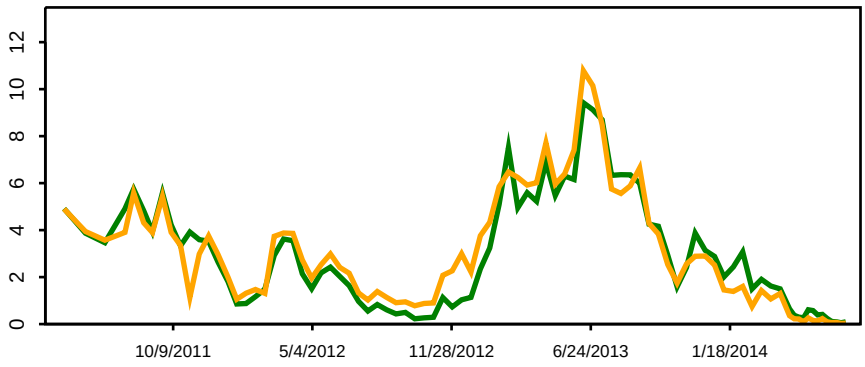
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



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

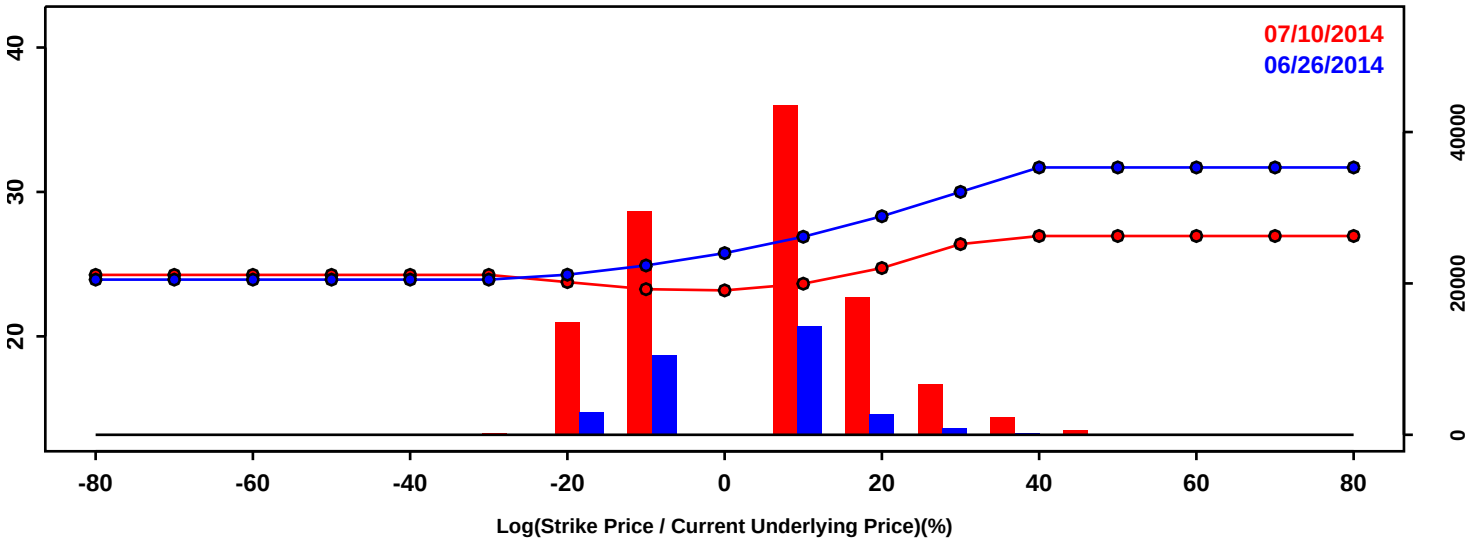
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-3.69%	-3.48%	0.21%
50th Pct	-0.05%	-0.11%	-0.06%
90th Pct	3.62%	3.50%	-0.12%
Mean	-0.02%	-0.01%	0.01%
Std Dev	2.93%	2.82%	-0.11%
Skew	0.05	0.14	0.08
Kurtosis	0.47	0.55	0.08

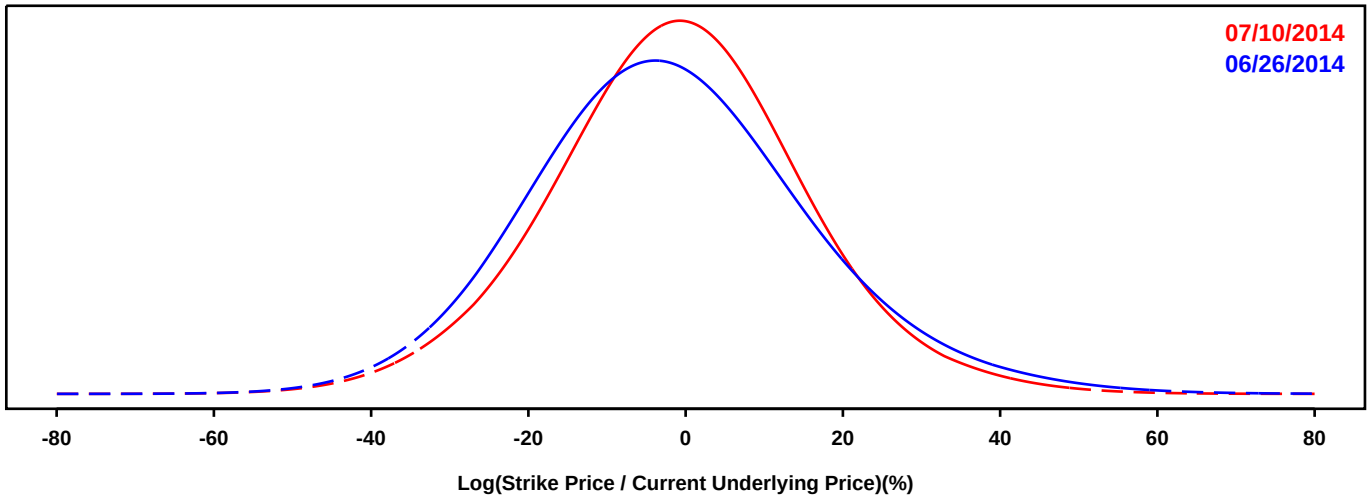
MARKET PROBABILITY DENSITY FUNCTIONS -- CORN FUTURES

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

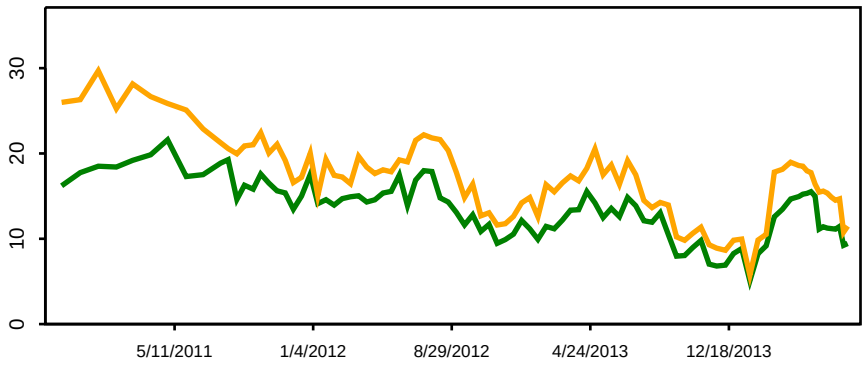
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

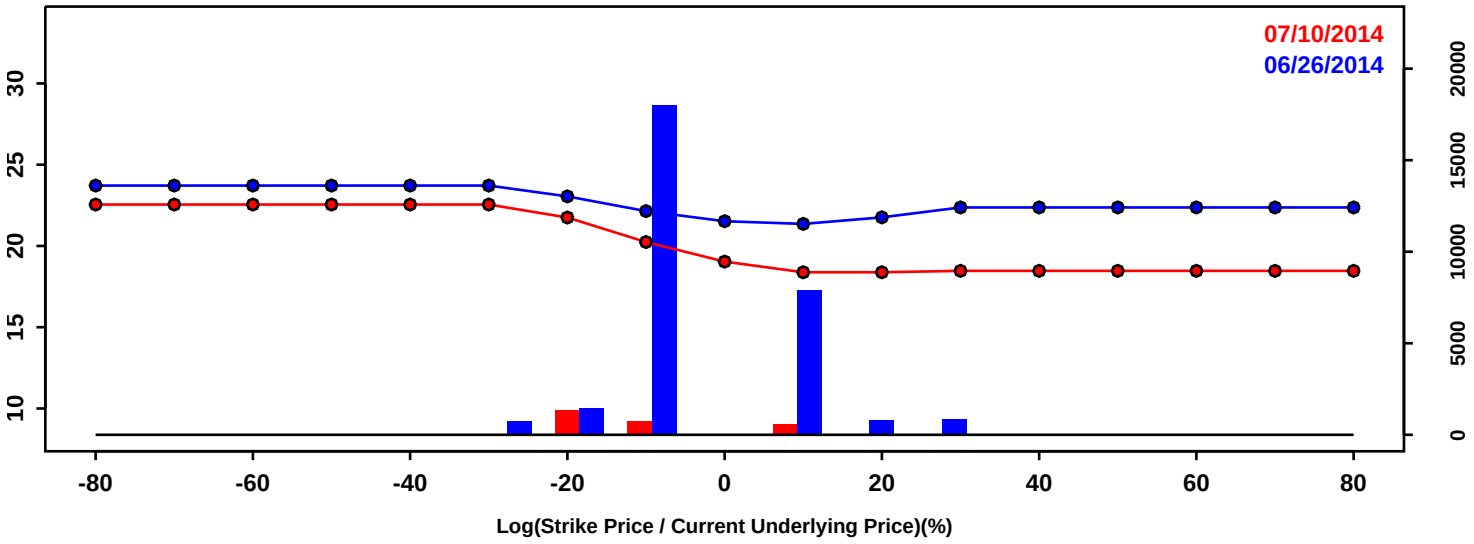
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-23.74%	-21.40%	2.34%
50th Pct	-2.47%	-0.89%	1.57%
90th Pct	21.63%	19.43%	-2.20%
Mean	-1.58%	-0.85%	0.73%
Std Dev	18.07%	16.30%	-1.77%
Skew	0.31	0.06	-0.25
Kurtosis	0.40	0.38	-0.01

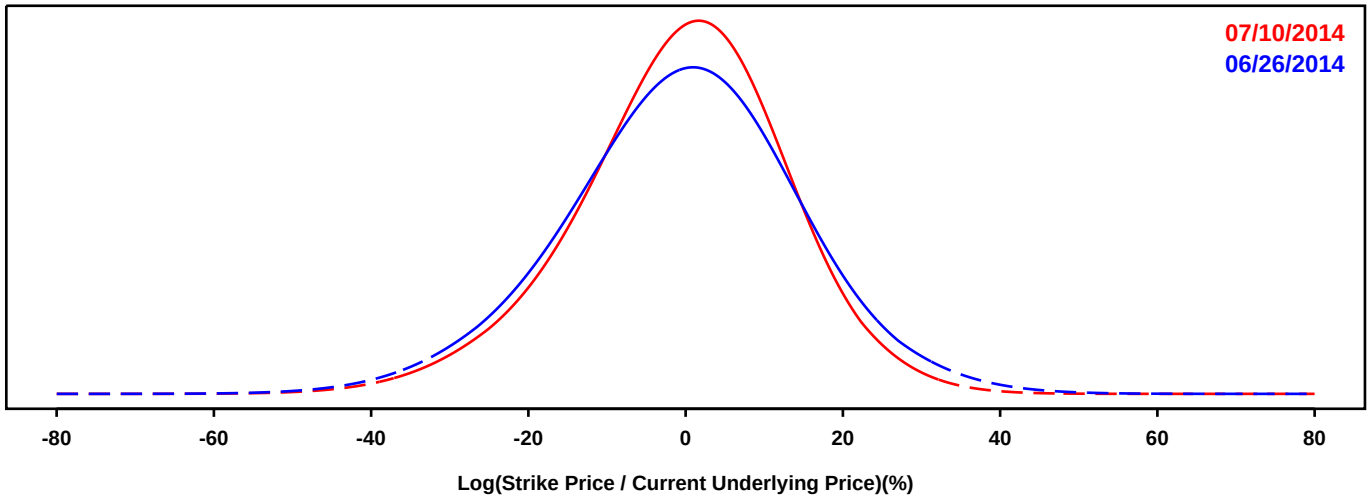
MARKET PROBABILITY DENSITY FUNCTIONS -- SOYBEAN FUTURES

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

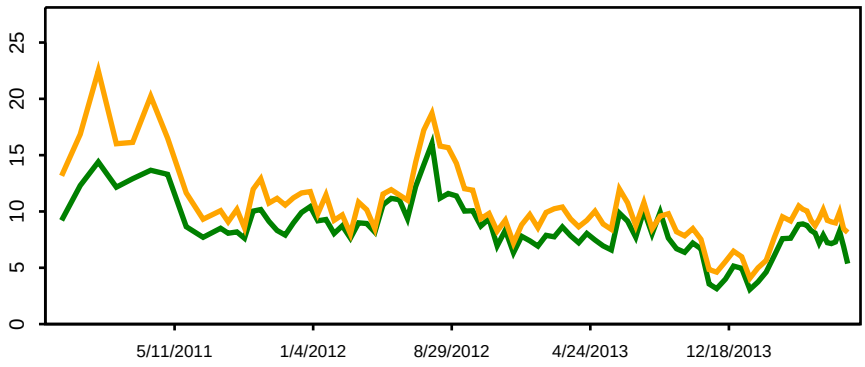
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

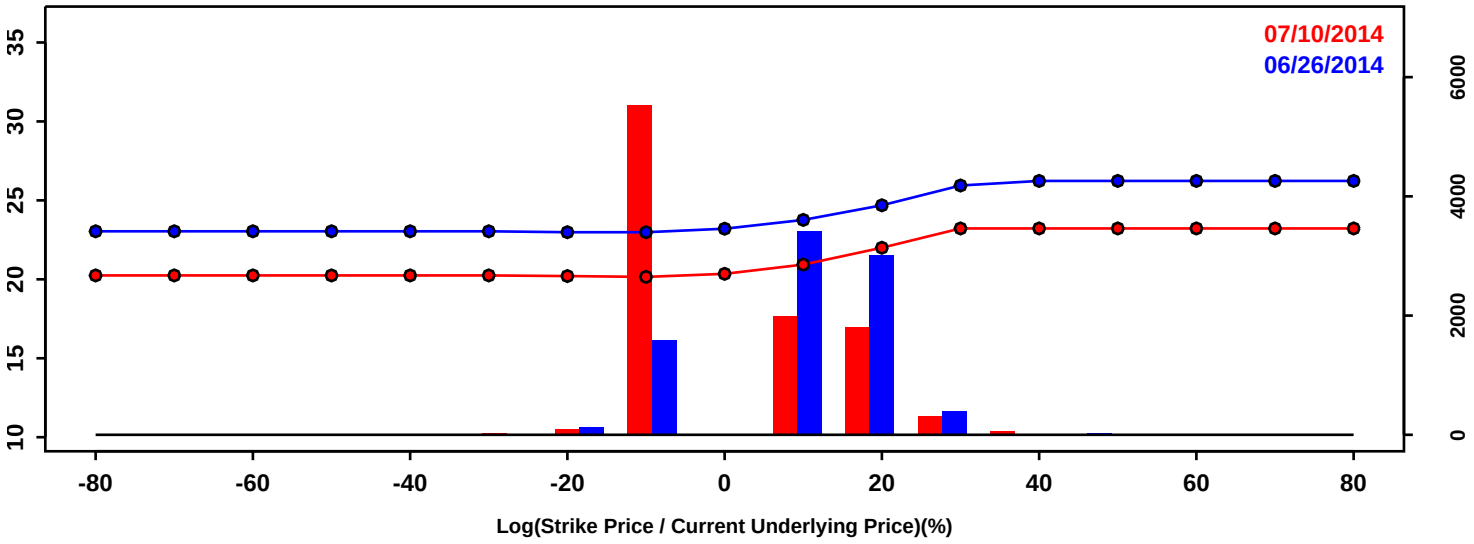
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-19.92%	-18.12%	1.80%
50th Pct	0.00%	0.23%	0.23%
90th Pct	18.40%	15.87%	-2.53%
Mean	-0.37%	-0.51%	-0.14%
Std Dev	15.20%	13.53%	-1.67%
Skew	-0.12	-0.30	-0.18
Kurtosis	0.28	0.39	0.10

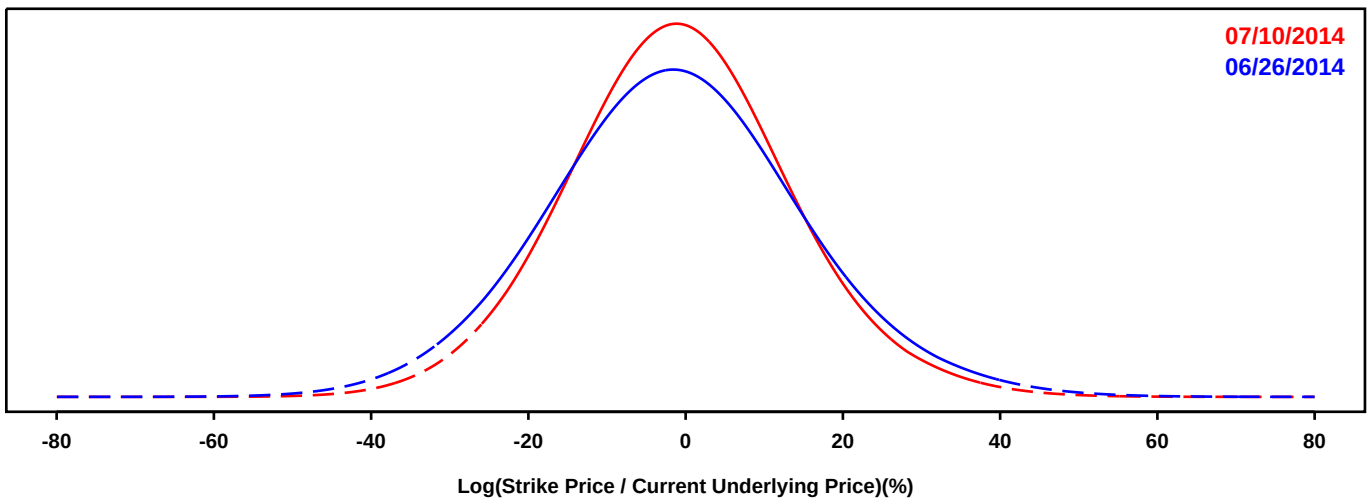
MARKET PROBABILITY DENSITY FUNCTIONS -- WHEAT FUTURES

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

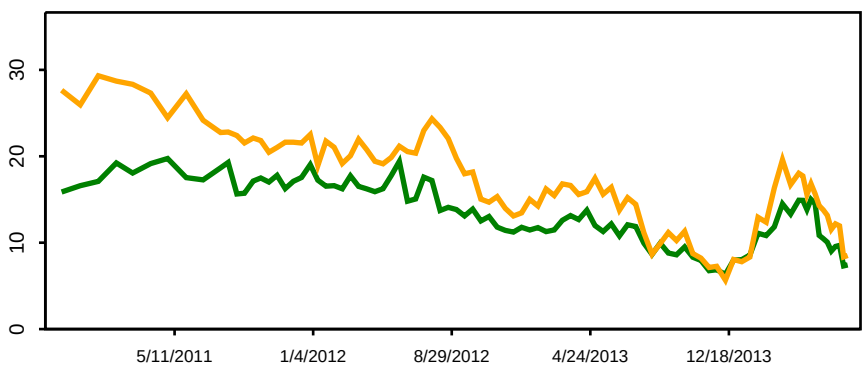
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

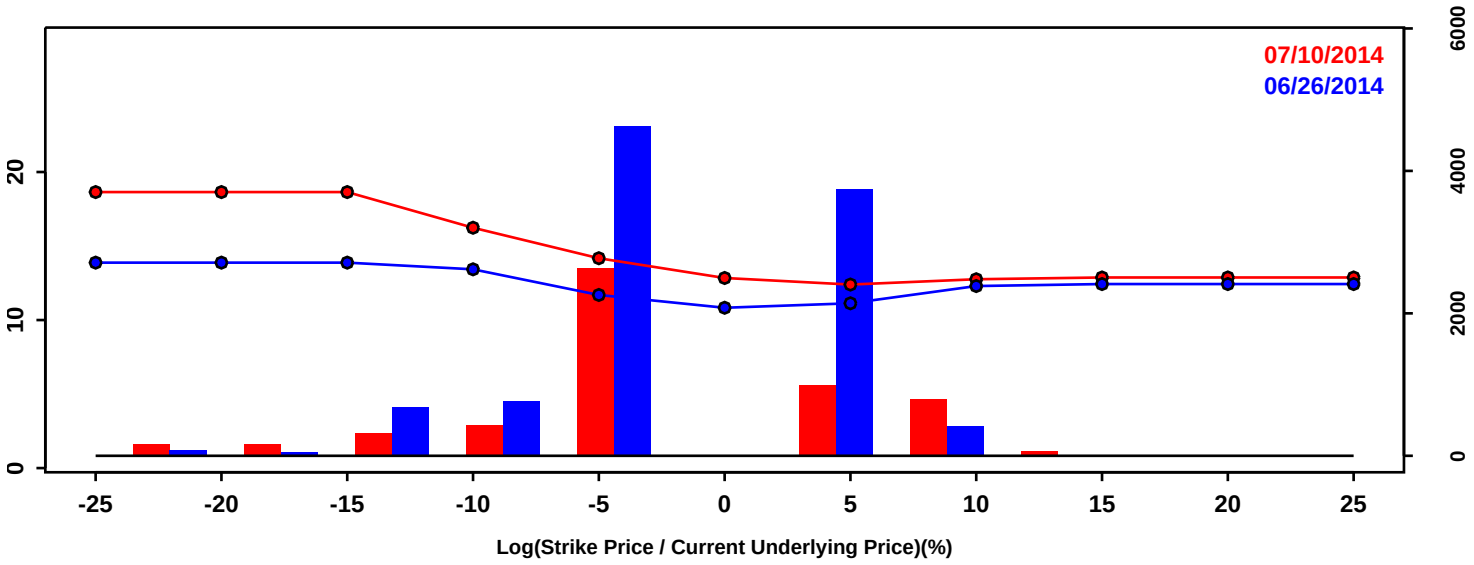
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-21.66%	-18.78%	2.88%
50th Pct	-1.35%	-0.95%	0.41%
90th Pct	19.65%	17.46%	-2.19%
Mean	-1.09%	-0.71%	0.37%
Std Dev	16.35%	14.34%	-2.01%
Skew	0.12	0.12	0.00
Kurtosis	0.25	0.26	0.02

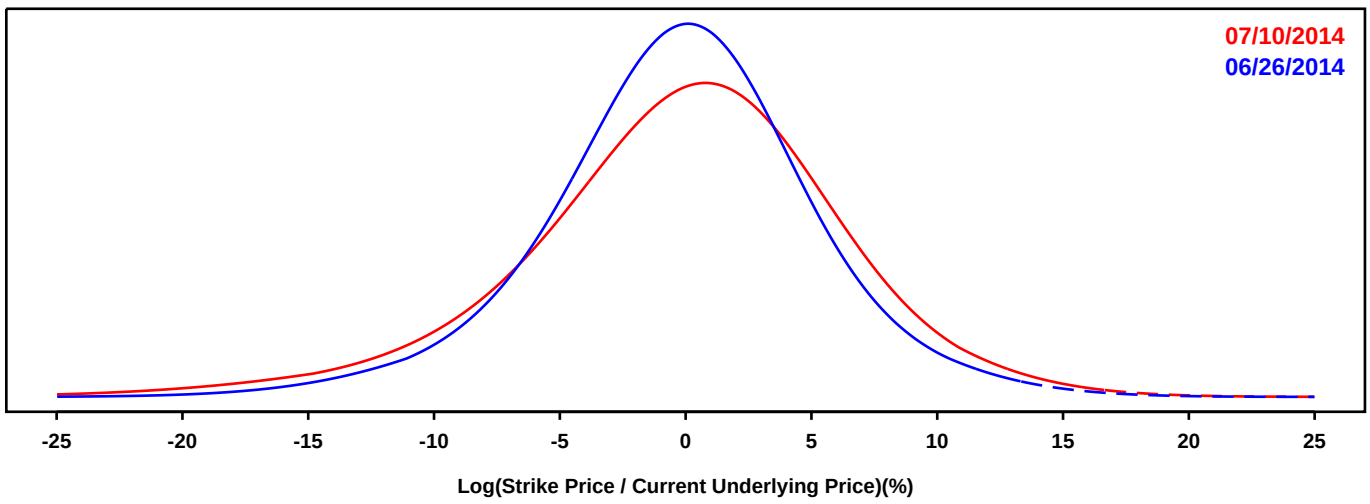
MARKET PROBABILITY DENSITY FUNCTIONS -- CATTLE FUTURES

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

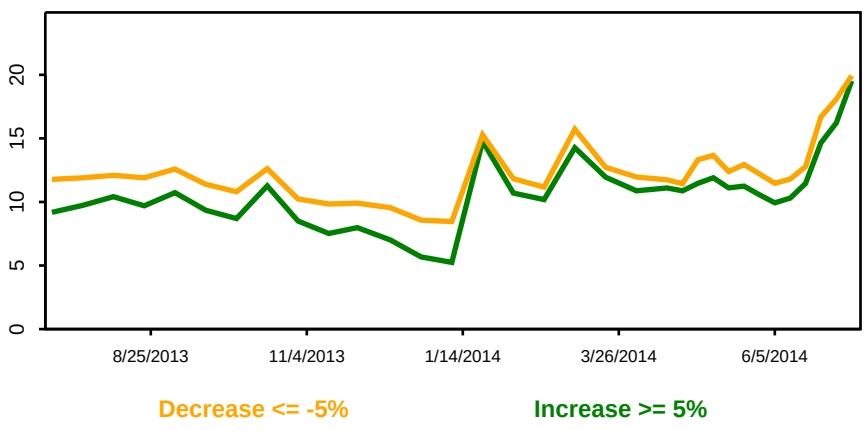
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



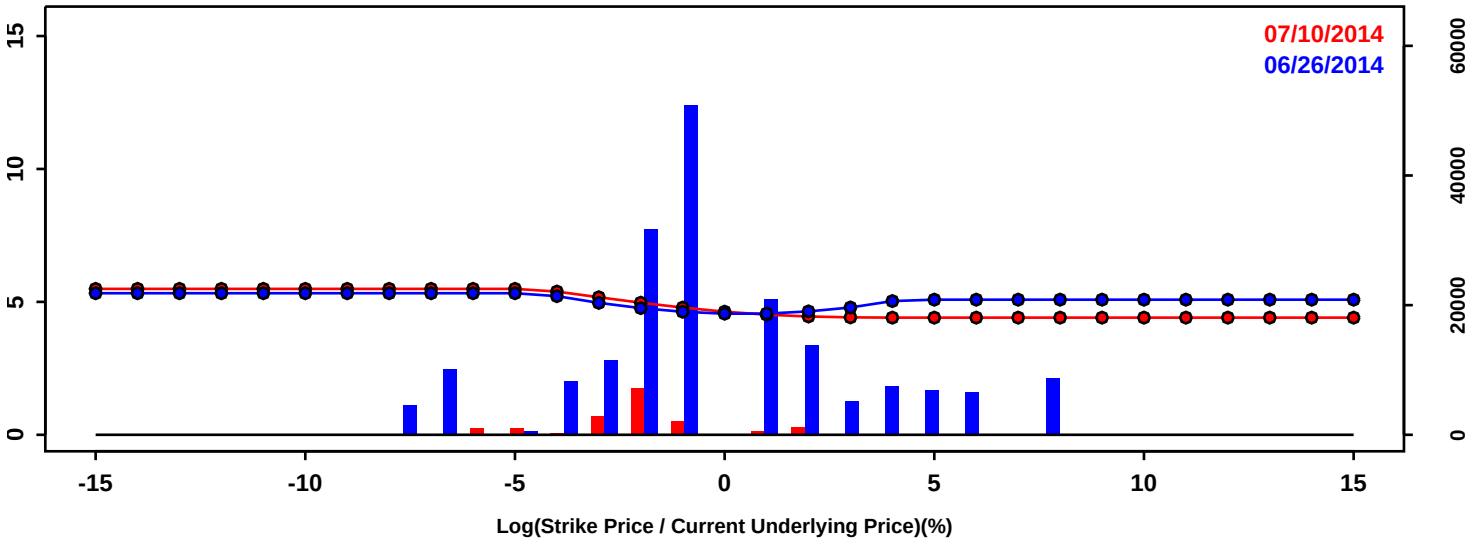
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-6.90%	-8.28%	-1.38%
50th Pct	-0.10%	0.21%	0.31%
90th Pct	6.26%	7.40%	1.13%
Mean	-0.21%	-0.18%	0.04%
Std Dev	5.40%	6.48%	1.08%
Skew	-0.18	-0.50	-0.32
Kurtosis	0.88	1.15	0.27

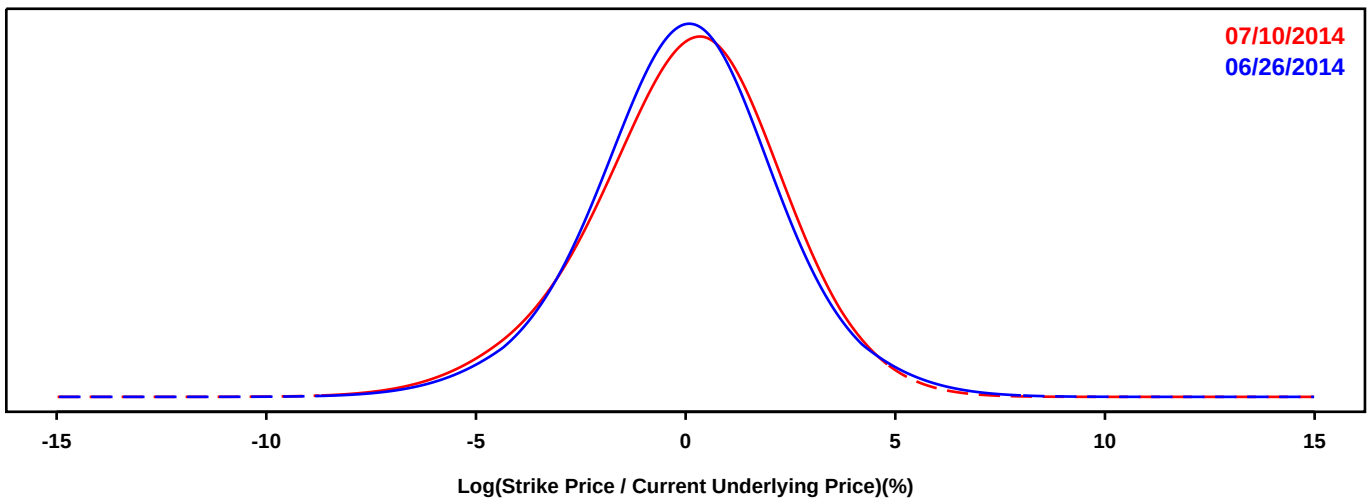
MARKET PROBABILITY DENSITY FUNCTIONS -- TEN YEAR TREASURY

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

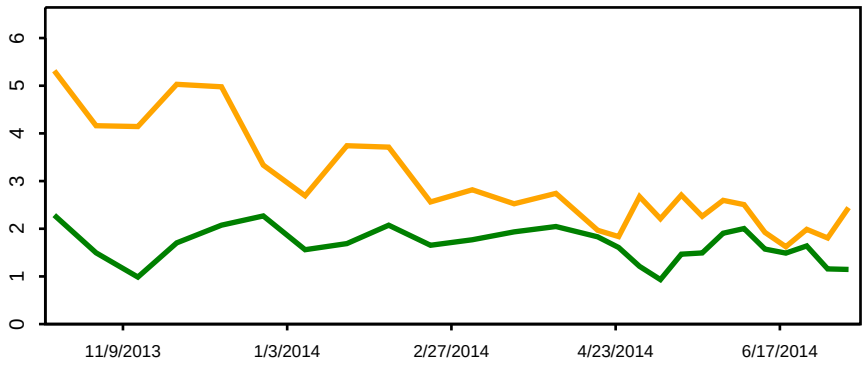
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change



Decrease <= -5% Increase >= 5%

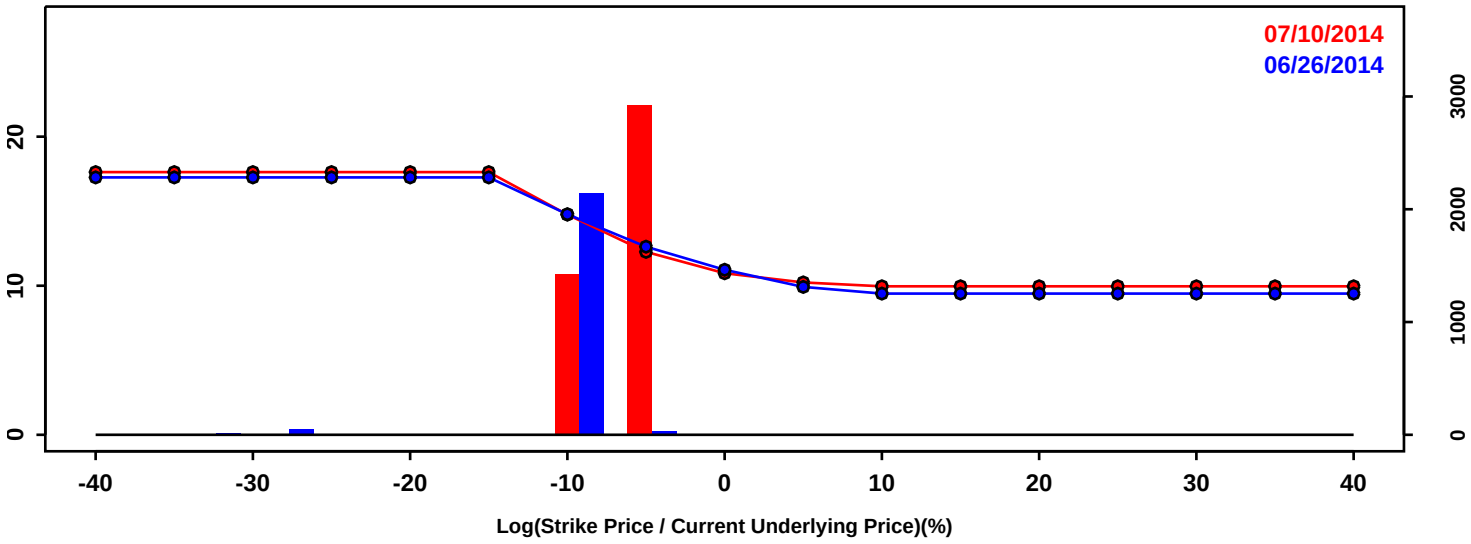
Statistics of the Log Return Distributions

	06/26/2014	07/10/2014	Change
10th Pct	-2.87%	-2.98%	-0.12%
50th Pct	0.06%	0.11%	0.05%
90th Pct	2.81%	2.84%	0.04%
Mean	0.03%	0.02%	-0.01%
Std Dev	2.27%	2.32%	0.05%
Skew	-0.08	-0.29	-0.22
Kurtosis	0.53	0.37	-0.16

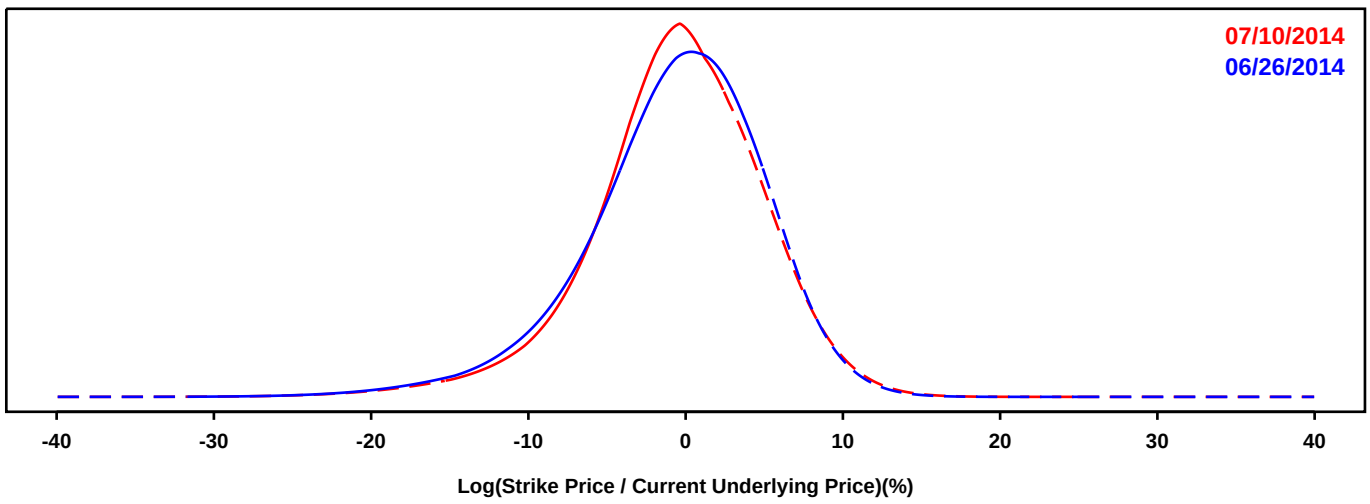
MARKET PROBABILITY DENSITY FUNCTIONS -- iSHARES DOW JONES US REAL ESTATE

Log returns are based on the market probability 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)



Market Probability Density Function of the Log Return Distribution



Probability of a Large Change

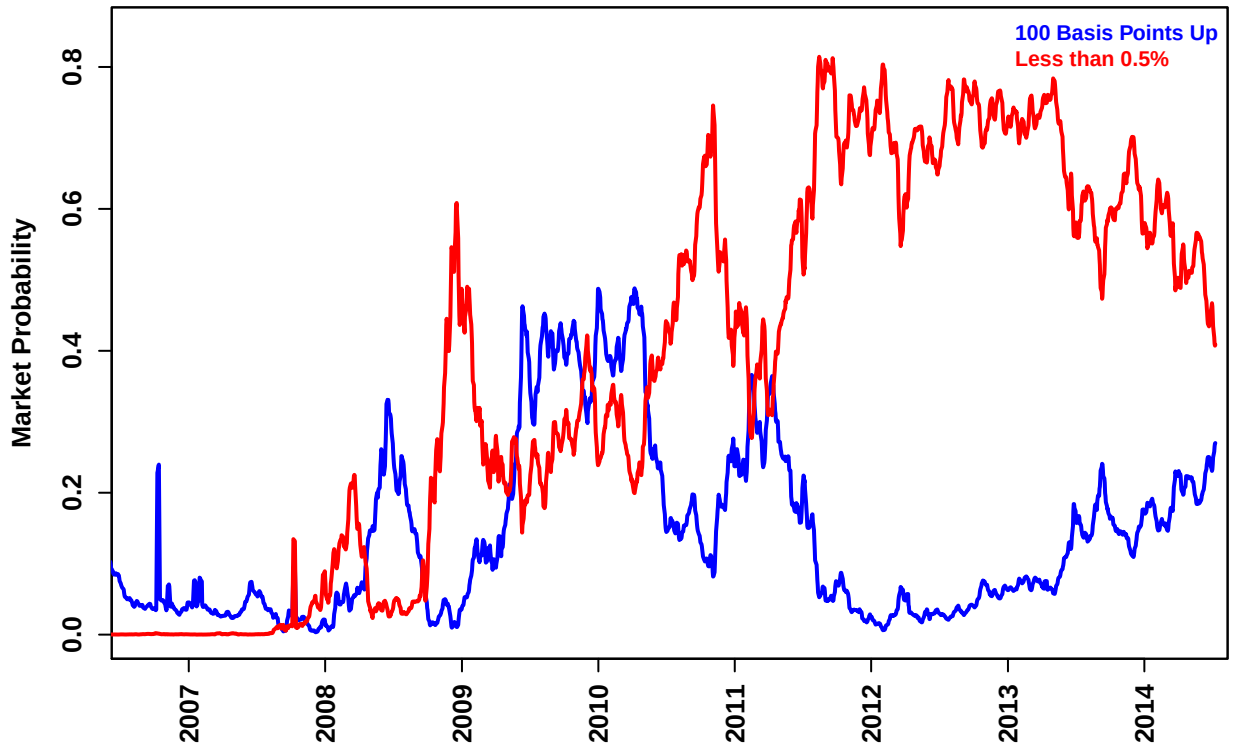
Decrease <= -10% Increase >= 10%

Statistics of the Log Return Distributions

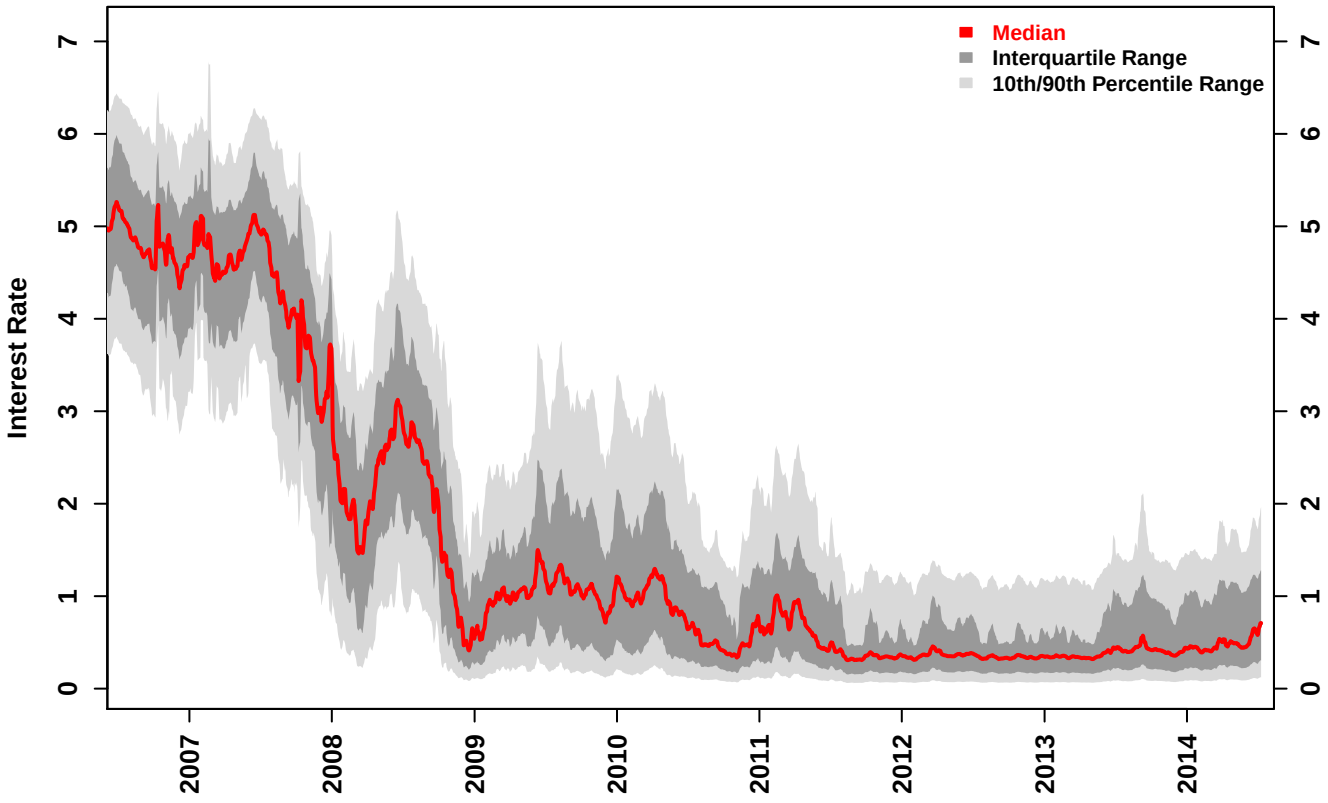
	06/26/2014	07/10/2014	Change
10th Pct	-7.94%	-7.33%	0.60%
50th Pct	-0.18%	-0.30%	-0.12%
90th Pct	5.98%	5.98%	-0.00%
Mean	-0.65%	-0.57%	0.08%
Std Dev	5.71%	5.54%	-0.17%
Skew	-0.69	-0.61	0.07
Kurtosis	1.19	1.44	0.25

MARKET PROBABILITY DENSITY FUNCTIONS −− Interest Rate Caps & Floors

Market Probability of Large Moves for 3−Month LIBOR, 2 Years Out, 5−Day Rolling Average

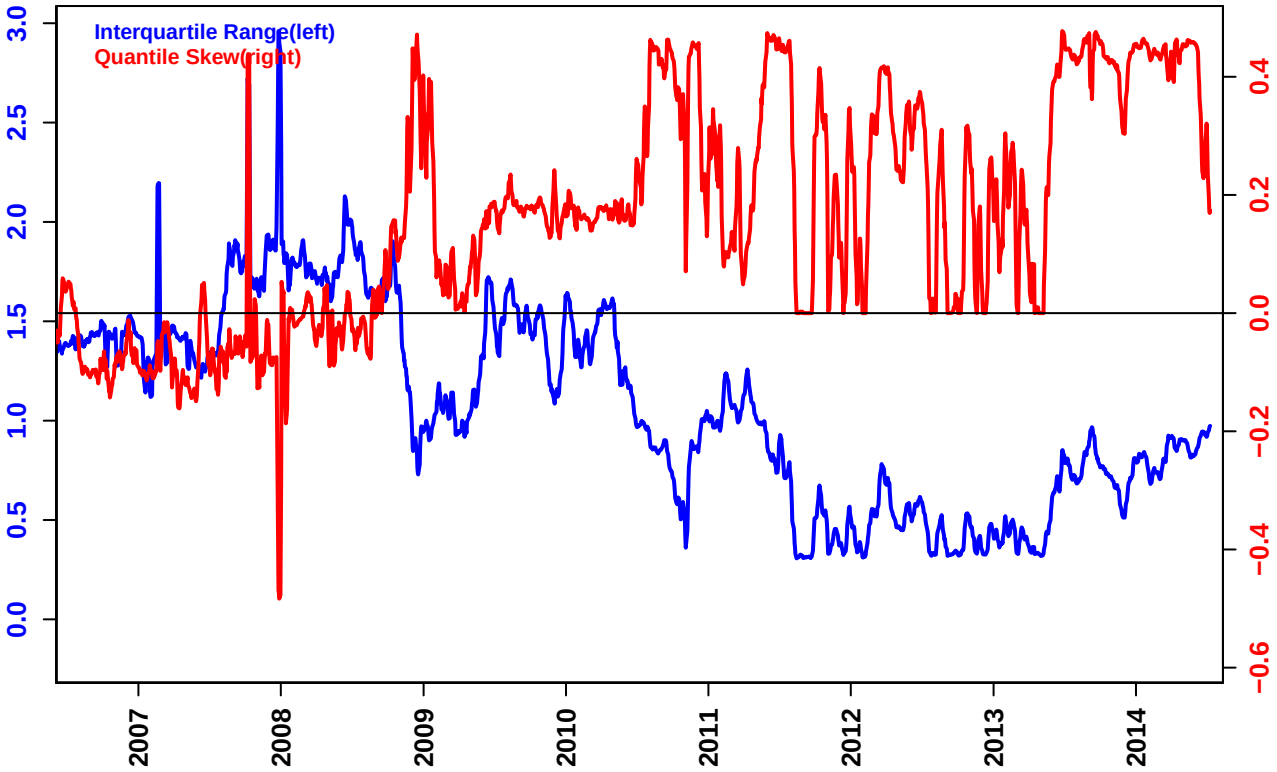


Distribution for LIBOR over 2 Years 5−Day Rolling Average



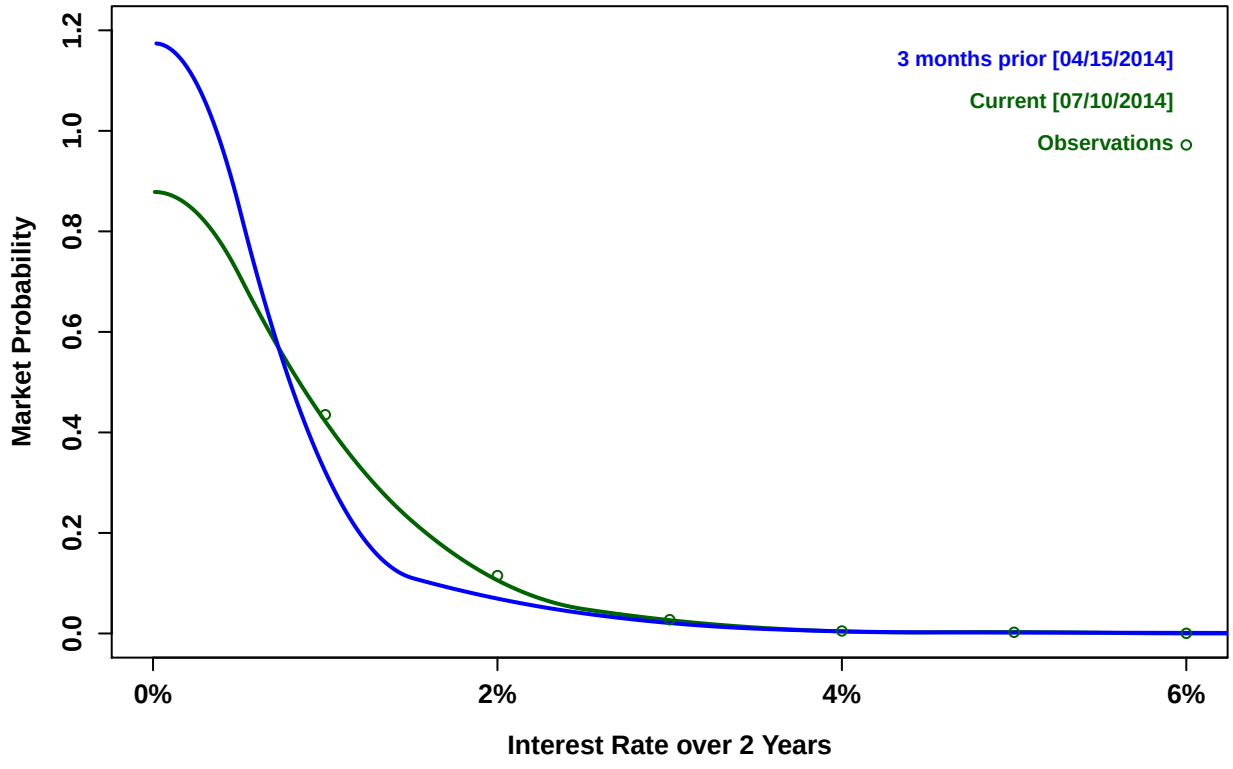
MARKET PROBABILITY DENSITY FUNCTIONS −− Interest Rate Caps & Floors

Dispersion and Skew for LIBOR over 2 Years
5−Day Rolling Average



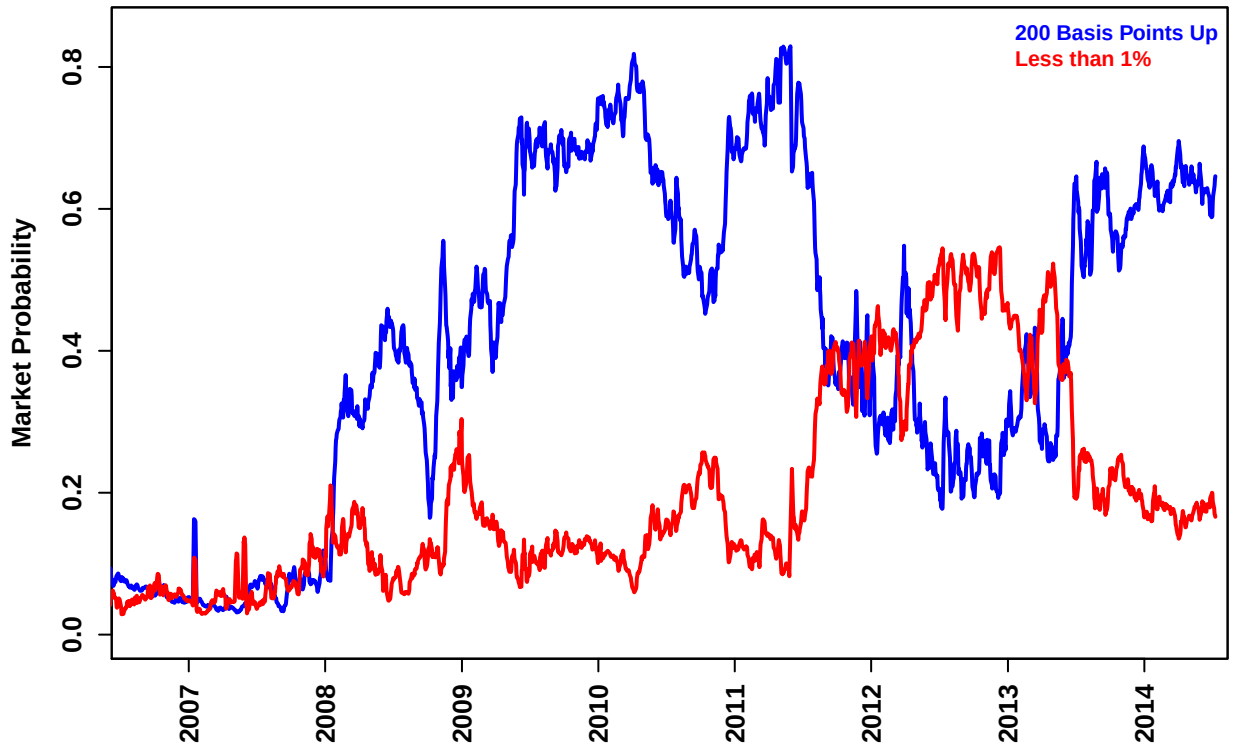
Note: Quantile skew is defined here as [(75th pctile − median) − (median − 25th pctile)] / (75th − 25th pctile)

Market Probability Density Function for LIBOR over the Next 2 Years

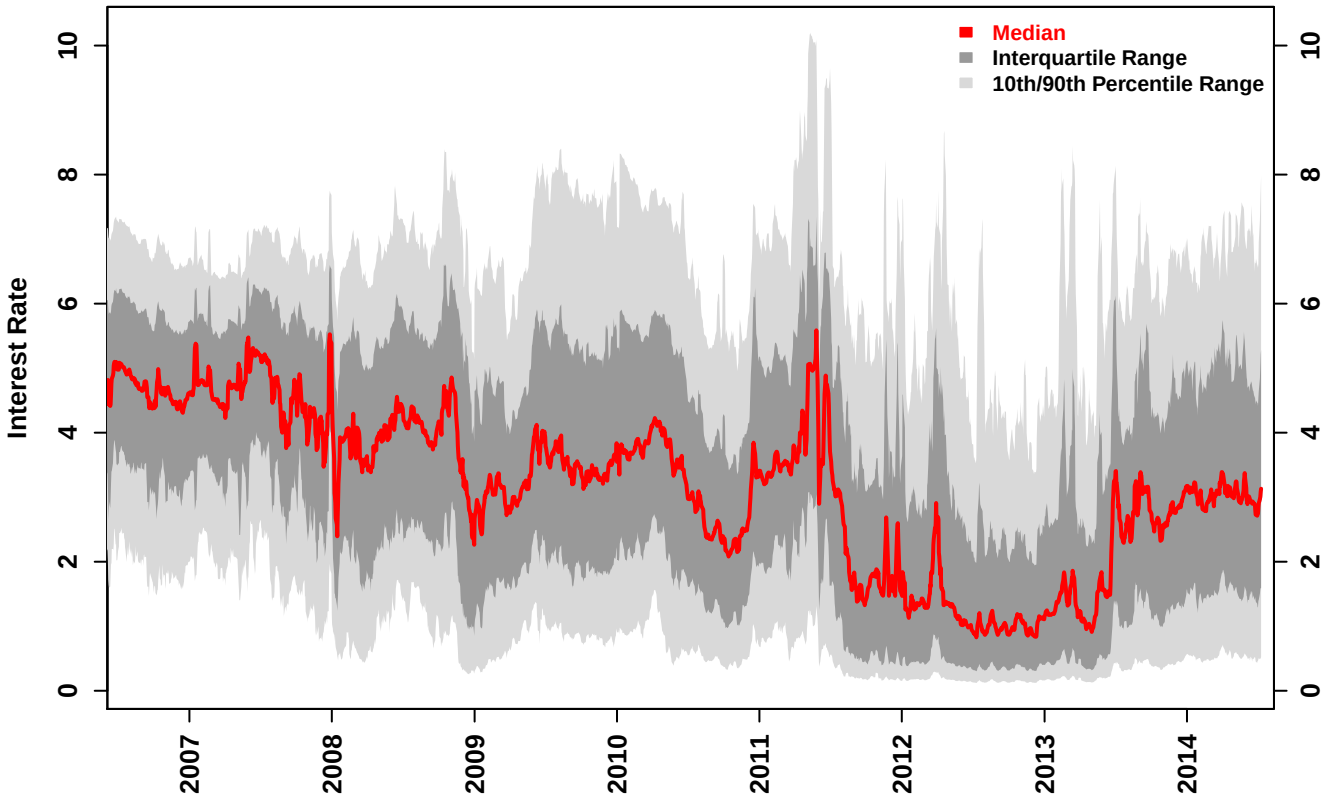


MARKET PROBABILITY DENSITY FUNCTIONS −− Interest Rate Caps & Floors

Probability of 200 Basis Point Moves for 3−Month LIBOR, 5 Years Out, 5−Day Rolling Average

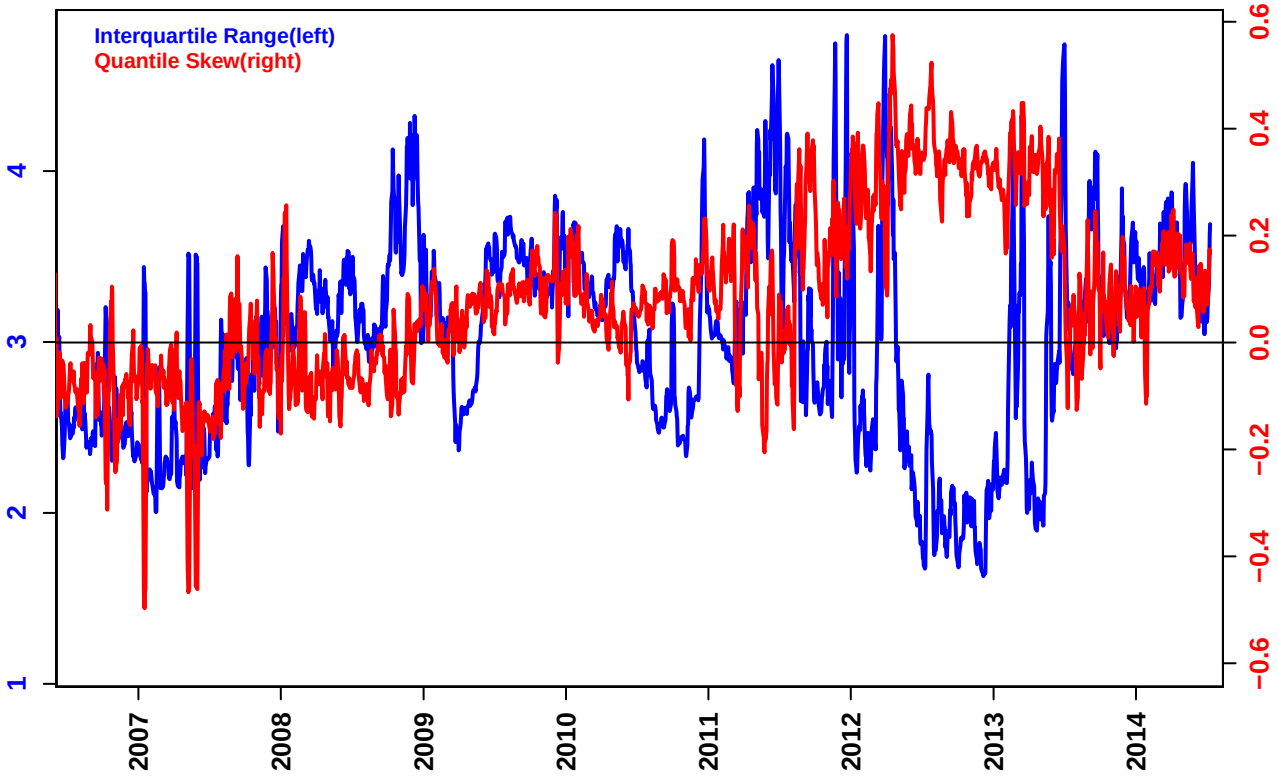


Distribution for LIBOR over 5 Years 5−Day Rolling Average



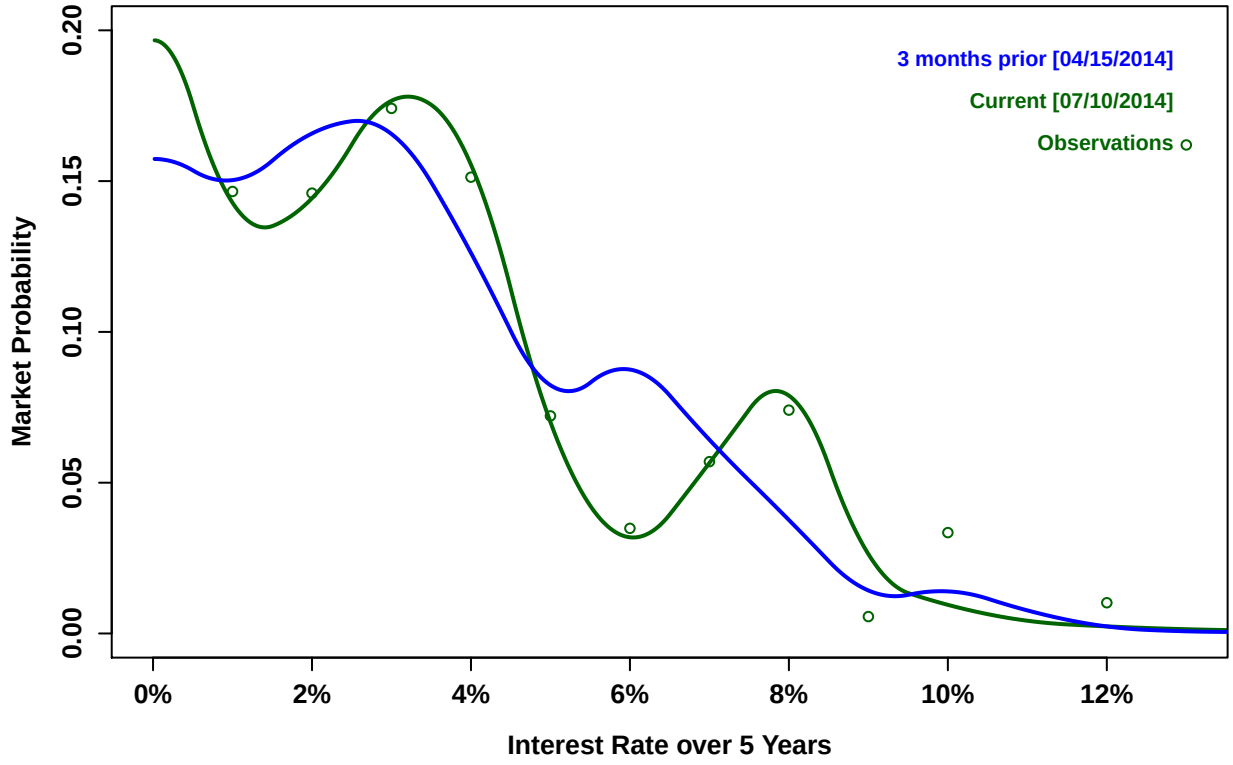
MARKET PROBABILITY DENSITY FUNCTIONS −− Interest Rate Caps & Floors

Dispersion and Skew for LIBOR over 5 Years
5−Day Rolling Average



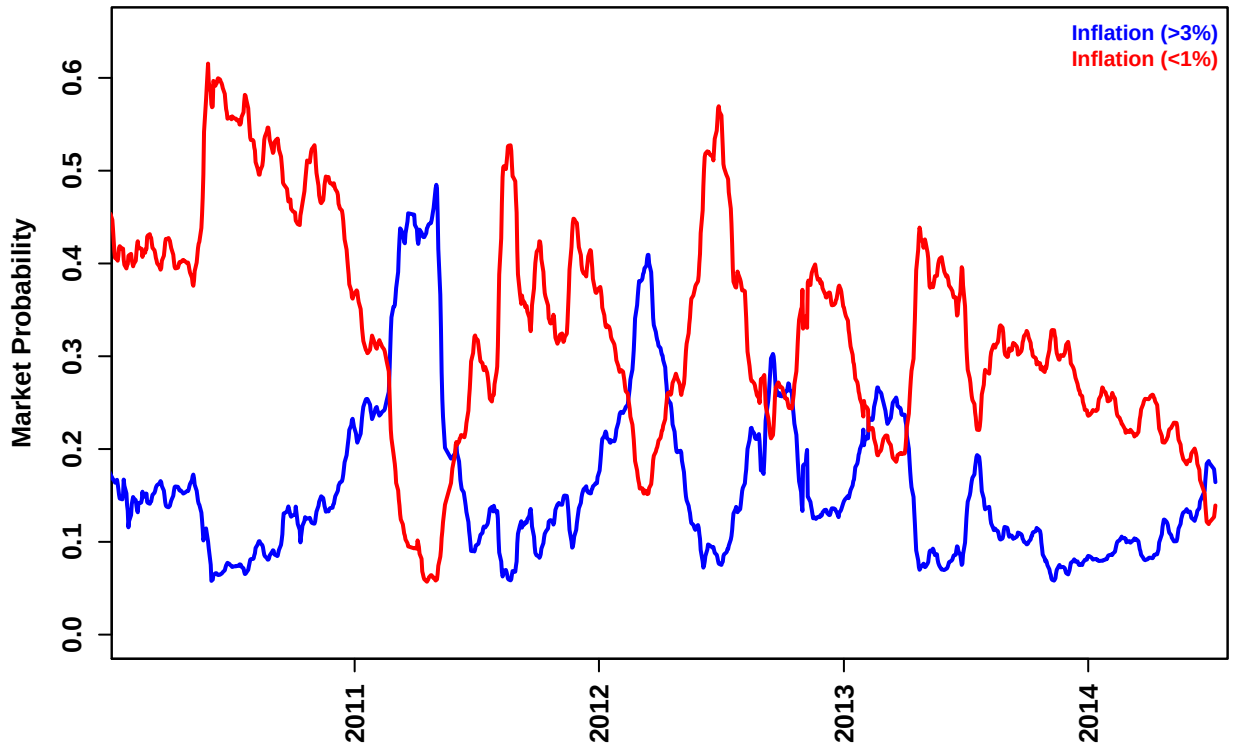
Note: Quantile skew is defined here as [(75th pctile − median) − (median − 25th pctile)] / (75th − 25th pctile)

Market Probability Density Function for LIBOR over the Next 5 Years

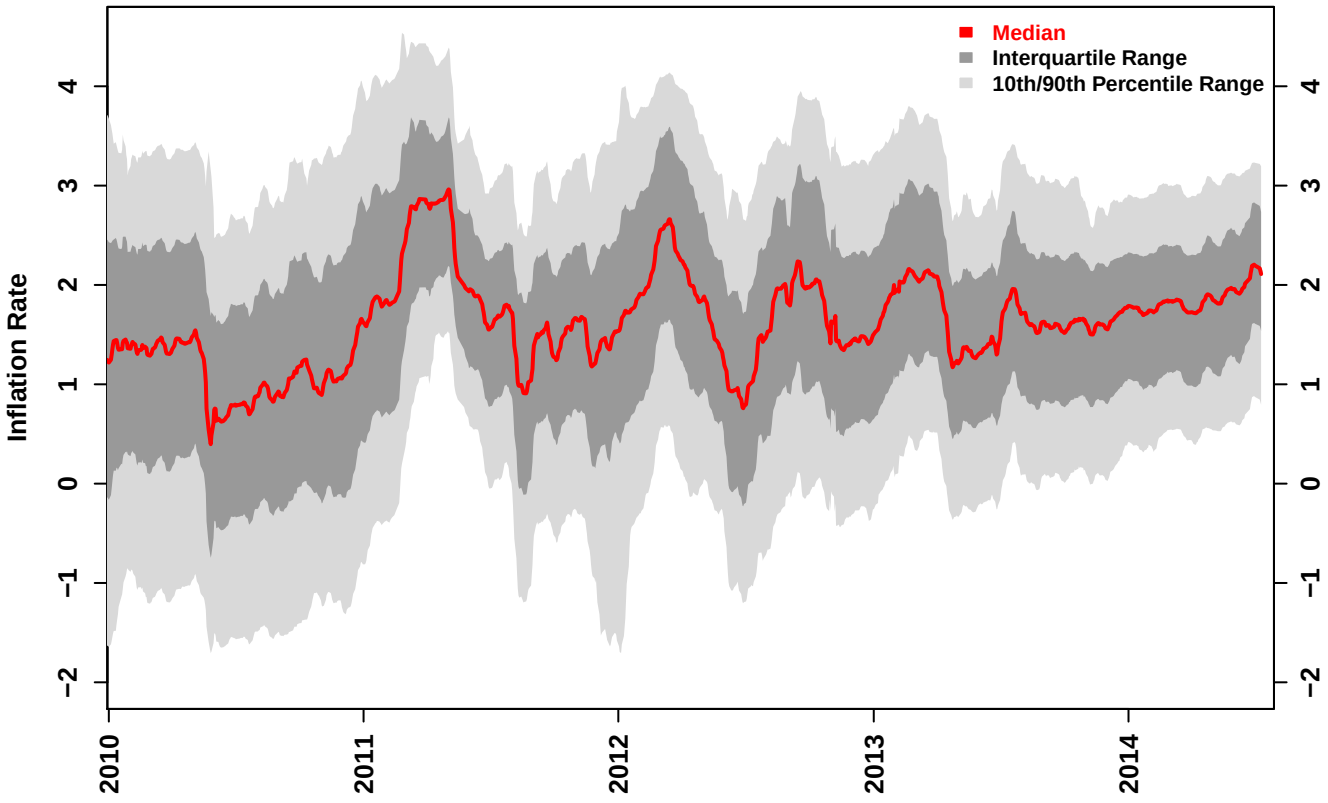


MARKET PROBABILITY DENSITY FUNCTIONS −− Inflation Rate Caps & Floors

Market Probability of Elevated Inflation or Deflation over 12 Months
5−Day Rolling Average

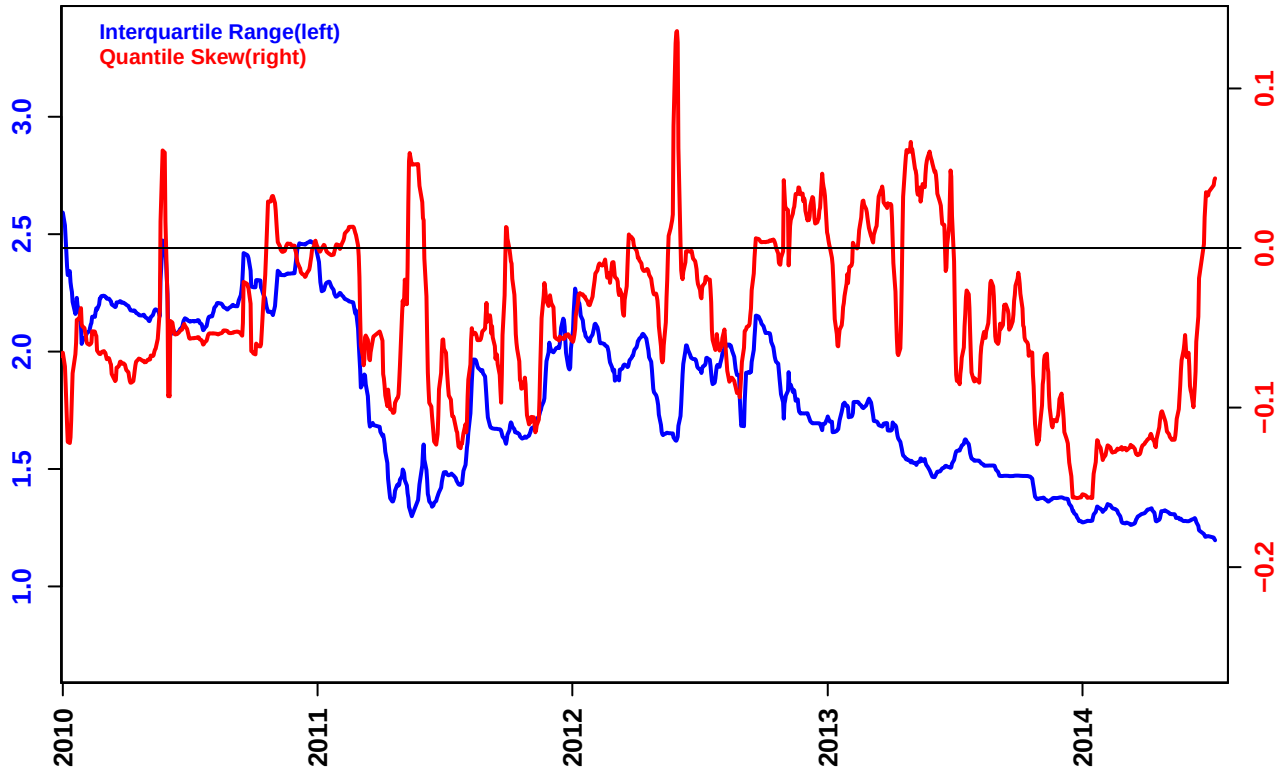


Distribution for Inflation over 12 Months
5−Day Rolling Average



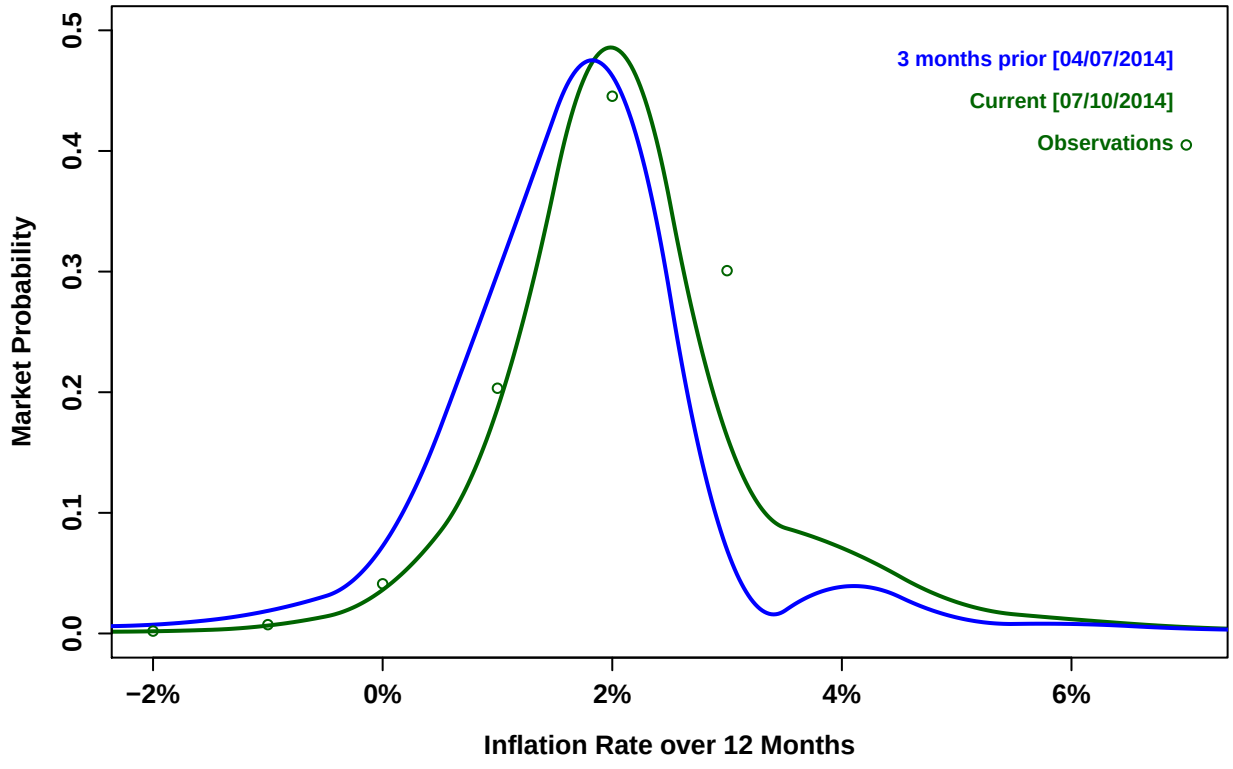
MARKET PROBABILITY DENSITY FUNCTIONS −− Inflation Rate Caps & Floors

Dispersion and Skew for Inflation over 12 Months
5−Day Rolling Average



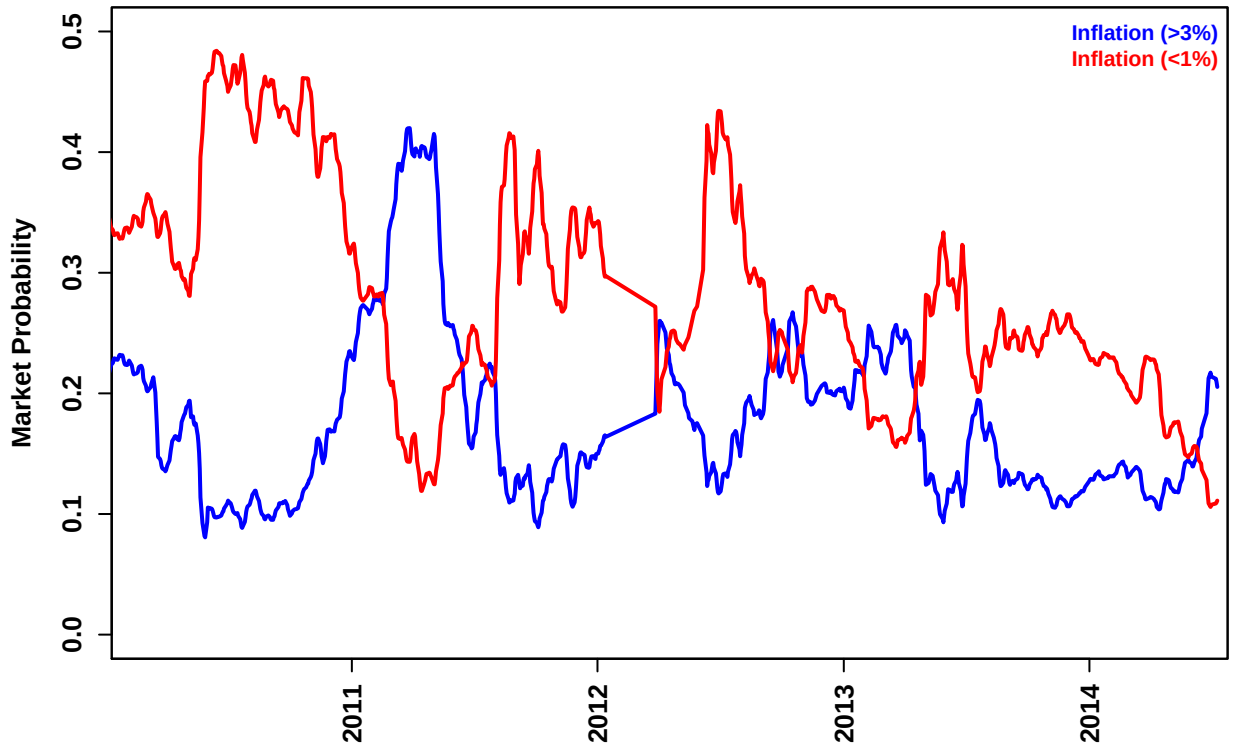
Note: Quantile skew is defined here as [(75th pctile − median) − (median − 25th pctile)] / (75th − 25th pctile)

Market Probability Density Function for Inflation over the Next 12 Months

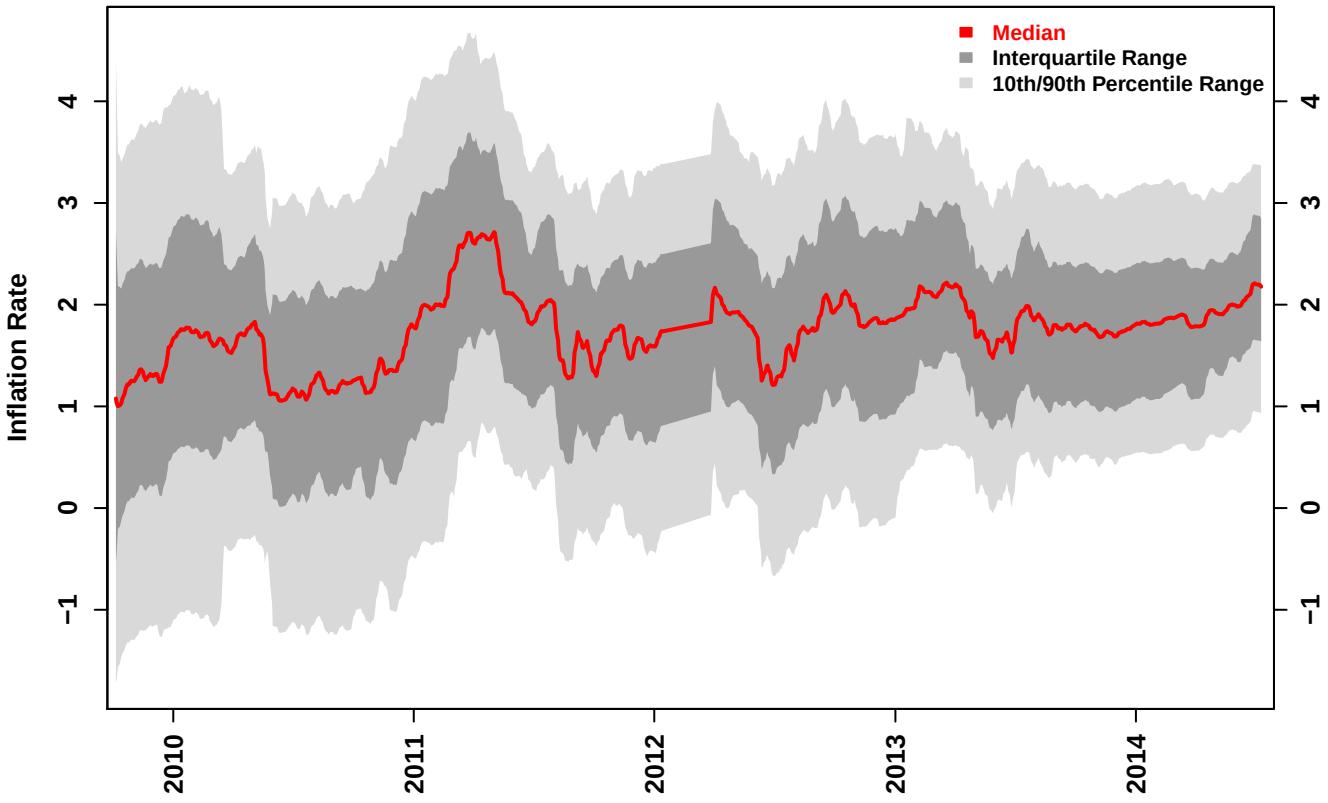


MARKET PROBABILITY DENSITY FUNCTIONS −− Inflation Rate Caps & Floors

Market Probability of Elevated Inflation or Deflation over 2 Years, 5−Day Rolling Average

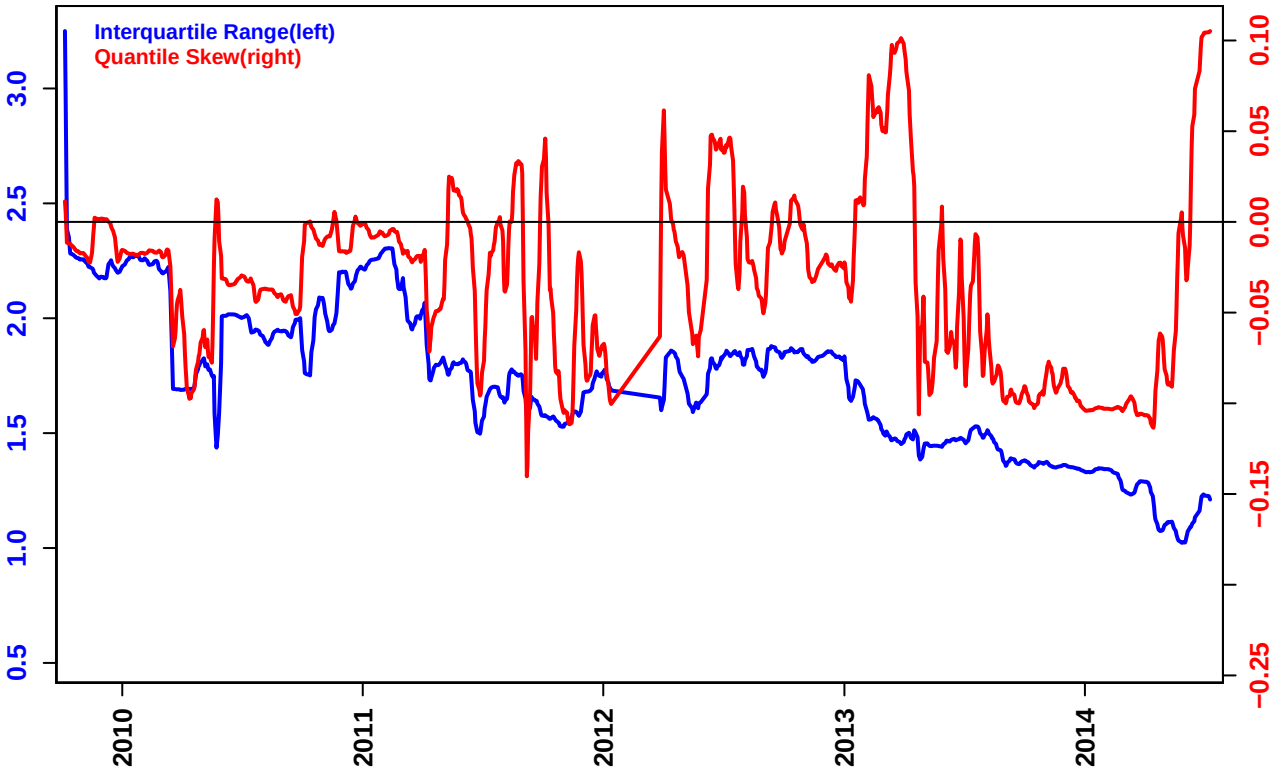


Distribution for Inflation over 2 Years 5−Day Rolling Average



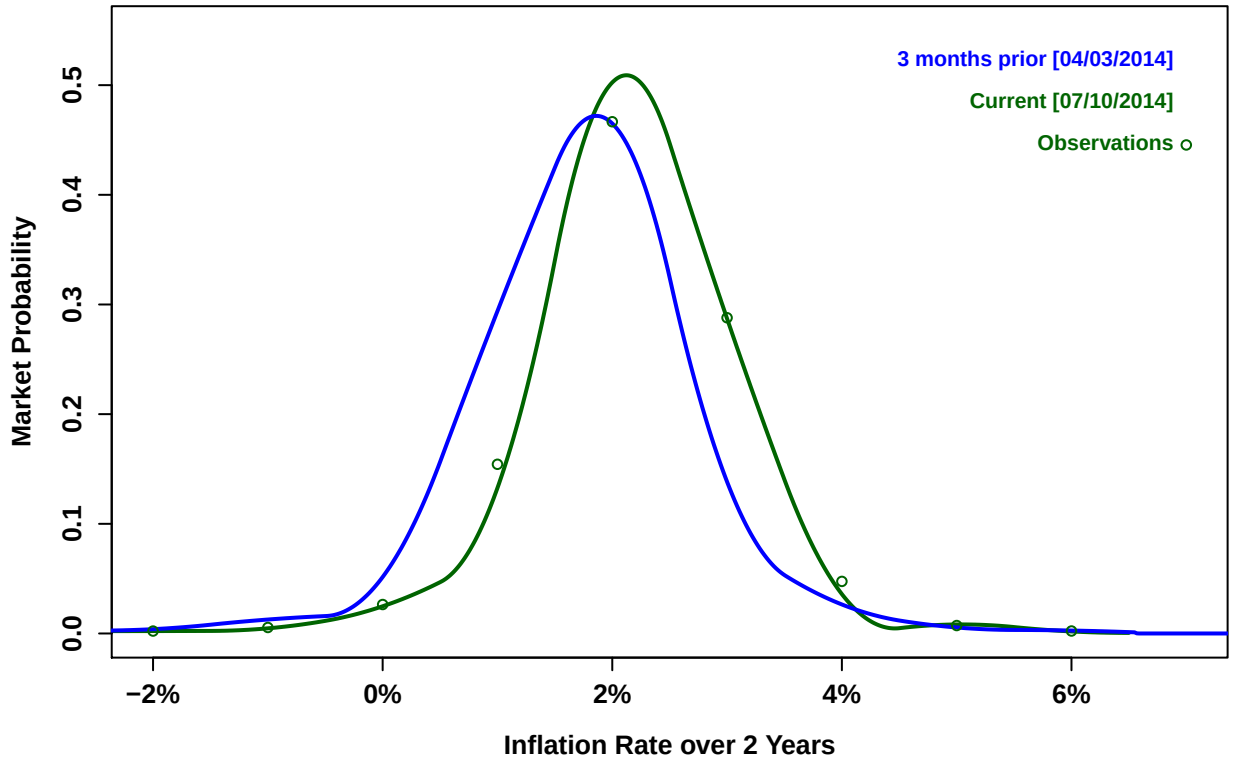
MARKET PROBABILITY DENSITY FUNCTIONS −− Inflation Rate Caps & Floors

Dispersion and Skew for Inflation over 2 Years
5−Day Rolling Average



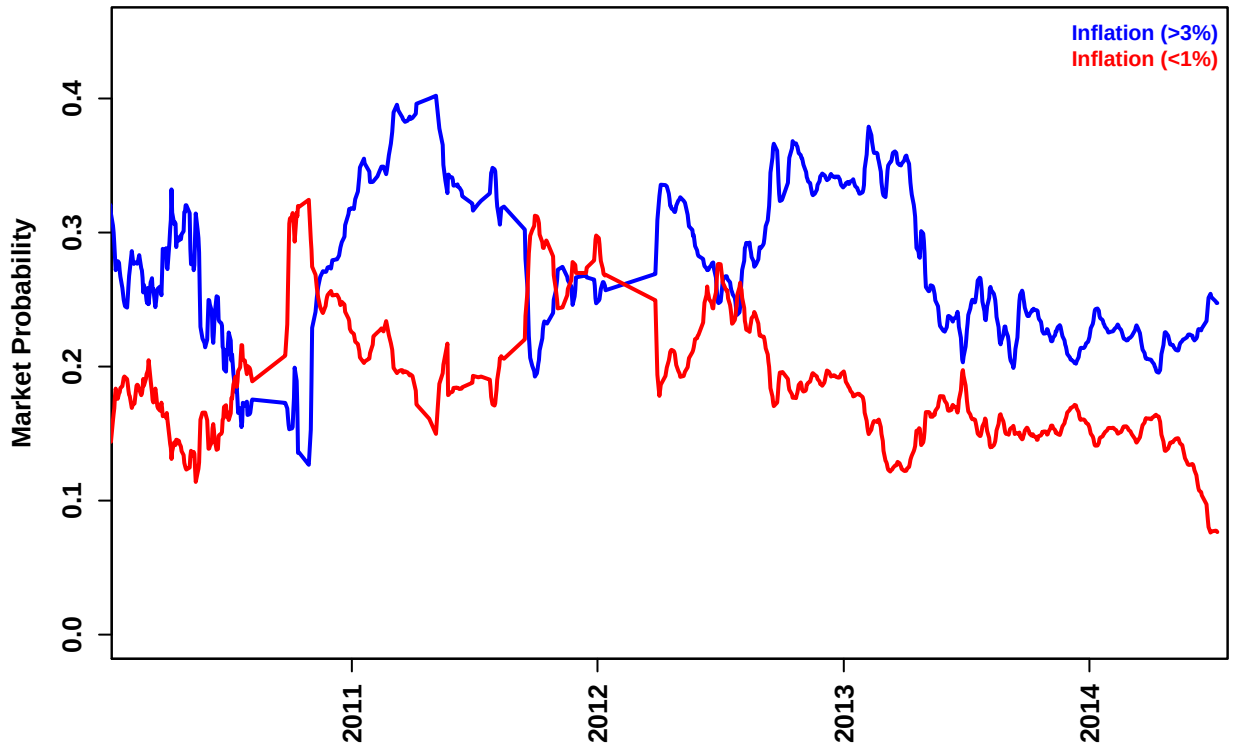
Note: Quantile skew is defined here as [(75th pctile − median) − (median − 25th pctile)] / (75th − 25th pctile)

Market Probability Density Function for Inflation over the Next 2 Years

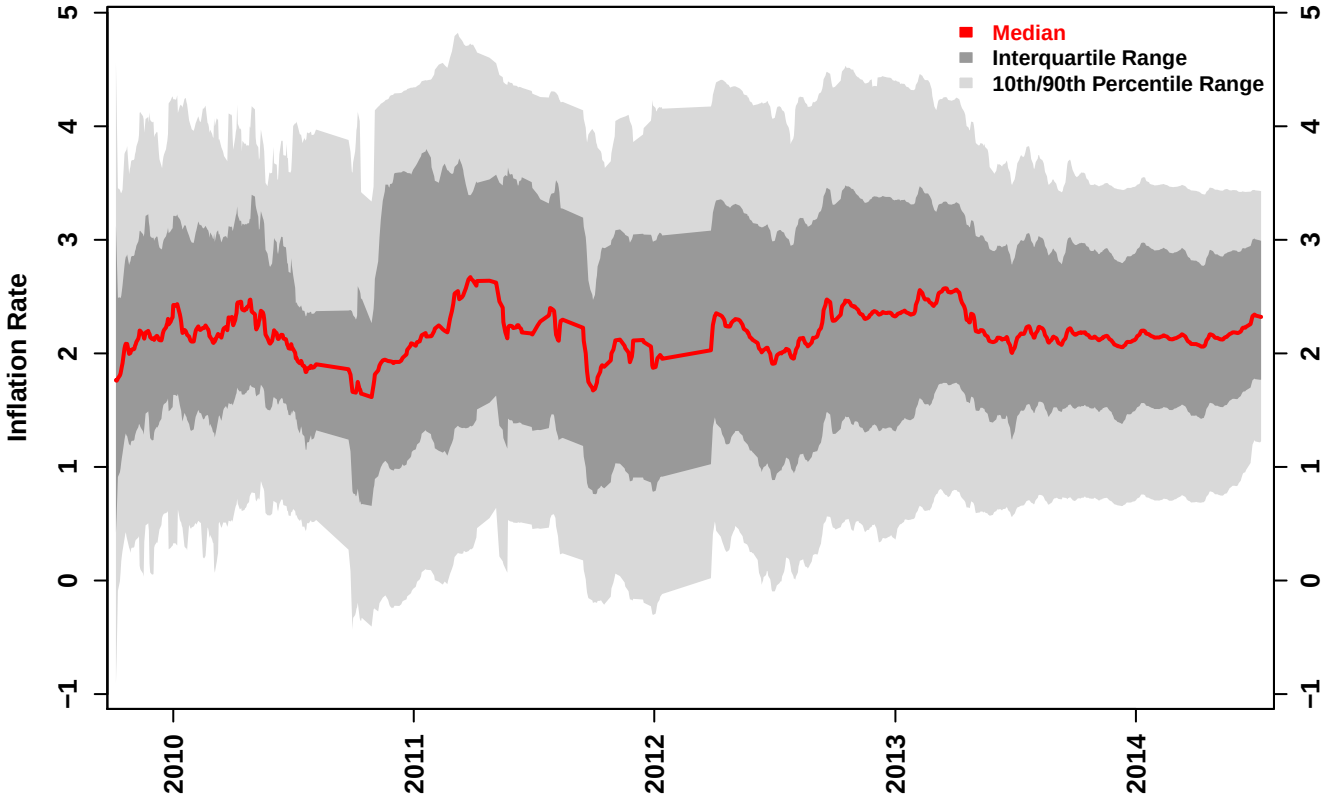


MARKET PROBABILITY DENSITY FUNCTIONS −− Inflation Rate Caps & Floors

Market Probability of Elevated Inflation or Deflation over 5 Years, 5−Day Rolling Average

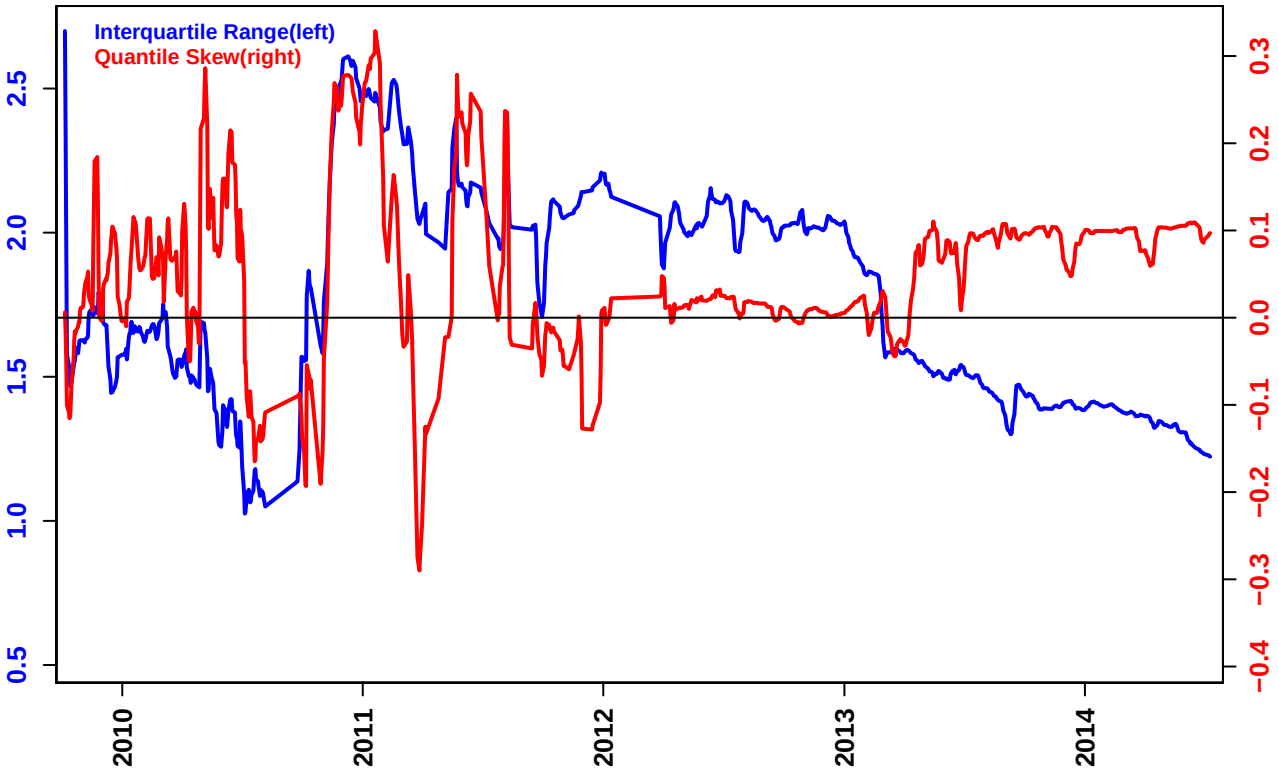


Distribution for Inflation over 5 Years 5−Day Rolling Average



MARKET PROBABILITY DENSITY FUNCTIONS −− Inflation Rate Caps & Floors

Dispersion and Skew for Inflation over 5 Years
5−Day Rolling Average



Note: Quantile skew is defined here as [(75th pctile − median) − (median − 25th pctile)] / (75th − 25th pctile)

Market Probability Density Function for Inflation over the Next 5 Years