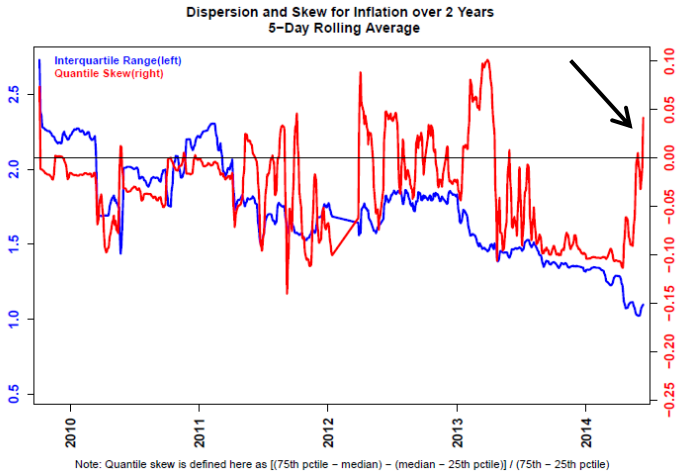
Minneapolis Options Report – June 12th

Inflation

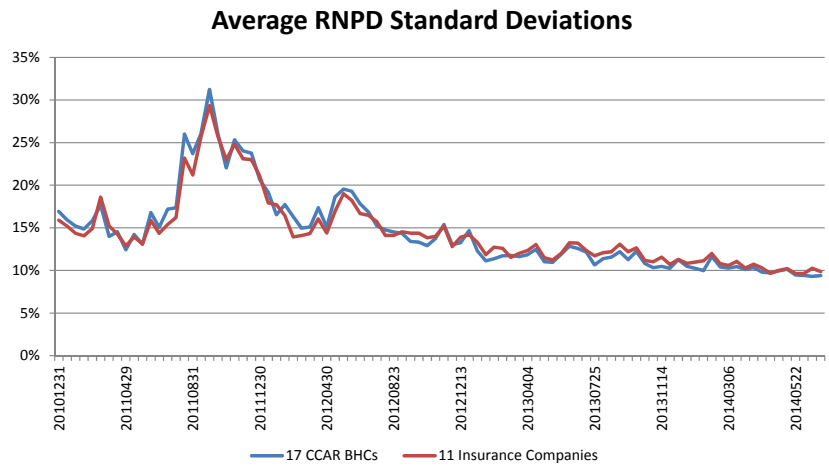
RNPD skew derived from inflation caps and floors moved higher and turned positive over the past two weeks at the two year expiry. At all expiries, risk neutral probabilities for inflation of less than 1% continue to fall indicating that the markets continue to assign less probability to lower inflation rates. Below we update the graph we published two weeks ago and note the spiking skew (red line) and declining standard deviation (blue line).



Banks & Insurance Companies

RNPDs derived from options on equities were largely unchanged across the 31 BHC and insurance company markets we follow. Options trading volumes were generally below average and statistics calculated from the risk neutral distributions showed only minor differences from two weeks ago.

The average CCAR 17 bank price change matched the average of 11 insurance companies price change equaling 2.9% over the past two weeks. This outpaced the S&P 500 price change of 0.50%. Average RNPD standard deviations for banks and insurance companies remain at multi-year lows signaling continued market expectations for low tail risk.

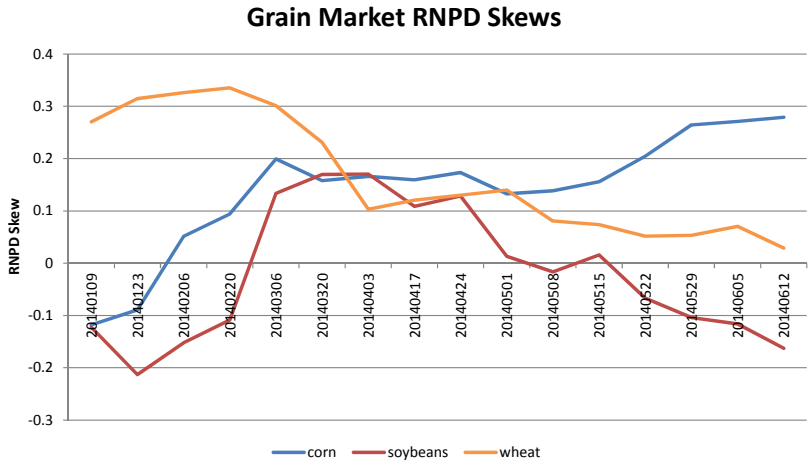


Other Commodity Markets

There was strong trading in options on the S&P 500 index last week and, as spot prices moved up, skews became less negative indicating less expectation of downside price moves relative to upside price moves. Trading was robust across all of the commodity markets we follow and tail risks, as measured by RNPD standard deviation, were lower in 12 of the 13 markets.

- We registered sizable declines in RNPD standard deviations derived from options on corn, soybean, and wheat futures. Spot prices in the grain markets also continue to decline falling -4.2% for corn, -2.6% for soybeans, and -6.4% for wheat over the past two weeks.

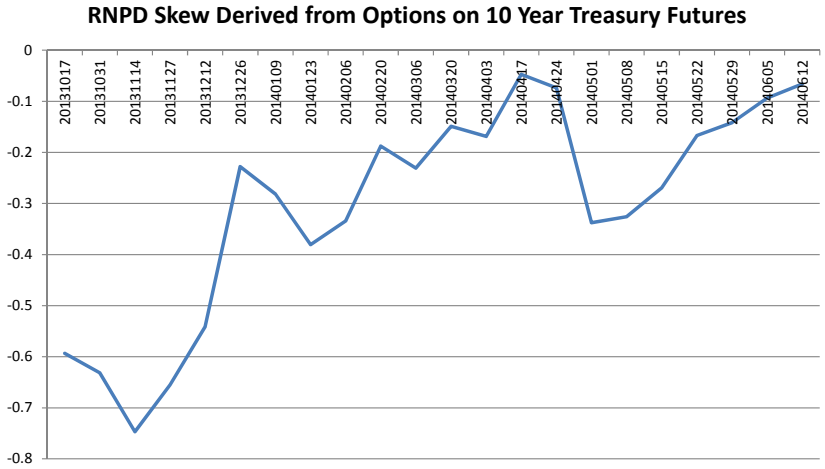
  We note that RNPD skew for corn is moving opposite the skews of soybeans and wheat indicating the market's expectation for upside price moves for corn is growing, especially relative to the other grains. (*See corn, soybean, and wheat reports*)



- Spot prices in the oil markets rose with WTI rising about 2.8% and Brent rising 2.9% relative to two weeks ago. RNPD standard deviations derived from options on futures prices fell slightly again for both types of crude but RNPD skews moved higher. This suggests less expectation of large price moves with more bias towards rising prices. (*See WTI and Brent reports*)

- Options on precious metals futures displayed strong activity last week. Spot prices were 1.3% for gold futures and 2.7% higher for silver futures. RNPD standard deviations derived from options on both commodities fell noticeably: -1.1% for gold and -1.9% for silver. Similar to the oil markets, RNPD skews rose. (*See Gold and Silver reports*)

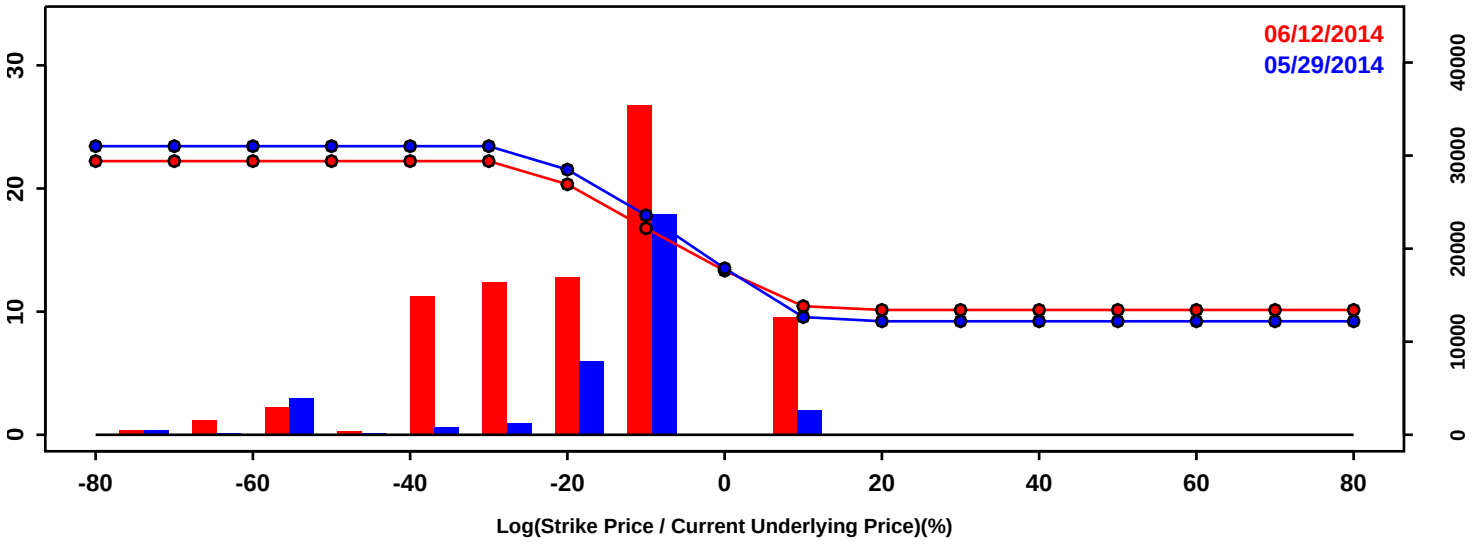
- The RNPD skew measured from options on the ten year treasury futures continues to climb suggesting that market expectations for increases in ten year interest rates continue to fall. (*See Ten Year Treasury report*)



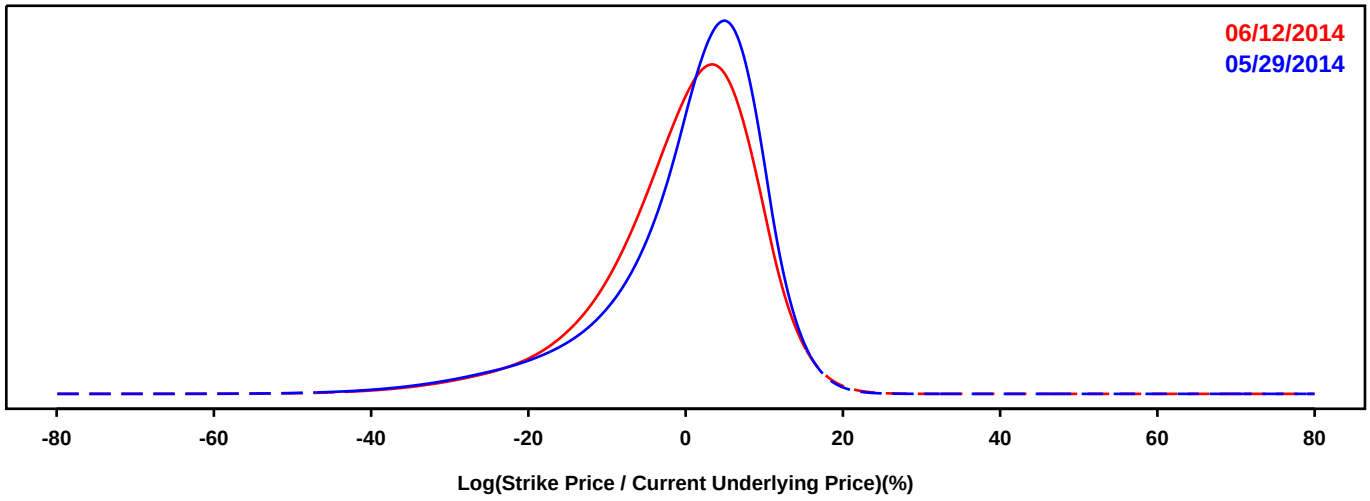
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- S&P 500

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

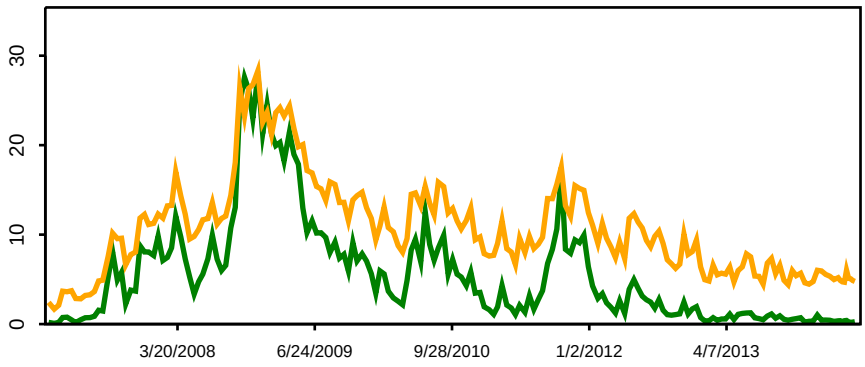
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

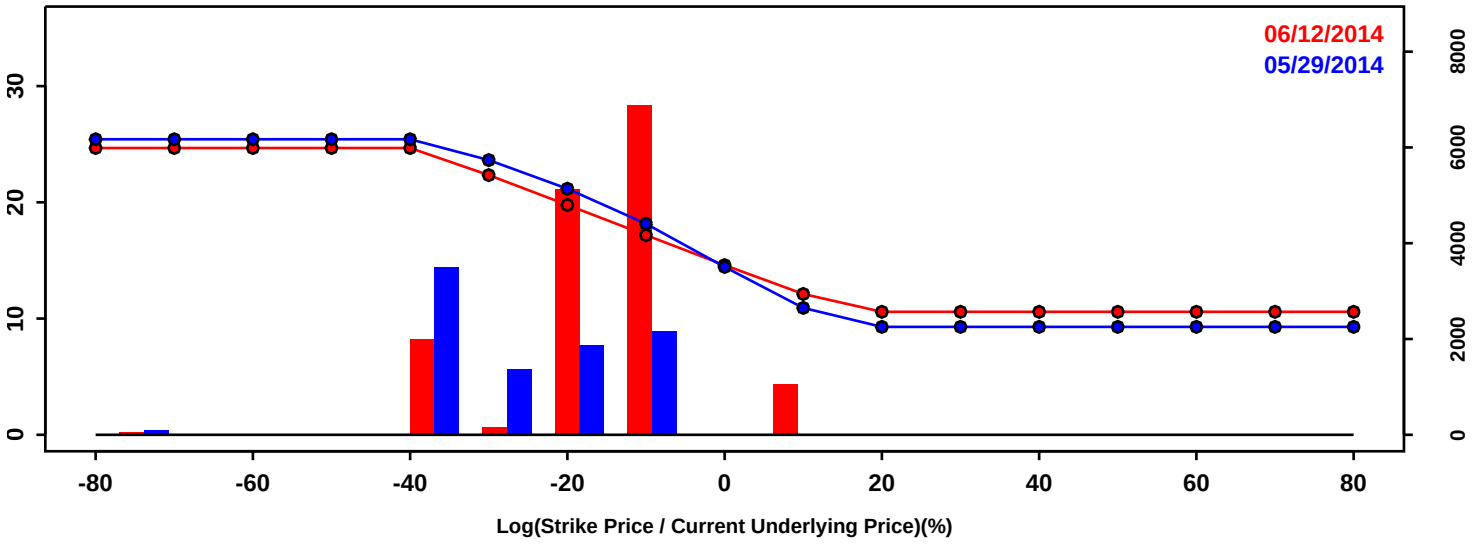
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-12.95%	-13.45%	-0.49%
50th Pct	2.51%	0.96%	-1.55%
90th Pct	10.49%	10.06%	-0.43%
Mean	0.38%	-0.62%	-1.00%
Std Dev	10.10%	9.90%	-0.20%
Skew	-1.39	-1.08	0.31
Kurtosis	2.77	1.99	-0.78

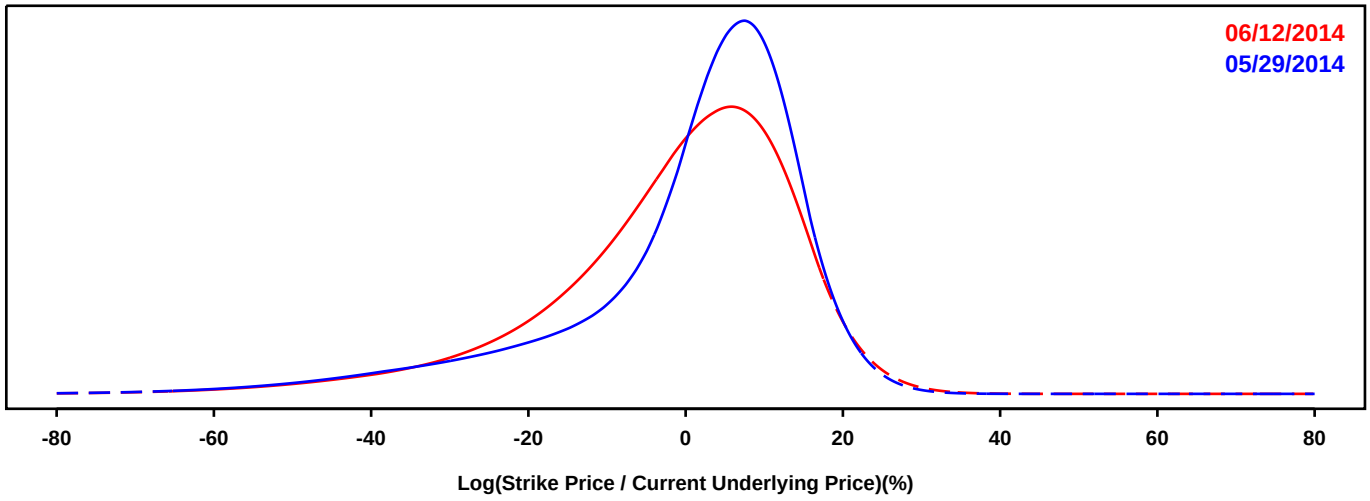
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- S&P 500

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%

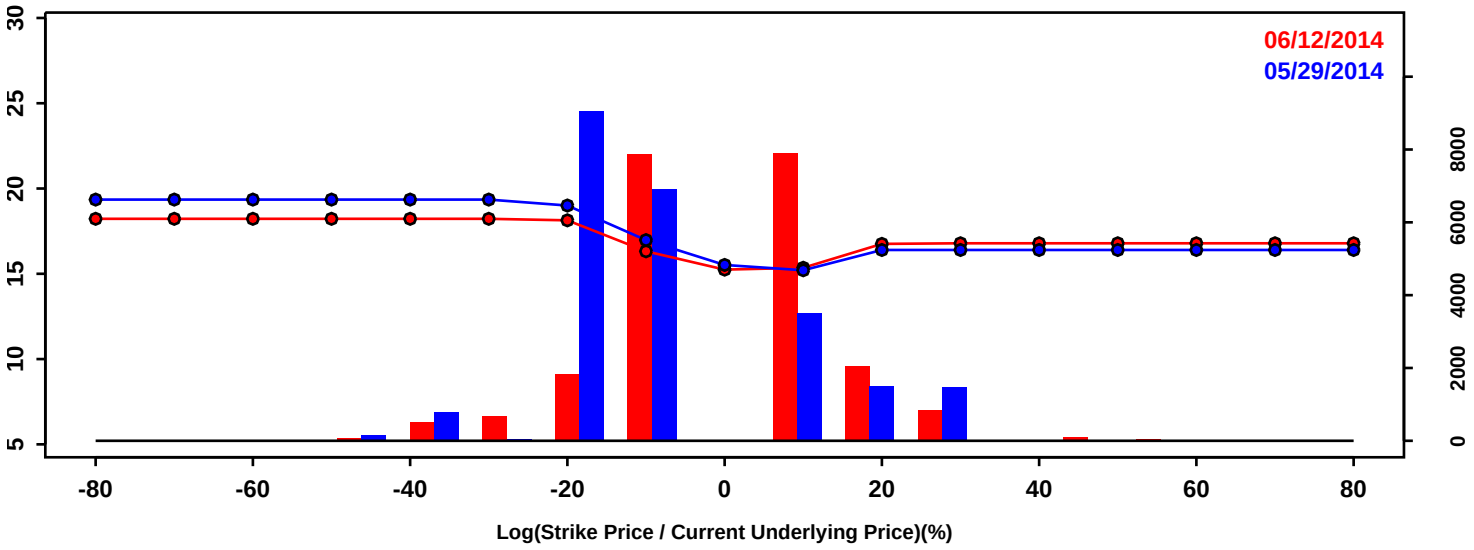
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-21.34%	-22.26%	-0.93%
50th Pct	4.30%	1.32%	-2.98%
90th Pct	15.17%	15.06%	-0.11%
Mean	0.40%	-1.55%	-1.95%
Std Dev	15.72%	15.72%	-0.00%
Skew	-1.57	-1.15	0.42
Kurtosis	3.14	2.05	-1.09

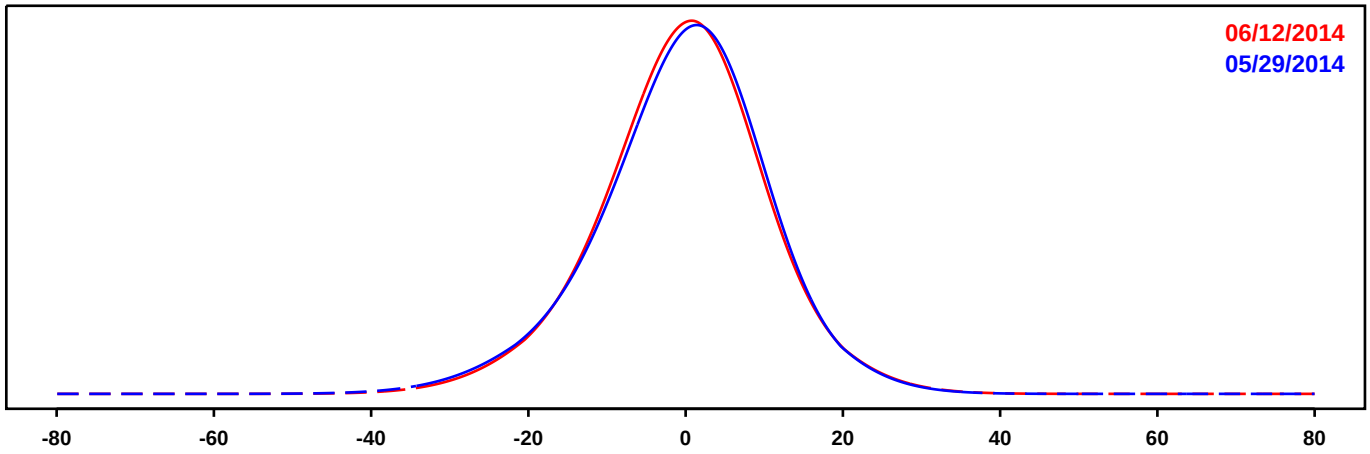
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CRUDE OIL FUTURES (WTI)

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%

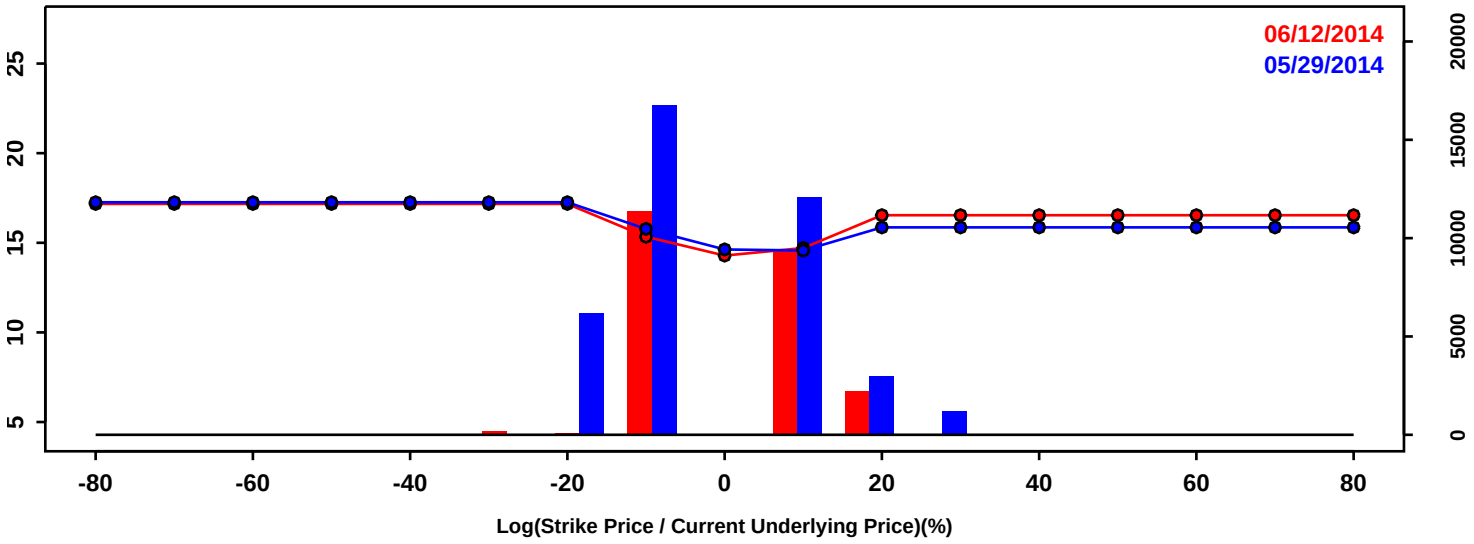
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-14.44%	-13.98%	0.45%
50th Pct	0.28%	0.00%	-0.28%
90th Pct	12.75%	12.68%	-0.07%
Mean	-0.31%	-0.32%	-0.01%
Std Dev	11.00%	10.77%	-0.23%
Skew	-0.32	-0.18	0.14
Kurtosis	0.66	0.59	-0.07

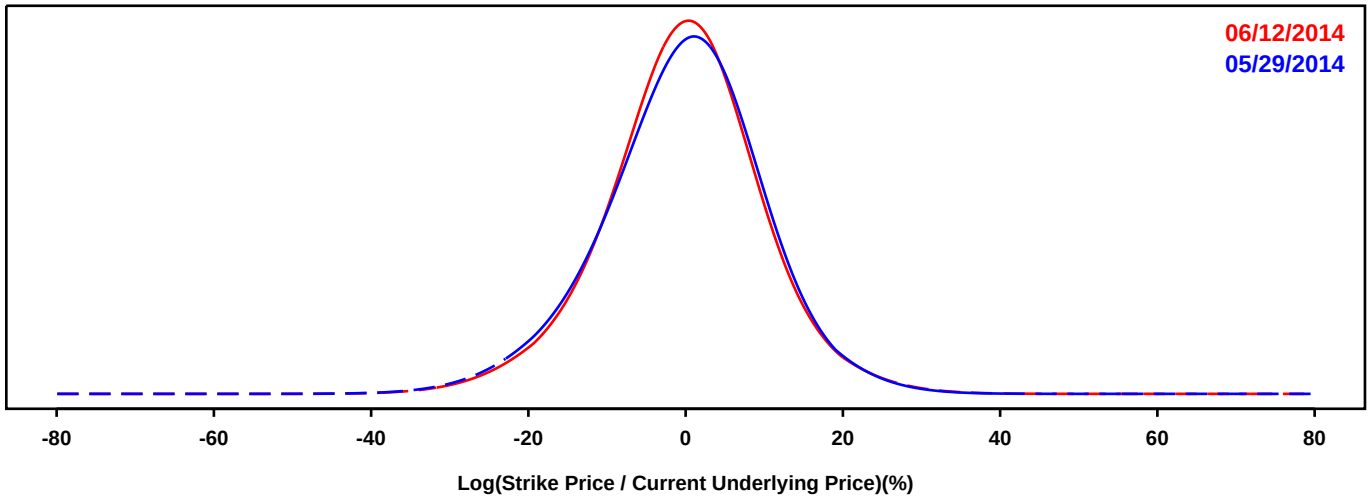
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CRUDE OIL FUTURES (Brent)

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

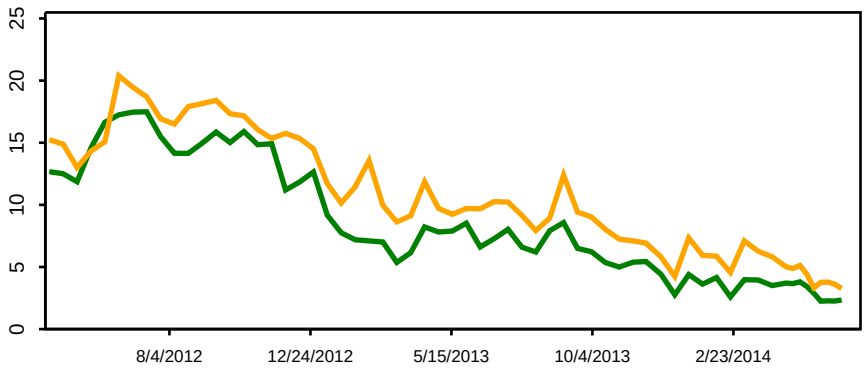
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

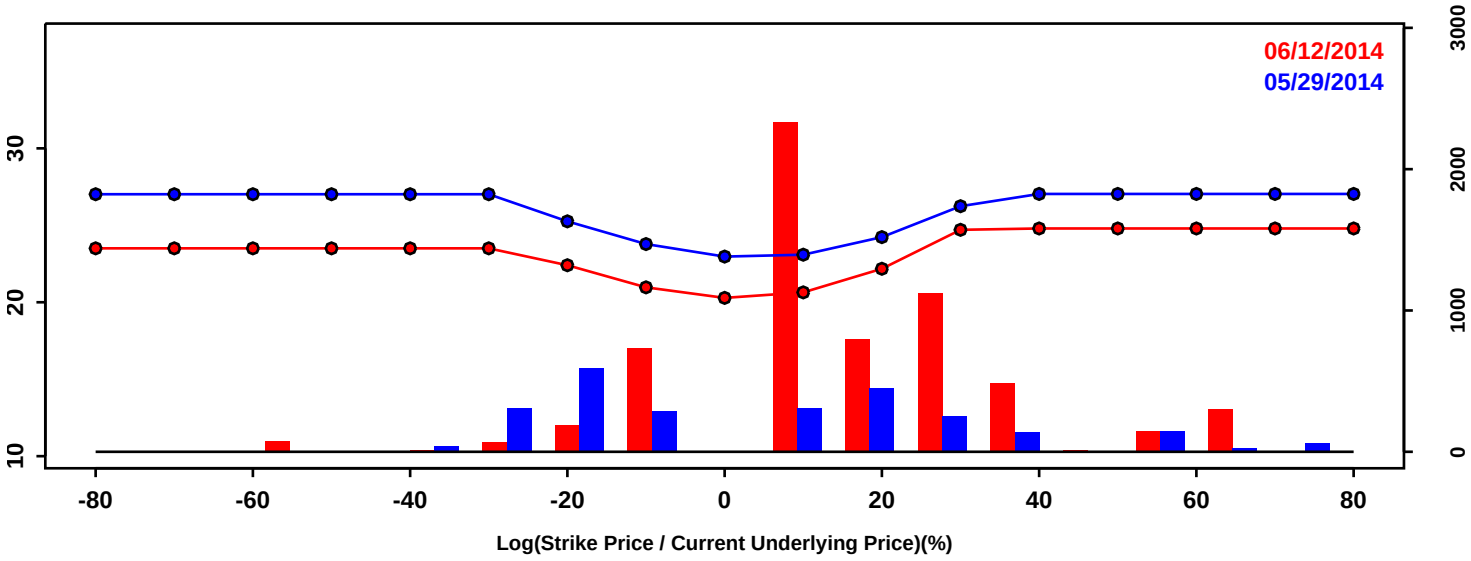
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-13.61%	-12.91%	0.70%
50th Pct	0.14%	-0.05%	-0.19%
90th Pct	12.14%	11.87%	-0.27%
Mean	-0.30%	-0.28%	0.02%
Std Dev	10.36%	10.08%	-0.27%
Skew	-0.22	-0.13	0.09
Kurtosis	0.52	0.69	0.17

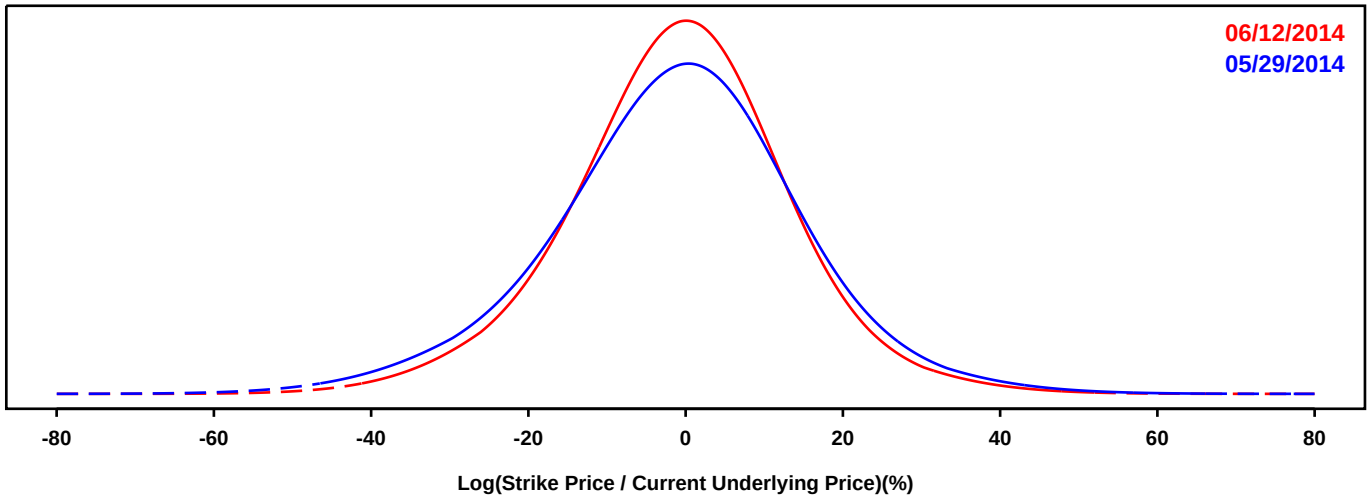
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- SILVER FUTURES

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

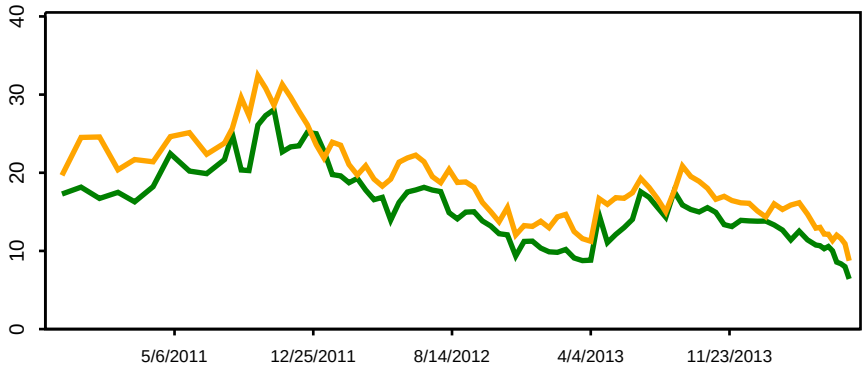
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

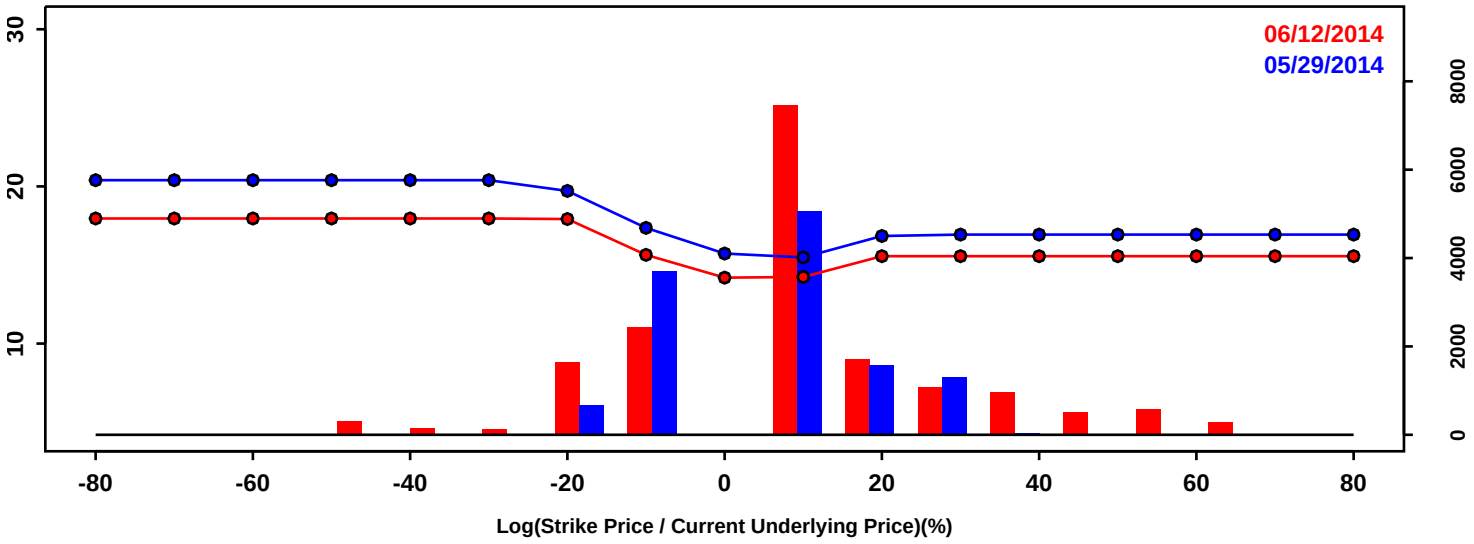
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-21.61%	-18.73%	2.88%
50th Pct	-0.64%	-0.52%	0.12%
90th Pct	18.34%	16.39%	-1.95%
Mean	-1.13%	-0.82%	0.32%
Std Dev	16.22%	14.28%	-1.93%
Skew	-0.14	-0.07	0.07
Kurtosis	0.66	0.68	0.02

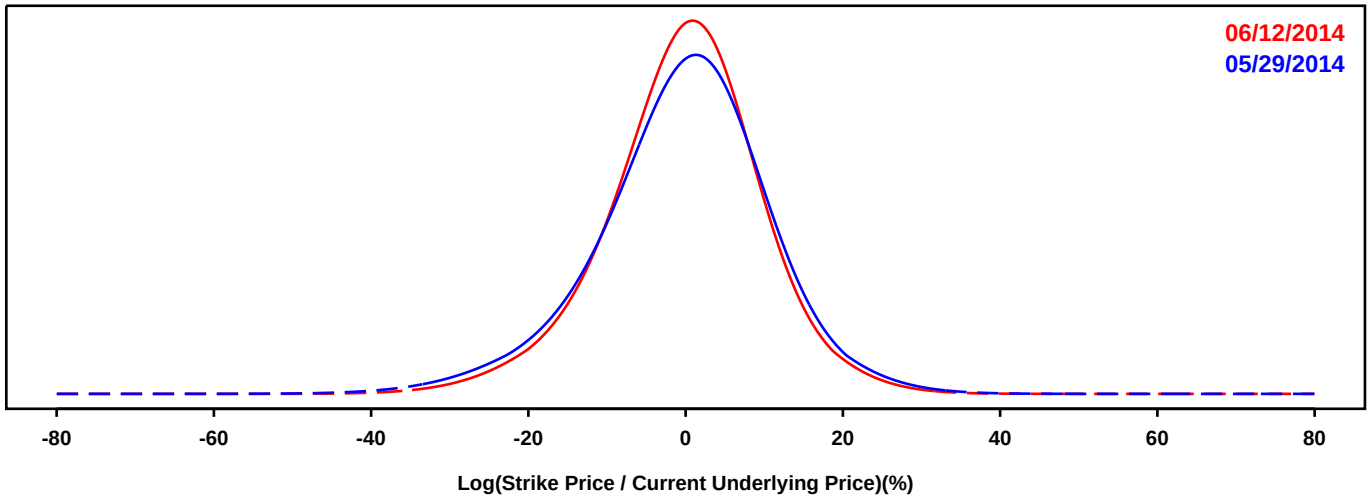
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- GOLD FUTURES

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

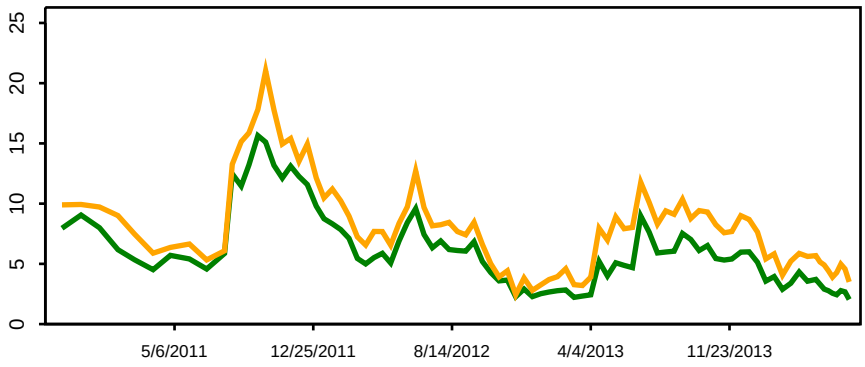
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

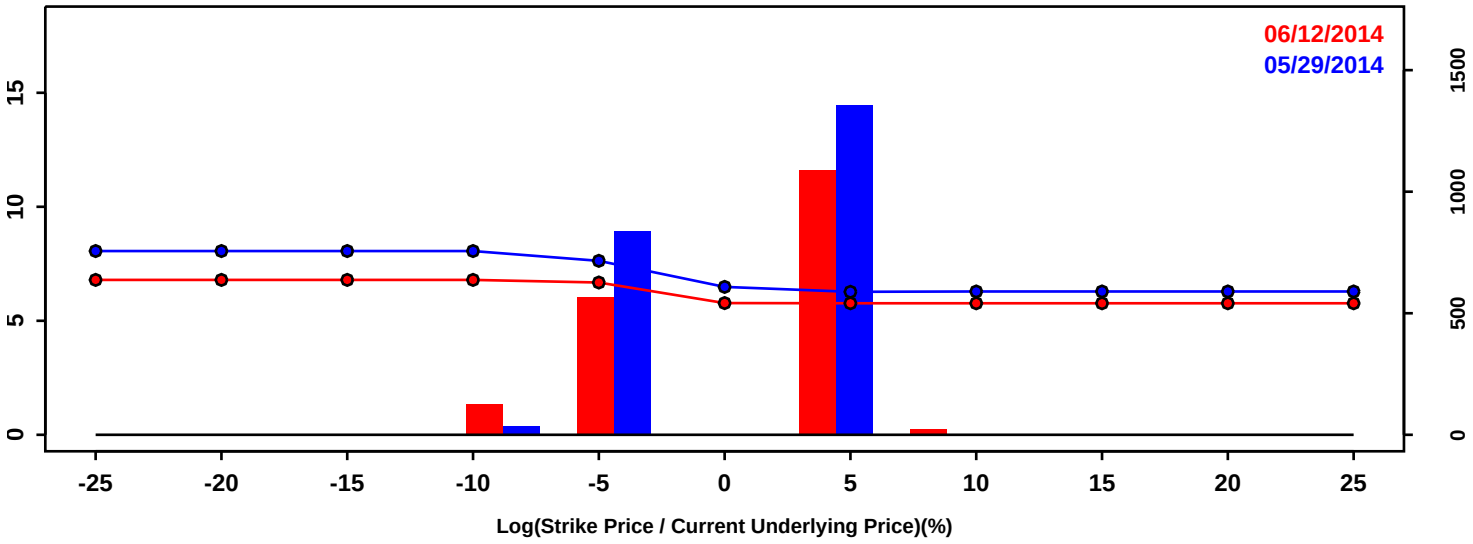
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-14.51%	-12.93%	1.58%
50th Pct	0.27%	0.19%	-0.08%
90th Pct	12.81%	11.73%	-1.09%
Mean	-0.34%	-0.24%	0.10%
Std Dev	11.16%	10.04%	-1.11%
Skew	-0.35	-0.27	0.09
Kurtosis	0.83	0.76	-0.07

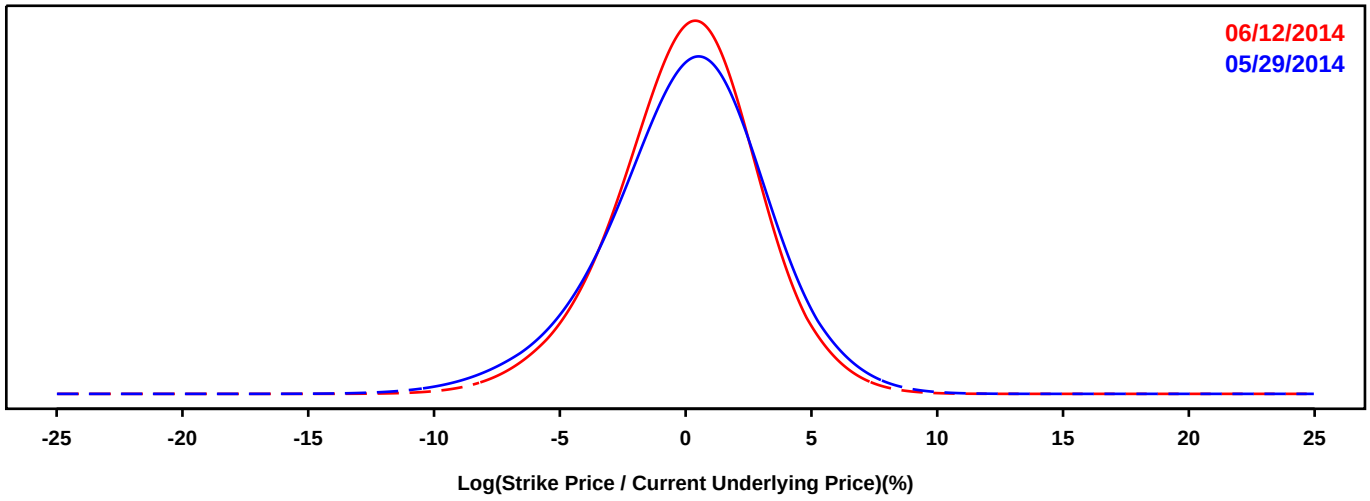
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- DOLLAR-EURO EXCHANGE RATE FUTURES

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

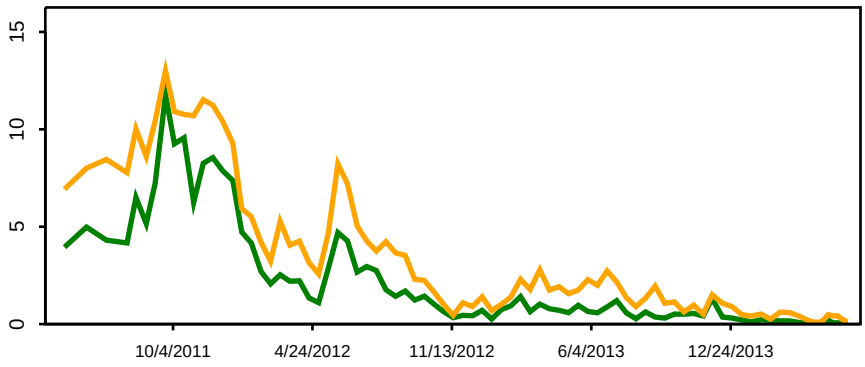
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



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

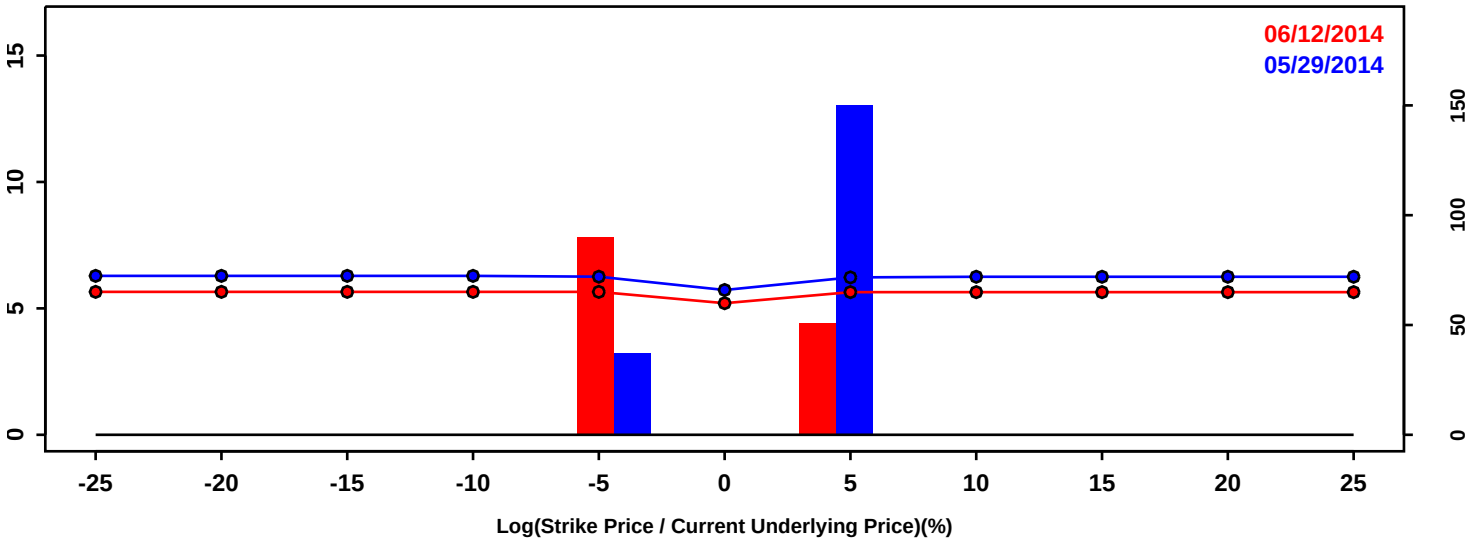
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-4.16%	-3.70%	0.46%
50th Pct	0.22%	0.14%	-0.08%
90th Pct	3.95%	3.53%	-0.42%
Mean	0.04%	0.04%	0.00%
Std Dev	3.25%	2.89%	-0.36%
Skew	-0.34	-0.24	0.10
Kurtosis	0.54	0.40	-0.14

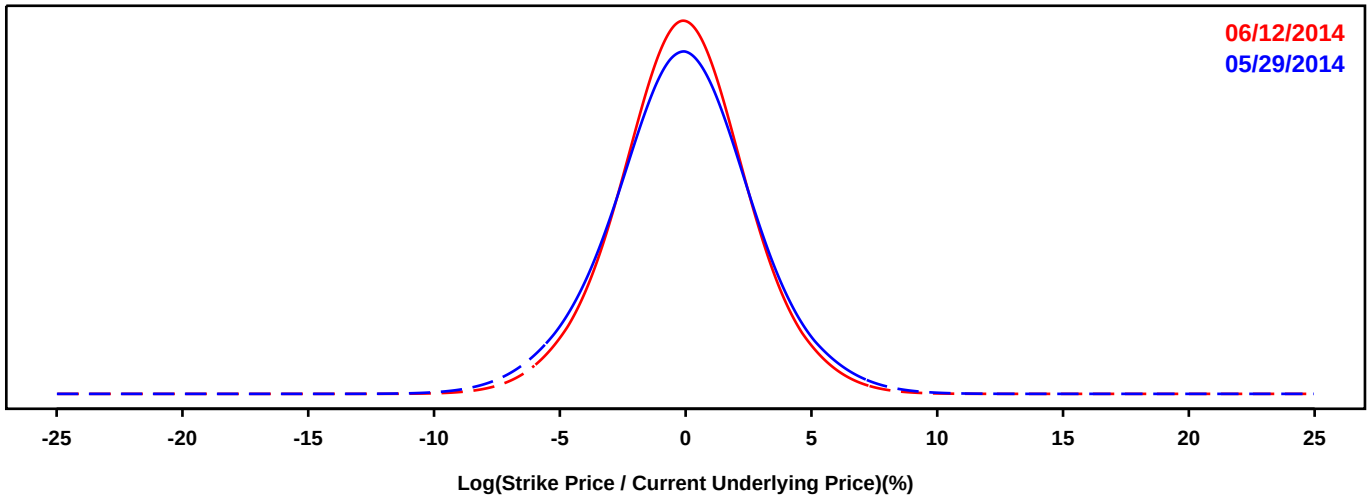
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- DOLLAR-POUND EXCHANGE RATE FUTURES

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

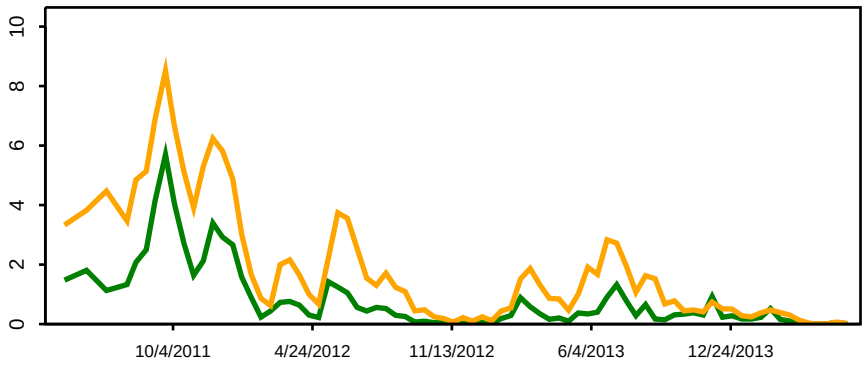
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



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

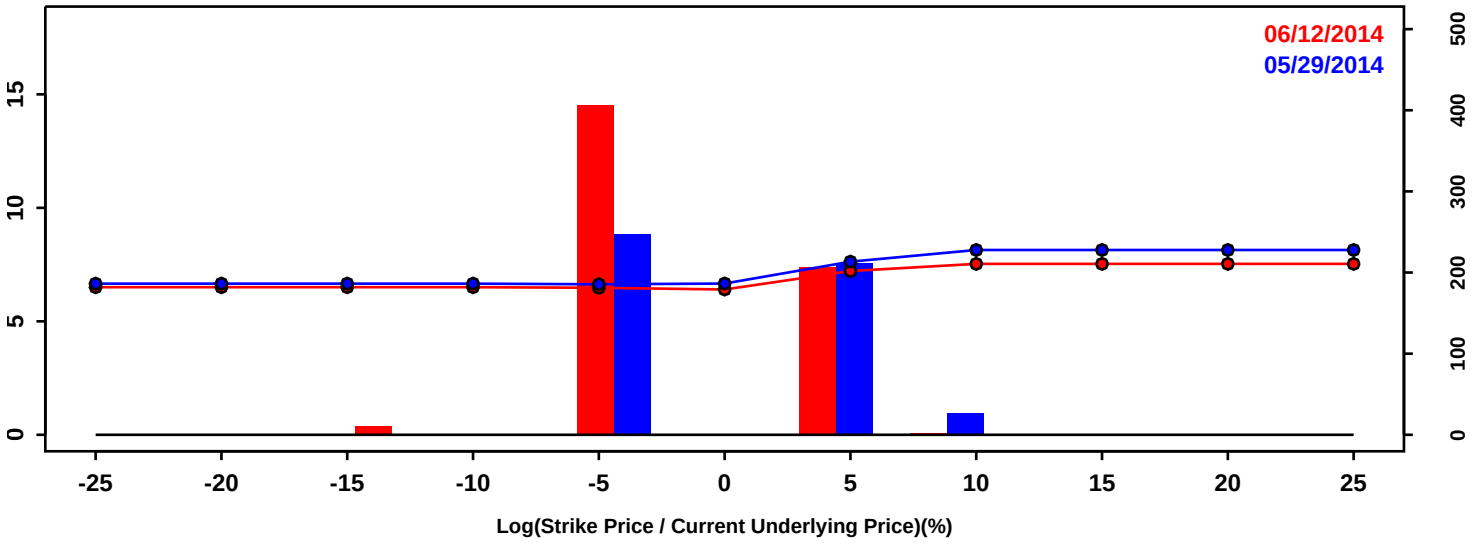
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-3.71%	-3.36%	0.35%
50th Pct	-0.09%	-0.09%	-0.01%
90th Pct	3.45%	3.17%	-0.28%
Mean	-0.10%	-0.07%	0.03%
Std Dev	2.86%	2.60%	-0.26%
Skew	-0.03	-0.01	0.02
Kurtosis	0.38	0.34	-0.04

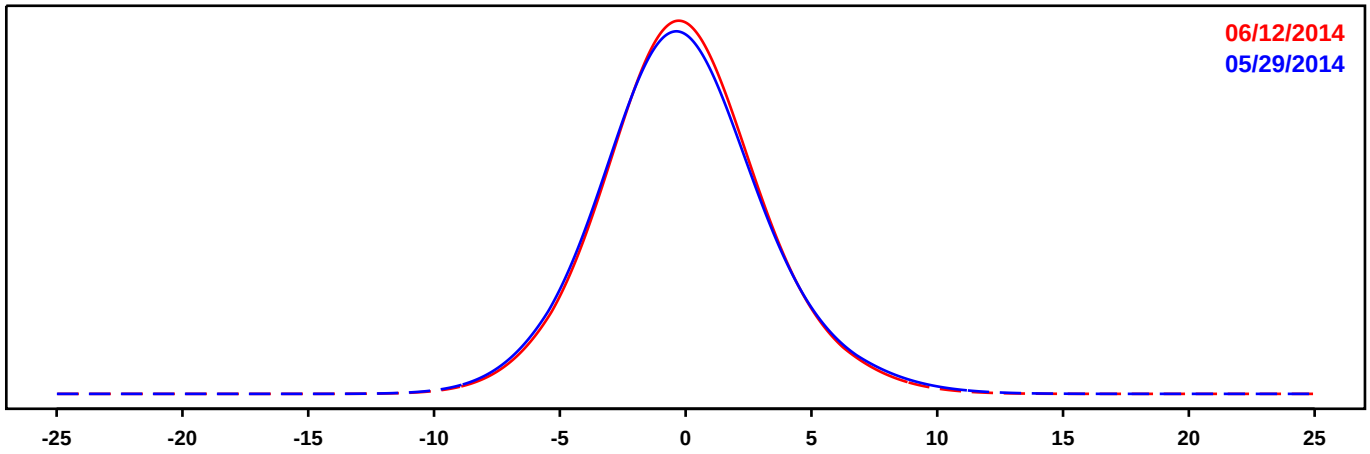
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- DOLLAR-YEN EXCHANGE RATE FUTURES

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

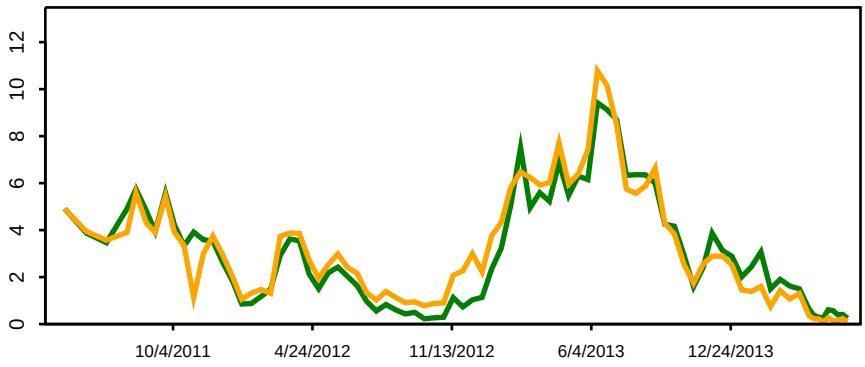
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



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

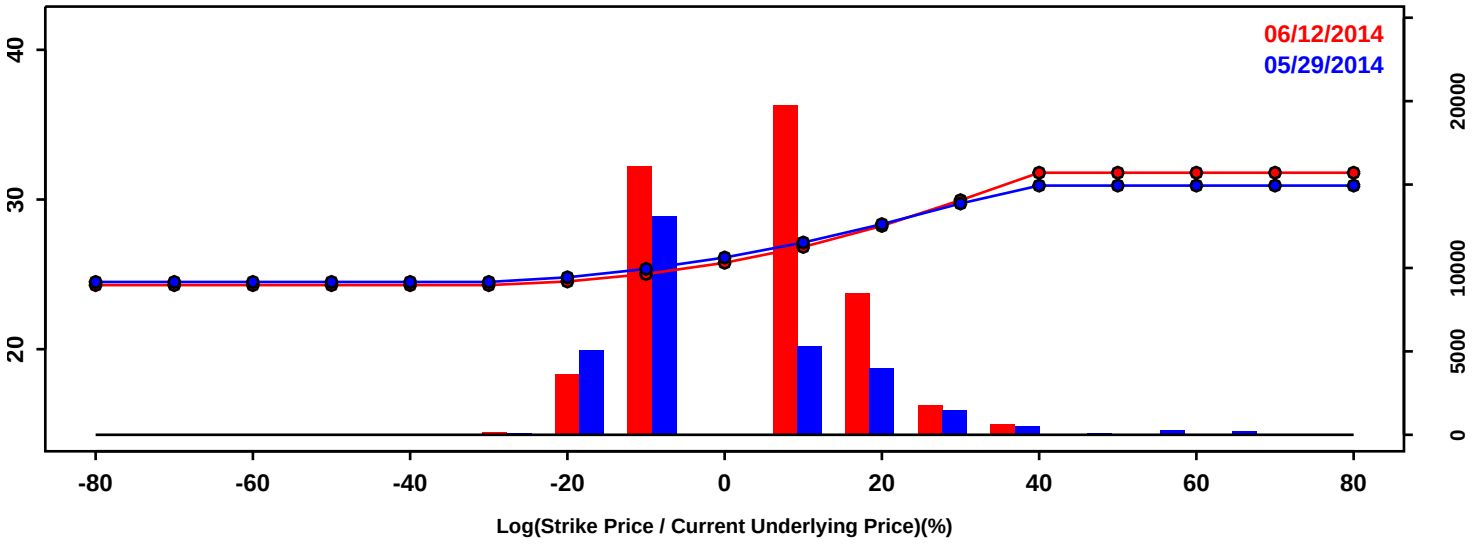
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-4.20%	-4.04%	0.17%
50th Pct	-0.22%	-0.19%	0.03%
90th Pct	4.07%	3.93%	-0.14%
Mean	-0.10%	-0.07%	0.03%
Std Dev	3.32%	3.19%	-0.13%
Skew	0.22	0.16	-0.06
Kurtosis	0.49	0.40	-0.09

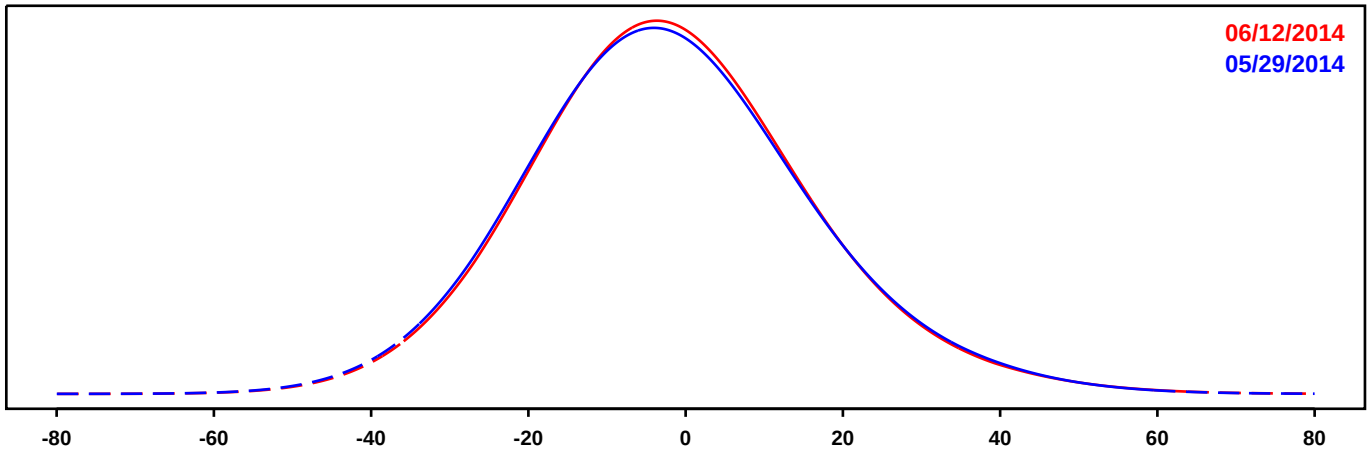
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CORN FUTURES

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

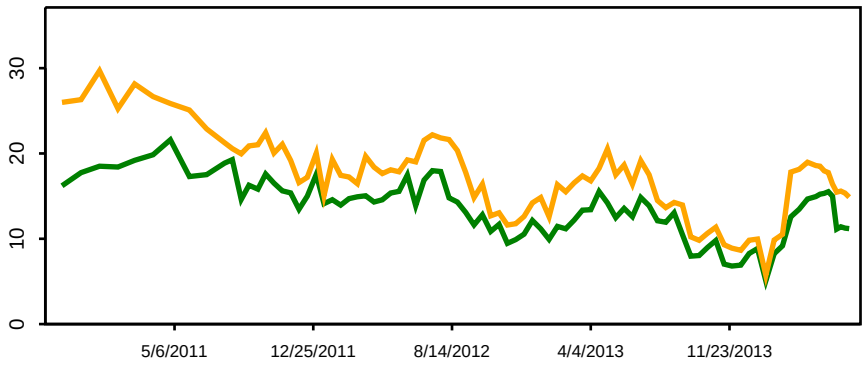
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

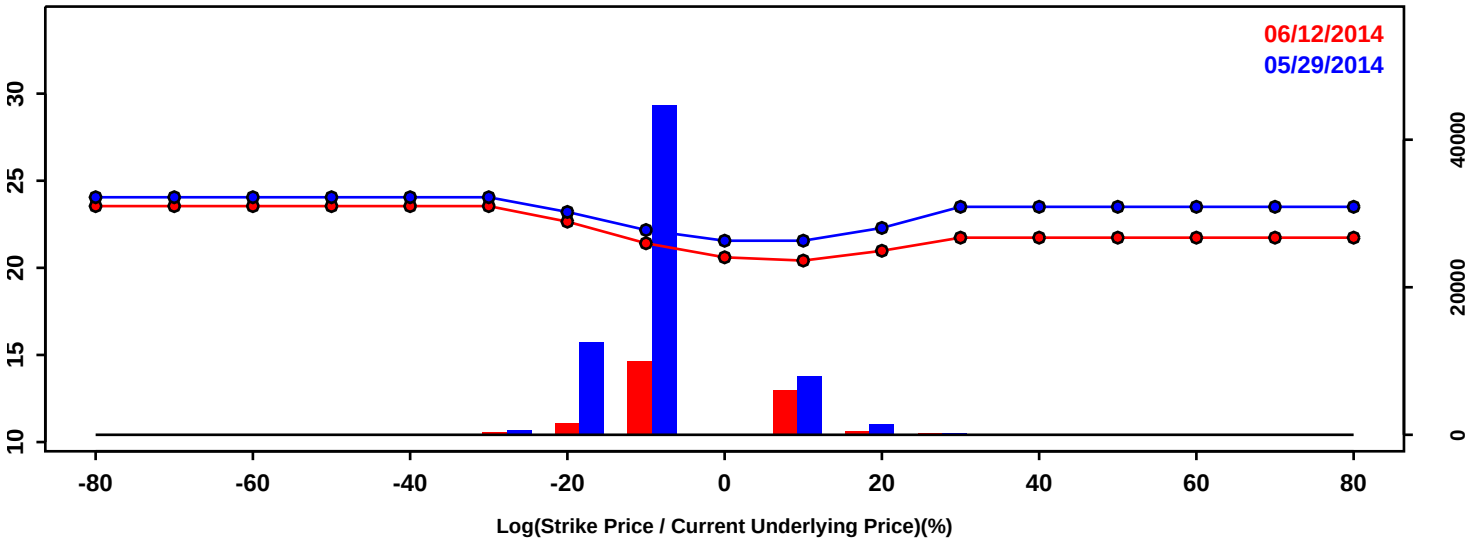
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-24.55%	-23.98%	0.58%
50th Pct	-2.74%	-2.50%	0.23%
90th Pct	21.62%	21.32%	-0.30%
Mean	-1.95%	-1.74%	0.21%
Std Dev	18.31%	18.06%	-0.24%
Skew	0.26	0.28	0.01
Kurtosis	0.32	0.40	0.09

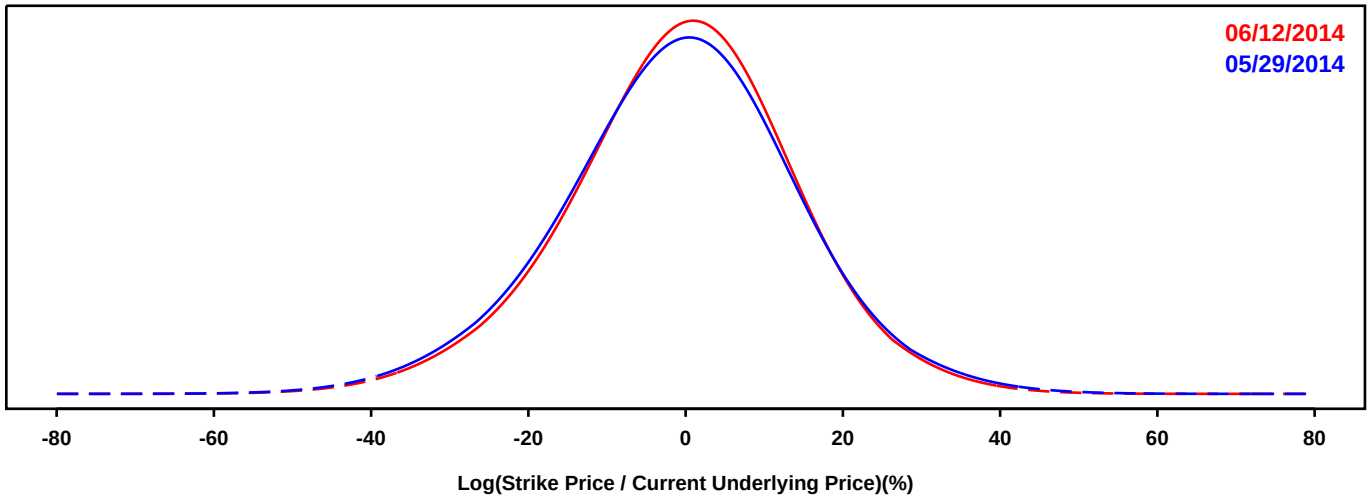
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- SOYBEAN FUTURES

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

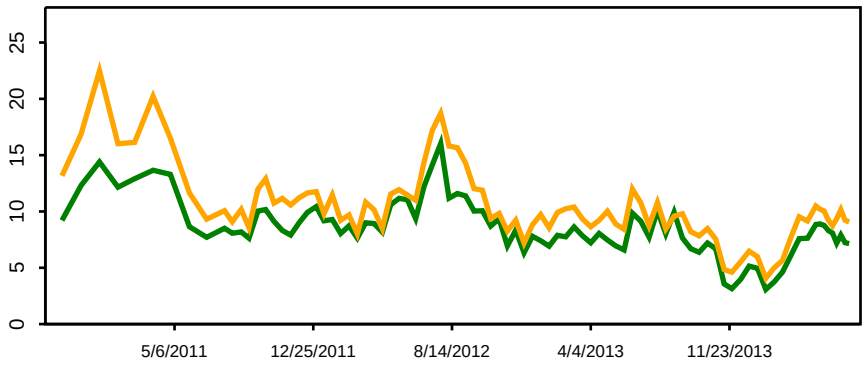
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

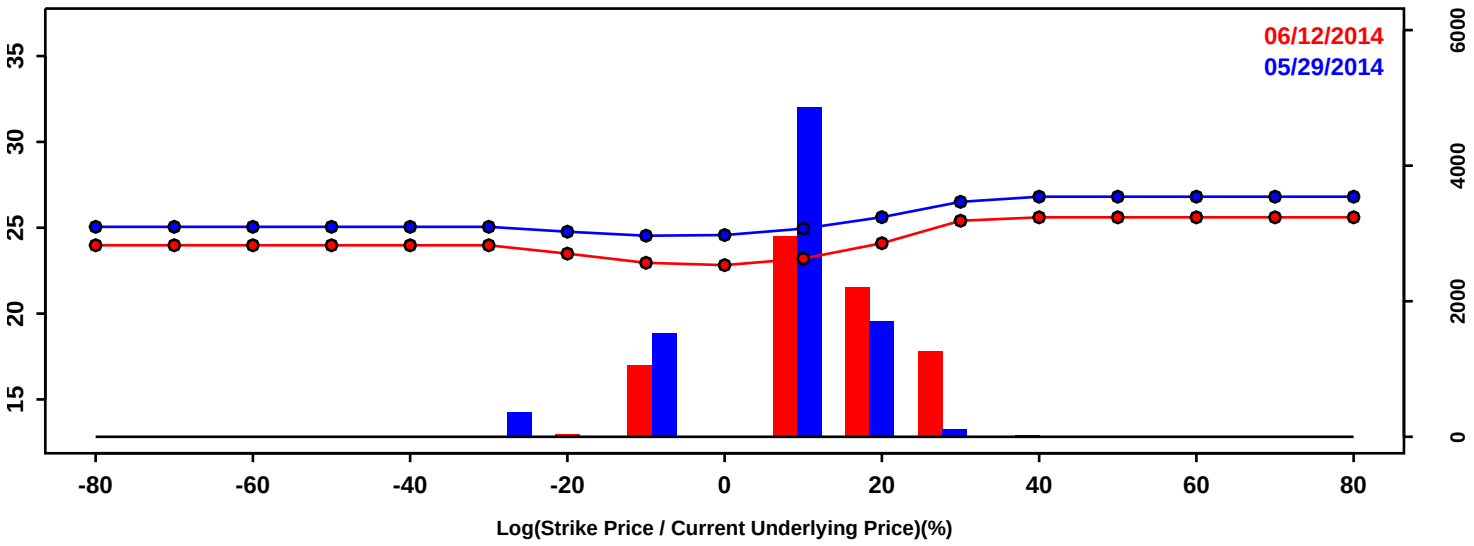
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-20.16%	-19.08%	1.08%
50th Pct	-0.35%	0.00%	0.35%
90th Pct	18.00%	17.39%	-0.61%
Mean	-0.70%	-0.42%	0.27%
Std Dev	15.22%	14.56%	-0.66%
Skew	-0.10	-0.16	-0.06
Kurtosis	0.39	0.39	0.01

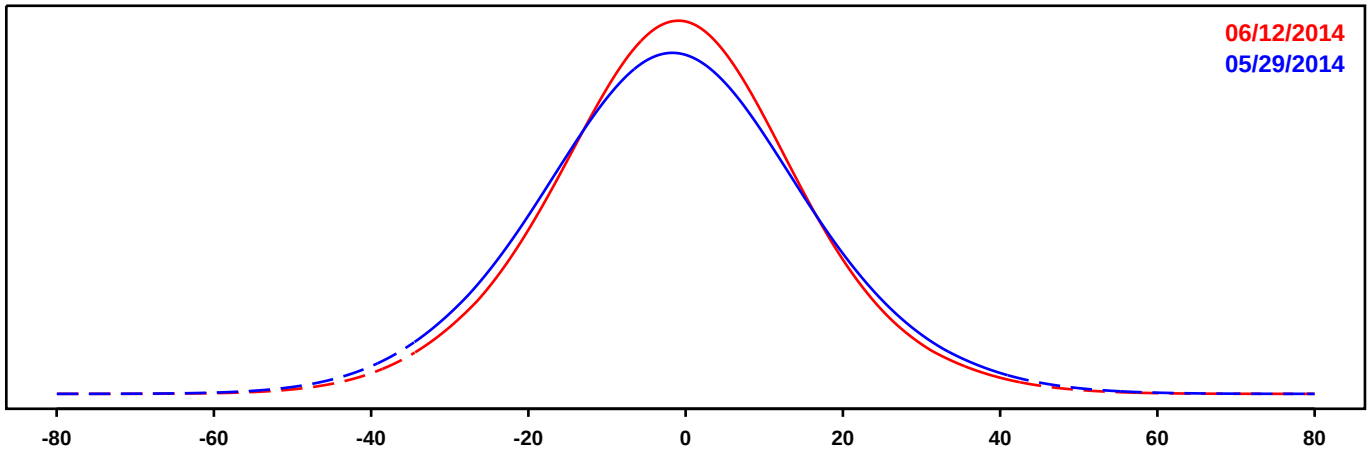
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- WHEAT FUTURES

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

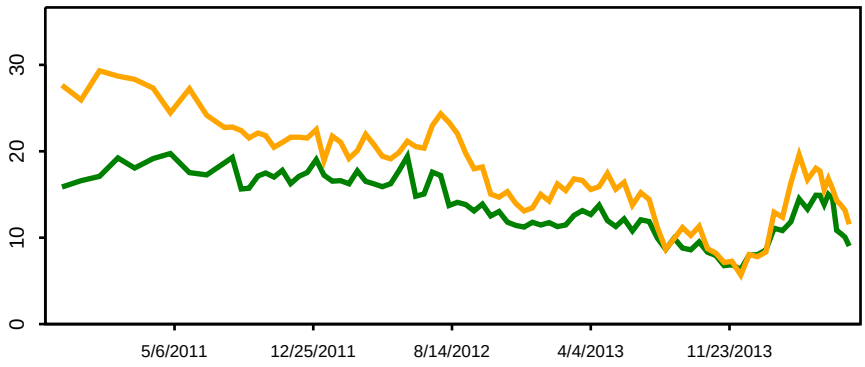
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

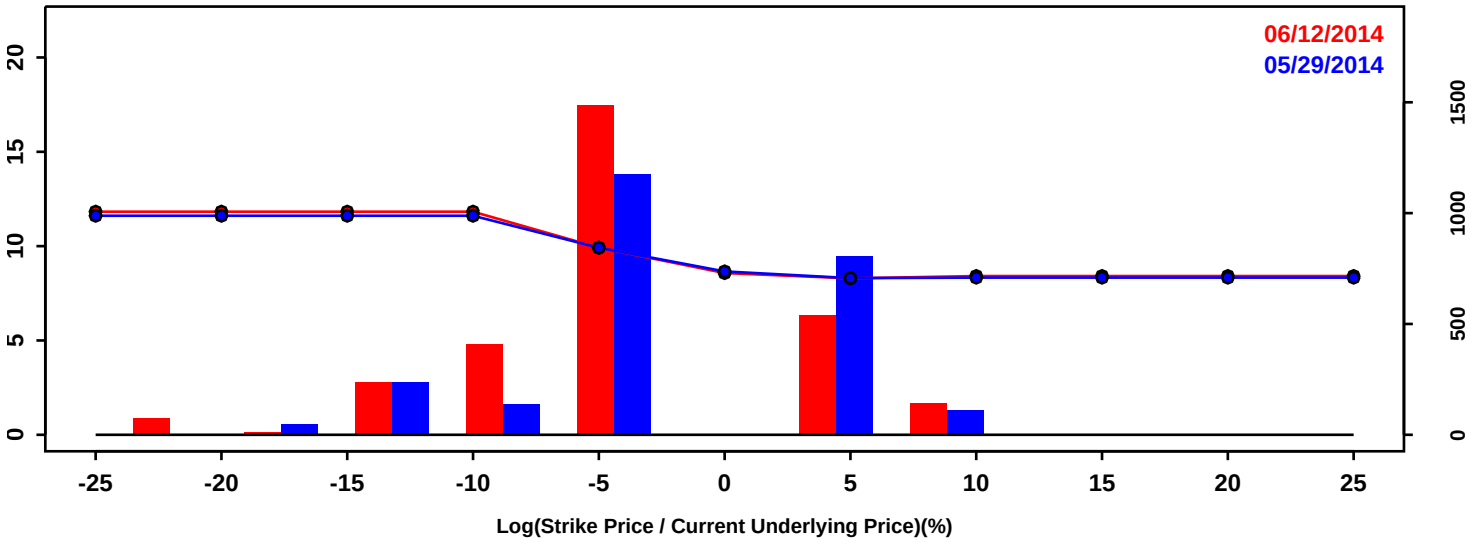
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-23.40%	-21.44%	1.95%
50th Pct	-1.57%	-1.10%	0.47%
90th Pct	20.50%	19.00%	-1.50%
Mean	-1.46%	-1.10%	0.36%
Std Dev	17.33%	16.08%	-1.25%
Skew	0.05	0.03	-0.02
Kurtosis	0.22	0.33	0.11

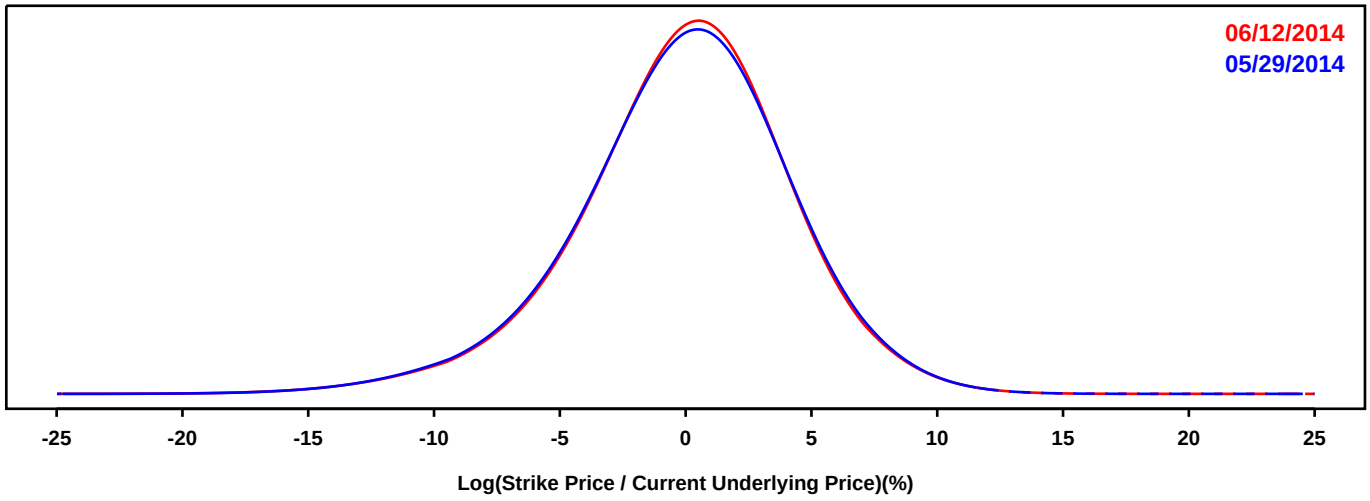
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CATTLE FUTURES

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

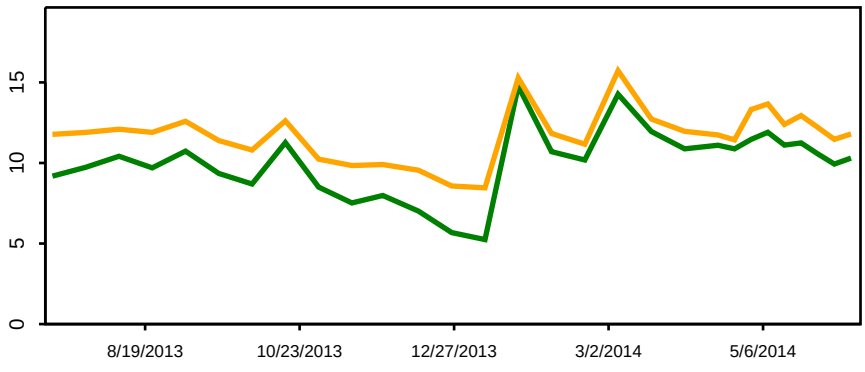
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -5% Increase >= 5%

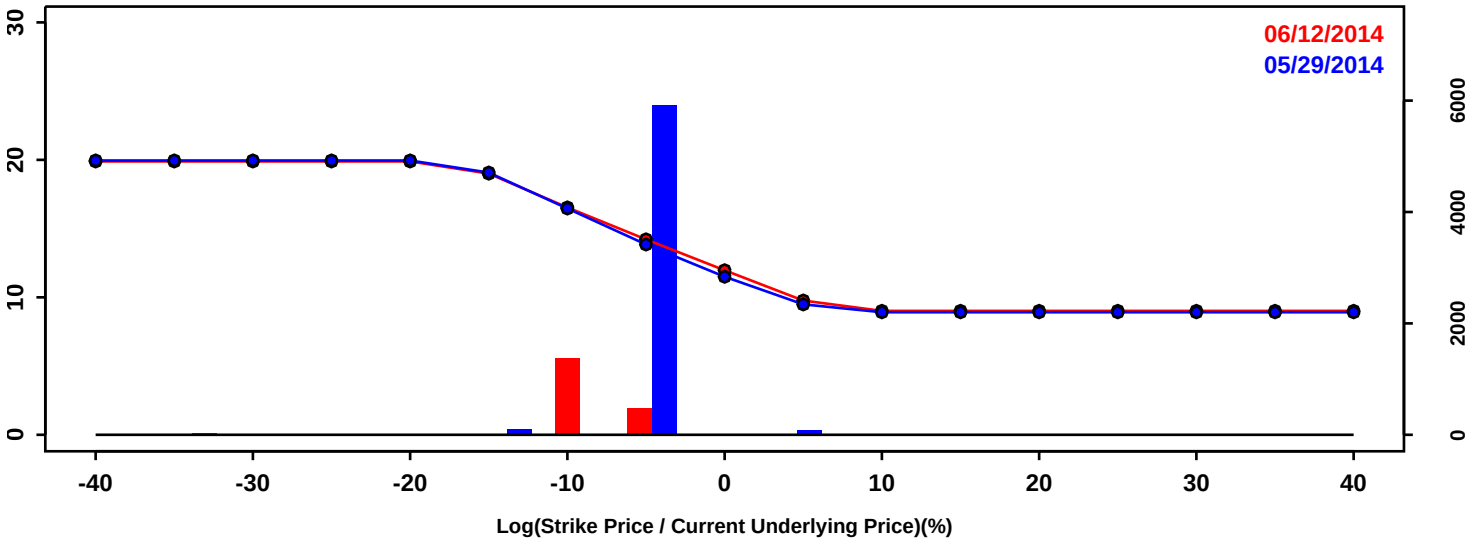
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-5.60%	-5.53%	0.07%
50th Pct	0.16%	0.16%	0.01%
90th Pct	5.13%	5.05%	-0.08%
Mean	-0.08%	-0.07%	0.01%
Std Dev	4.36%	4.32%	-0.04%
Skew	-0.40	-0.43	-0.02
Kurtosis	0.76	0.88	0.13

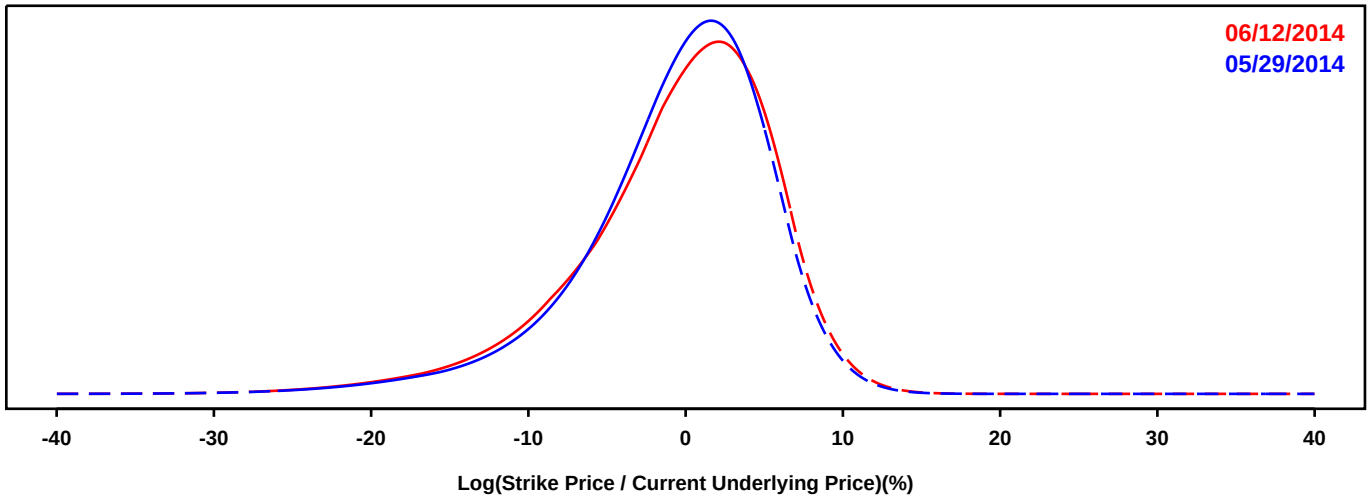
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- iSHARES DOW JONES US REAL ESTATE

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

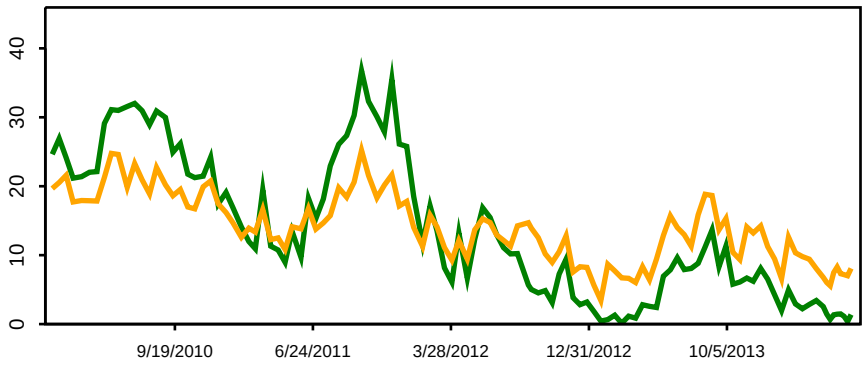
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -10% Increase >= 10%

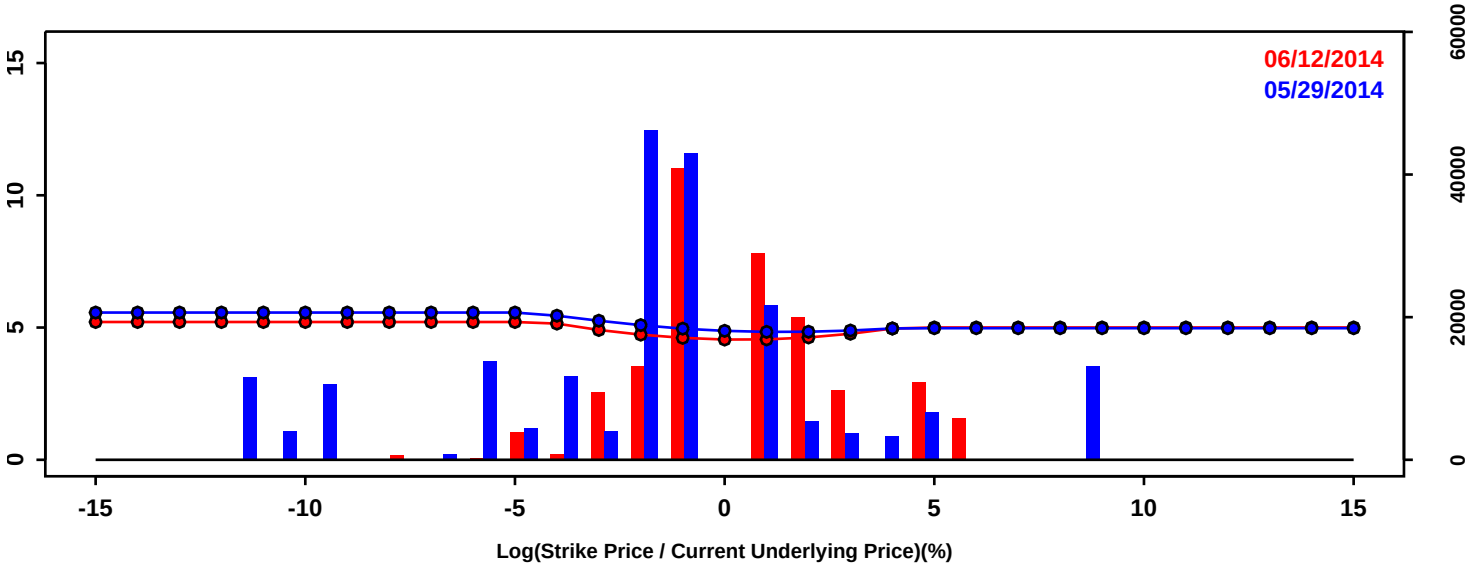
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-8.31%	-8.93%	-0.63%
50th Pct	0.24%	0.39%	0.14%
90th Pct	5.96%	6.31%	0.34%
Mean	-0.62%	-0.60%	0.02%
Std Dev	6.03%	6.32%	0.29%
Skew	-1.06	-1.01	0.05
Kurtosis	2.12	1.70	-0.42

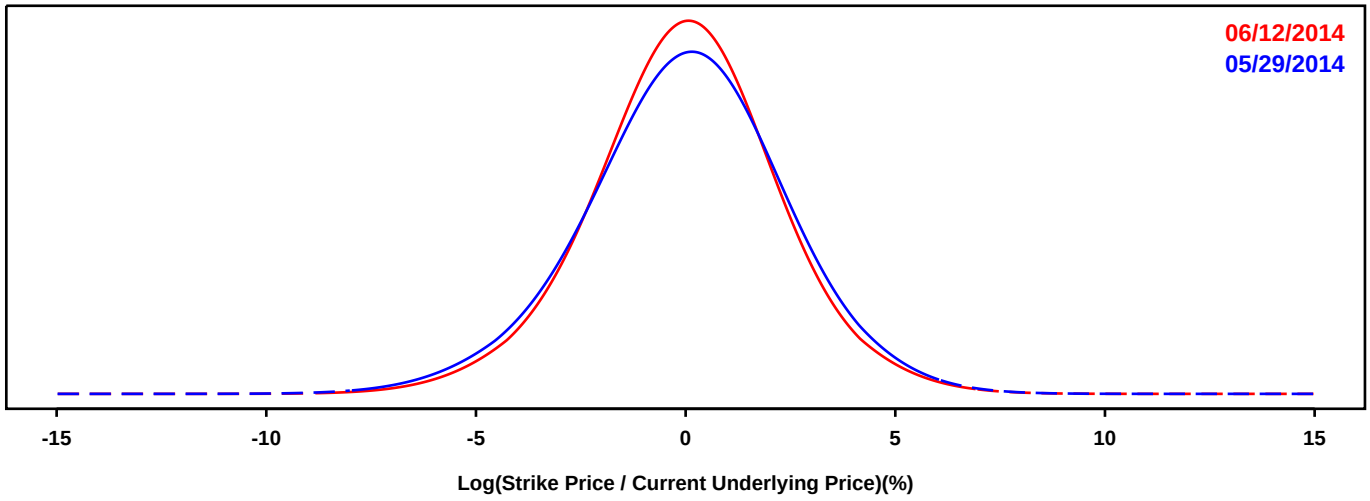
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- TEN YEAR TREASURY

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

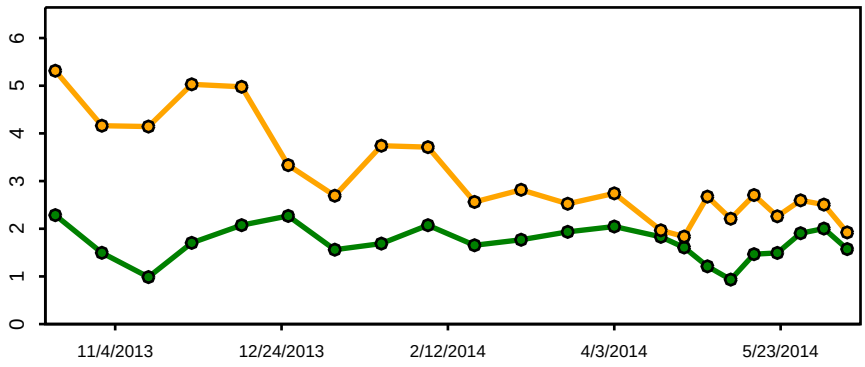
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -5% Increase >= 5%

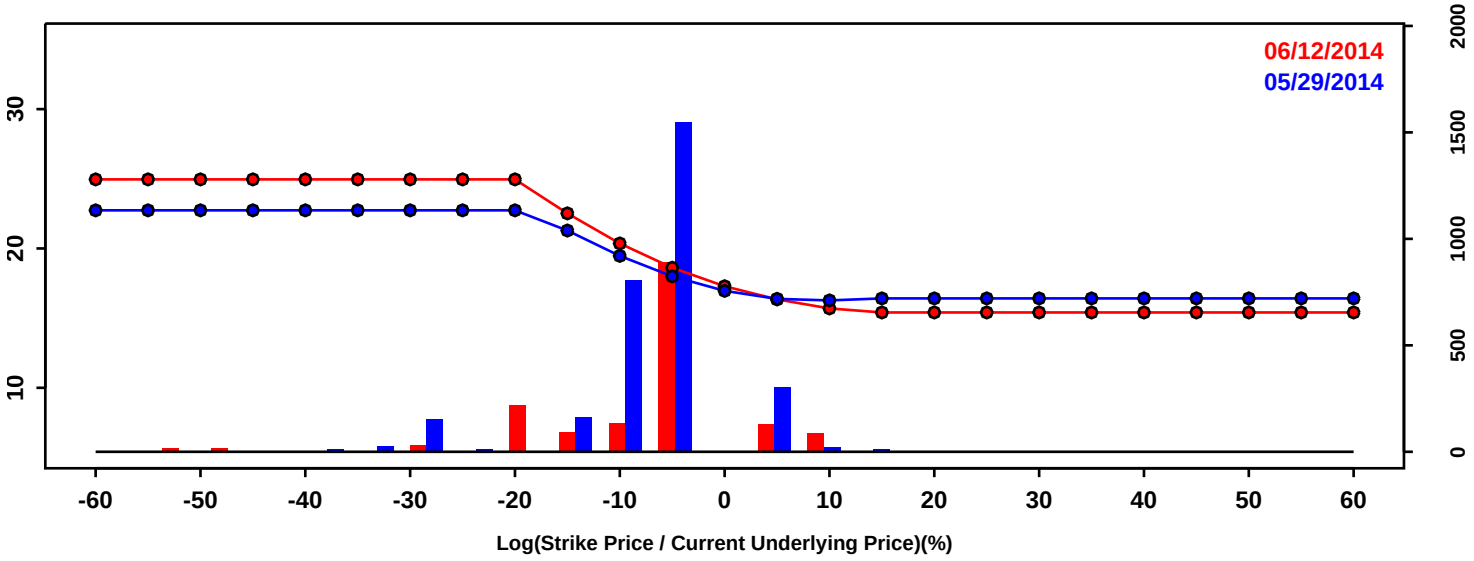
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-3.12%	-2.88%	0.24%
50th Pct	0.05%	0.00%	-0.05%
90th Pct	3.03%	2.81%	-0.22%
Mean	0.02%	0.02%	-0.00%
Std Dev	2.43%	2.27%	-0.17%
Skew	-0.14	-0.07	0.08
Kurtosis	0.34	0.47	0.13

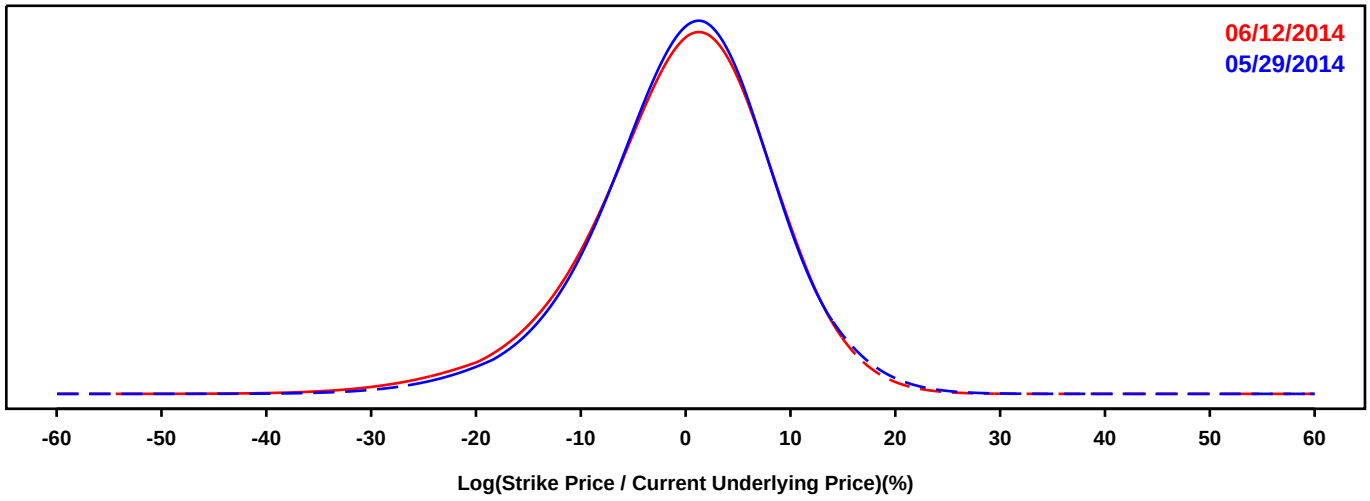
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- AMERICAN EXPRESS

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

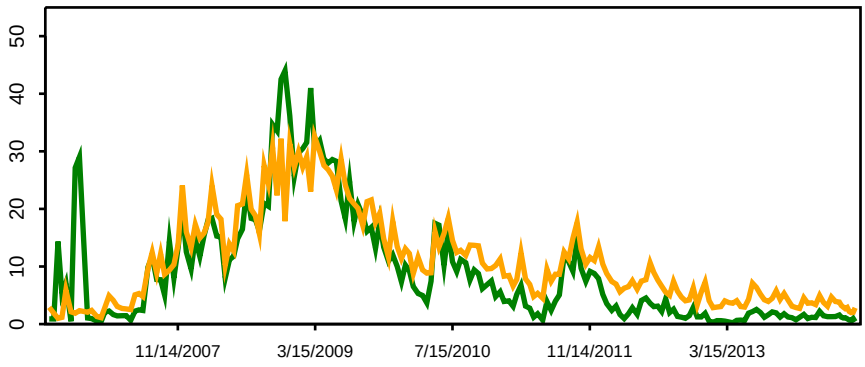
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

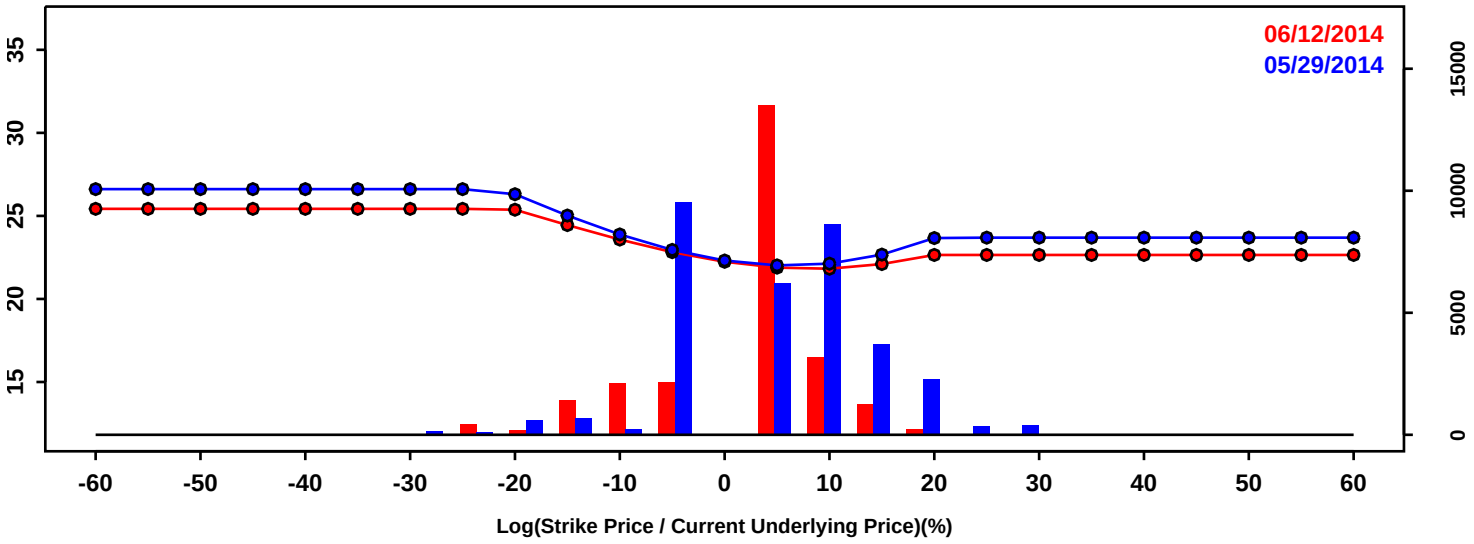
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-10.81%	-11.83%	-1.02%
50th Pct	0.42%	0.19%	-0.23%
90th Pct	10.11%	9.87%	-0.24%
Mean	-0.03%	-0.52%	-0.49%
Std Dev	8.50%	8.85%	0.36%
Skew	-0.40	-0.59	-0.19
Kurtosis	0.75	0.97	0.22

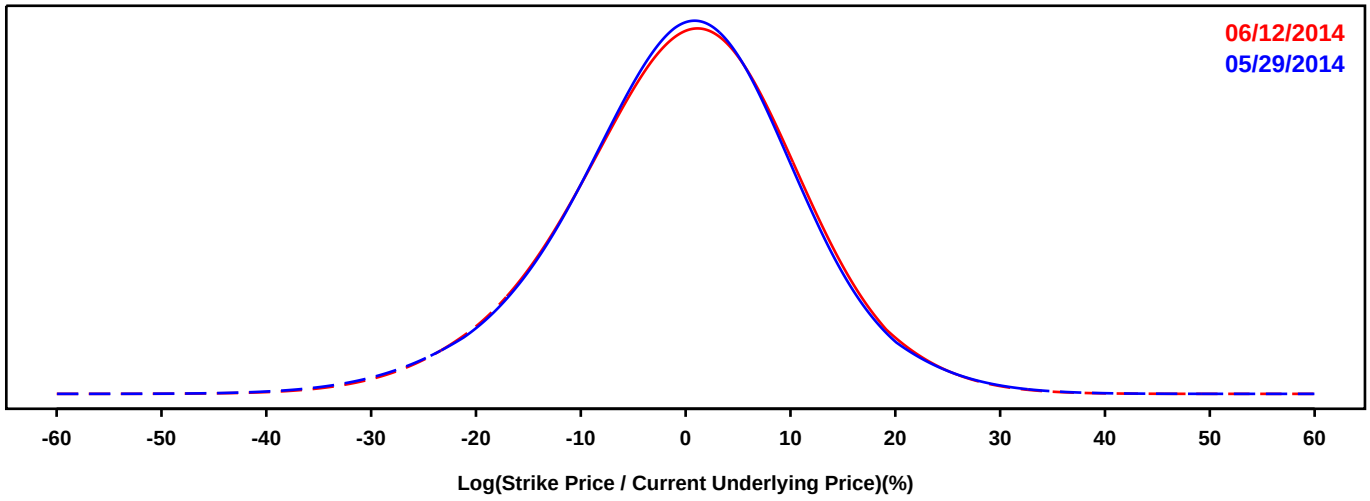
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- BANK OF AMERICA

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

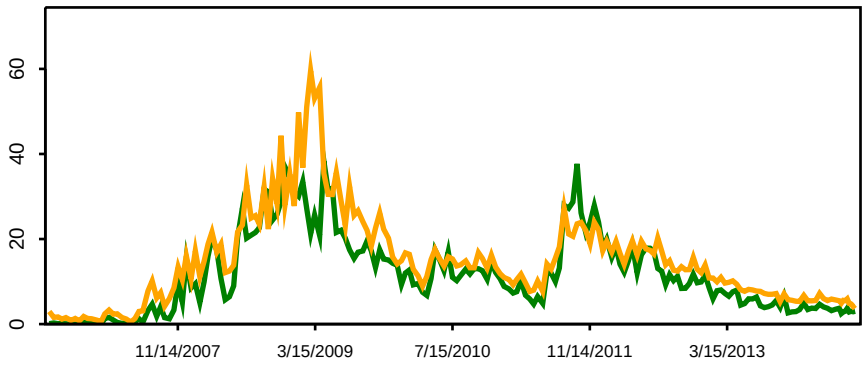
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



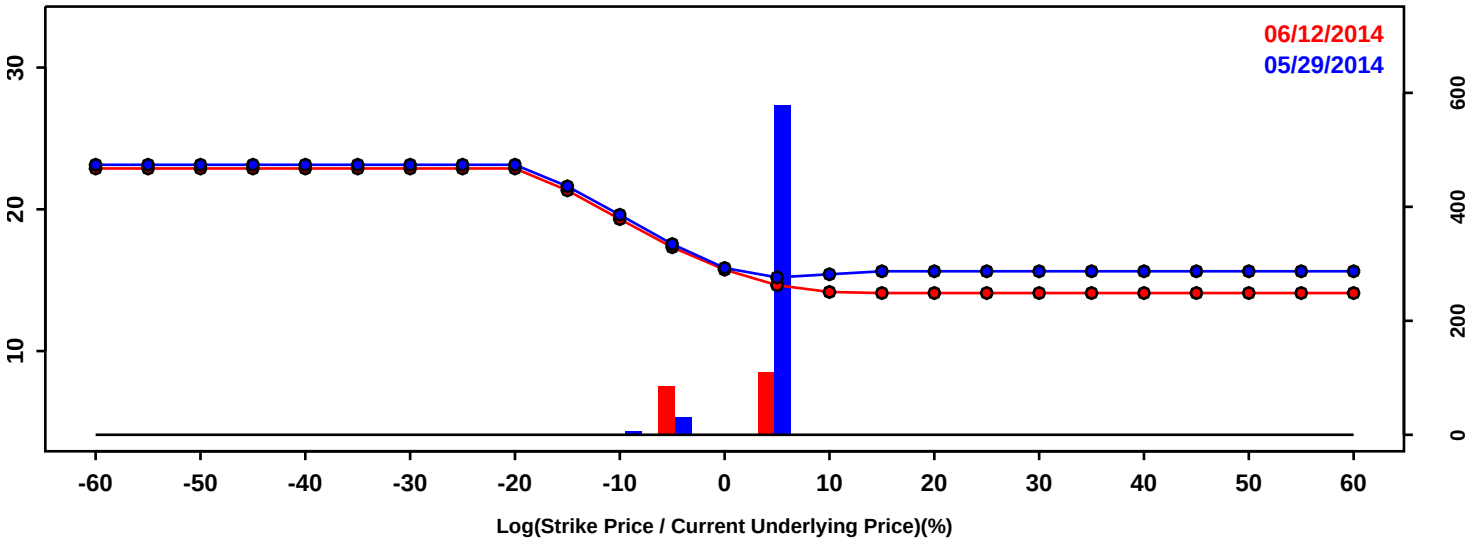
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-14.63%	-14.54%	0.09%
50th Pct	0.05%	0.21%	0.16%
90th Pct	13.15%	13.38%	0.24%
Mean	-0.35%	-0.19%	0.16%
Std Dev	11.16%	11.12%	-0.04%
Skew	-0.22	-0.20	0.02
Kurtosis	0.52	0.34	-0.18

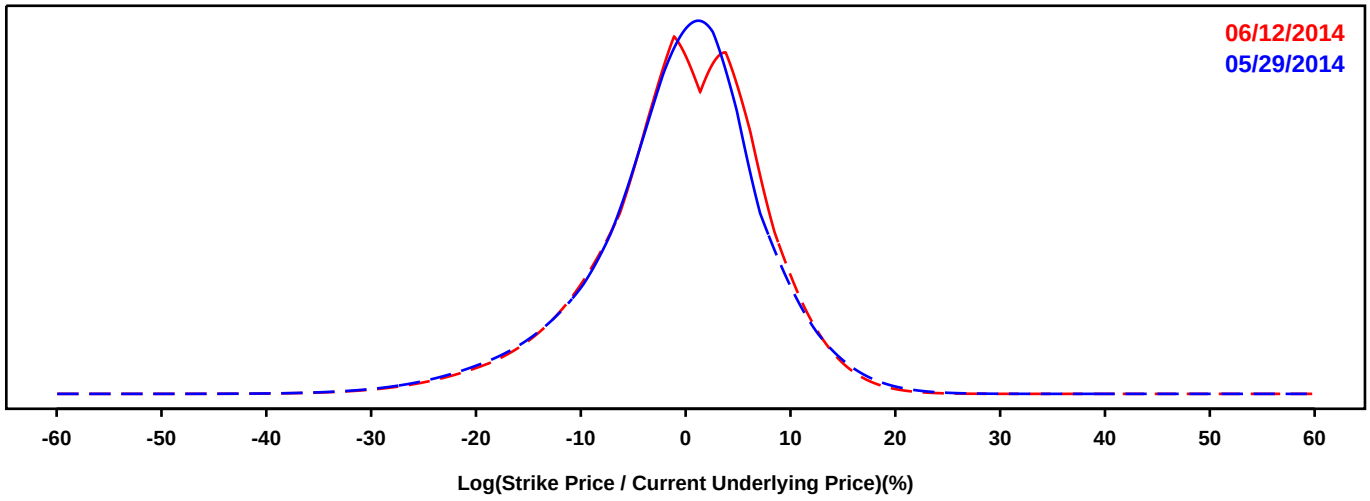
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- BB&T

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

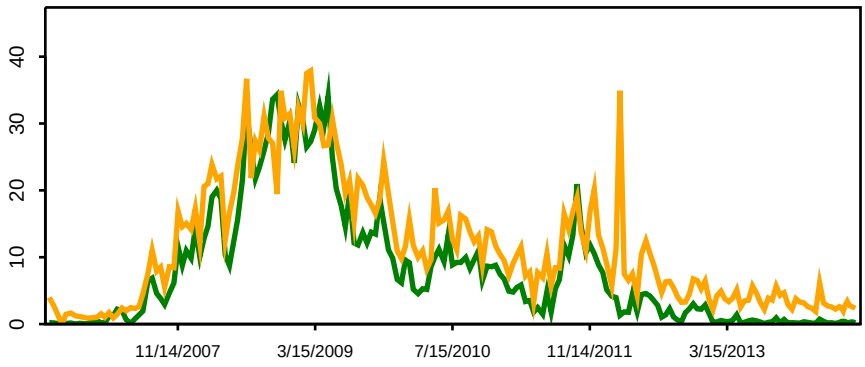
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

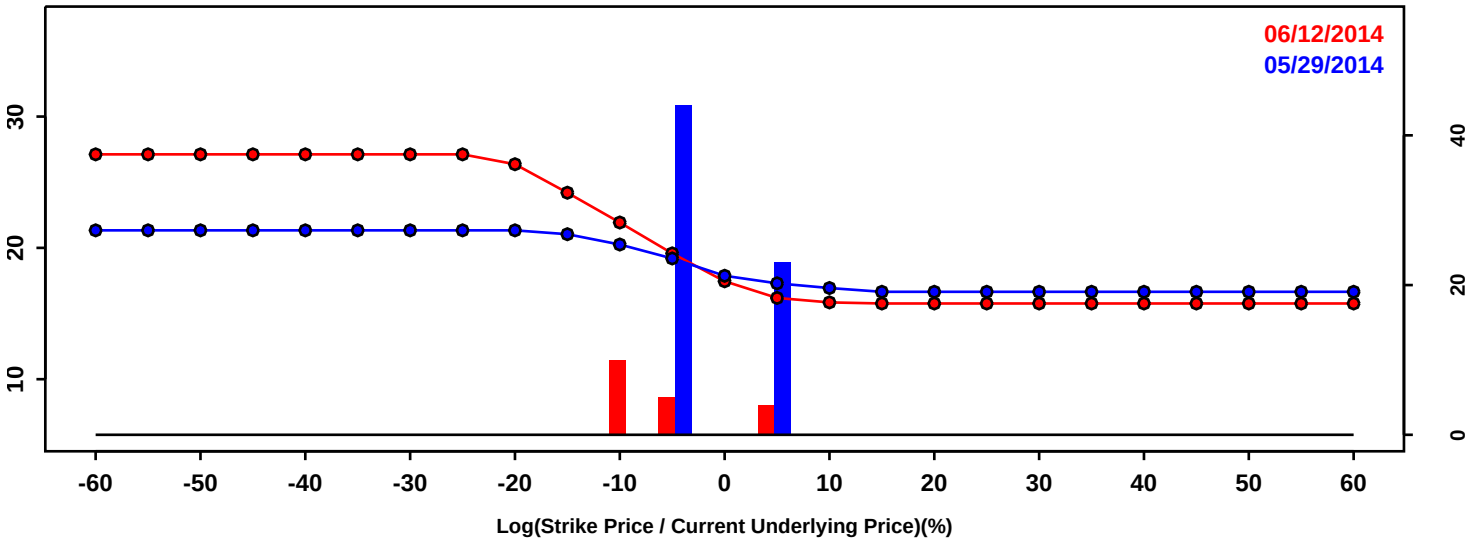
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-11.41%	-11.08%	0.33%
50th Pct	0.00%	0.04%	0.04%
90th Pct	8.56%	8.61%	0.04%
Mean	-0.79%	-0.61%	0.18%
Std Dev	8.23%	8.08%	-0.14%
Skew	-0.65	-0.68	-0.03
Kurtosis	1.30	1.15	-0.15

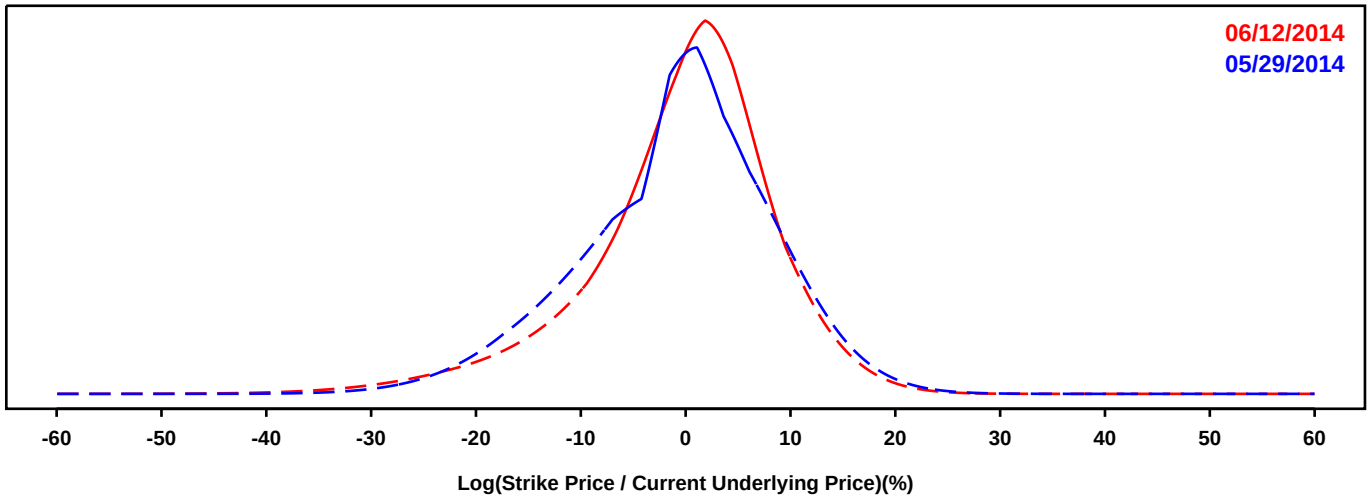
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- BANK OF NEW YORK MELLON

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

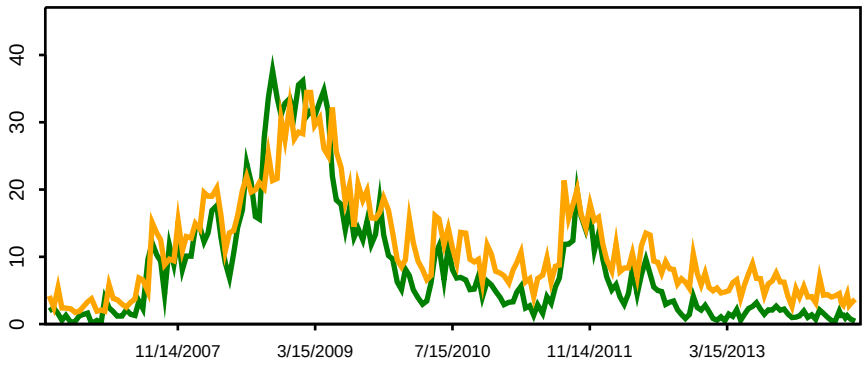
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



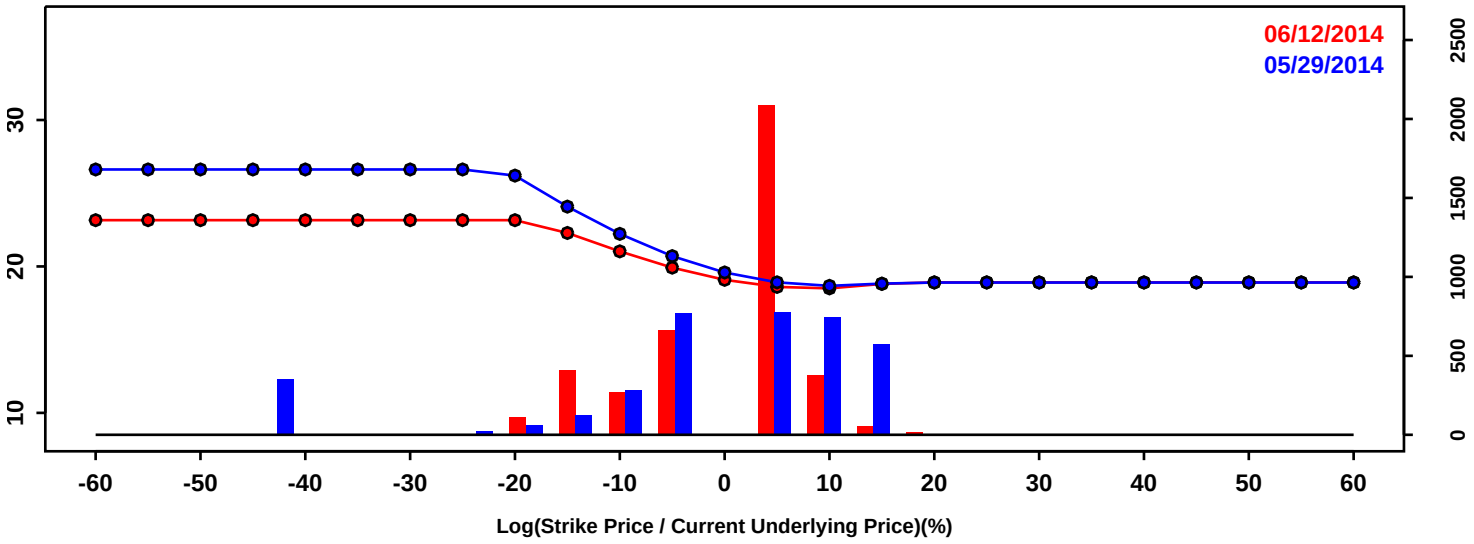
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-13.35%	-12.24%	1.11%
50th Pct	0.00%	0.73%	0.73%
90th Pct	10.34%	9.62%	-0.72%
Mean	-0.80%	-0.44%	0.36%
Std Dev	9.25%	9.08%	-0.16%
Skew	-0.40	-0.85	-0.46
Kurtosis	0.35	1.65	1.30

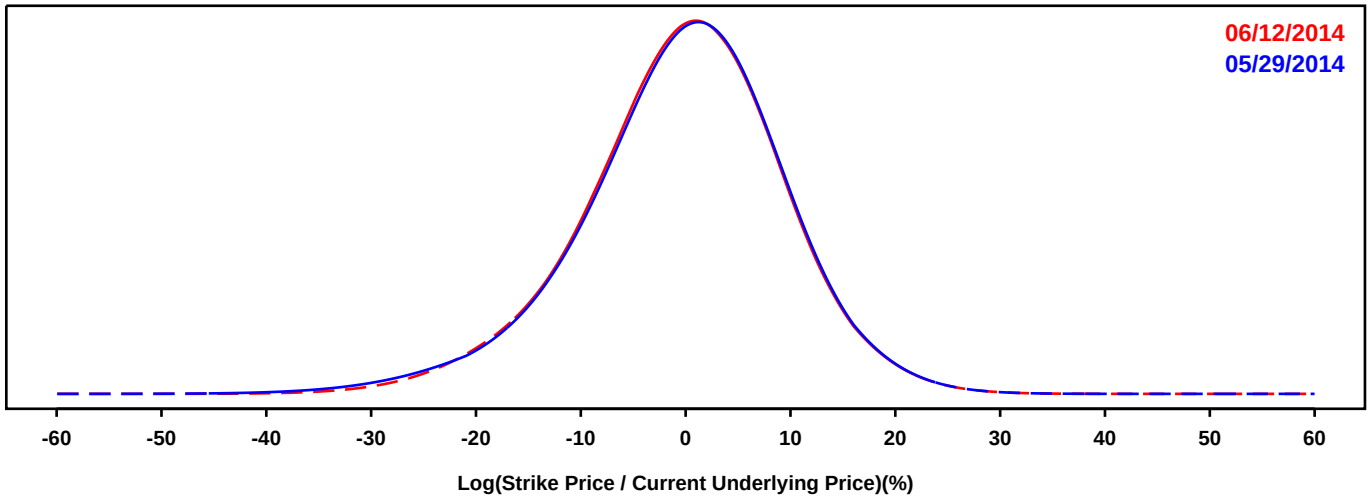
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CITIGROUP

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

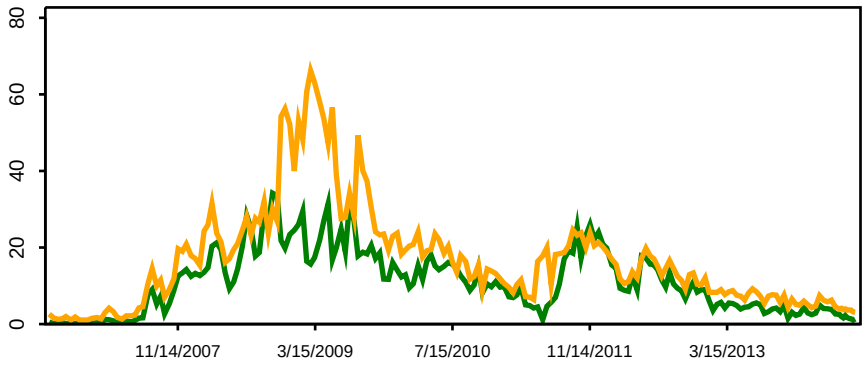
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



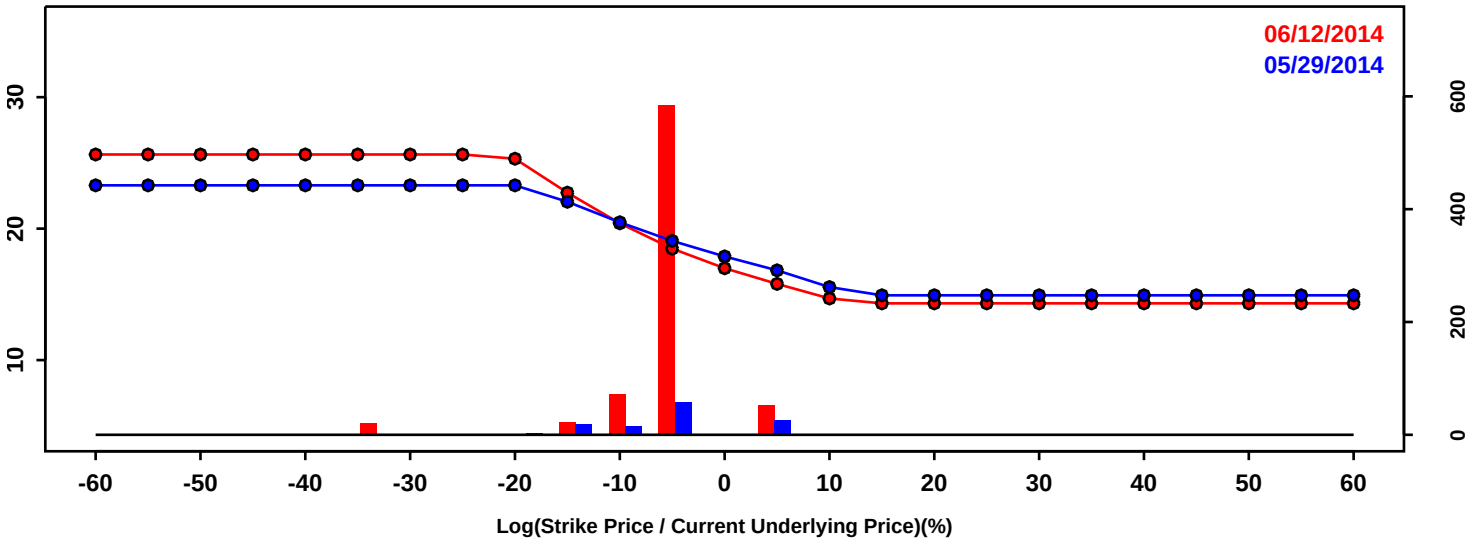
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-12.93%	-12.68%	0.25%
50th Pct	0.28%	0.17%	-0.11%
90th Pct	11.38%	11.23%	-0.14%
Mean	-0.35%	-0.30%	0.05%
Std Dev	9.89%	9.59%	-0.30%
Skew	-0.46	-0.31	0.15
Kurtosis	0.84	0.49	-0.35

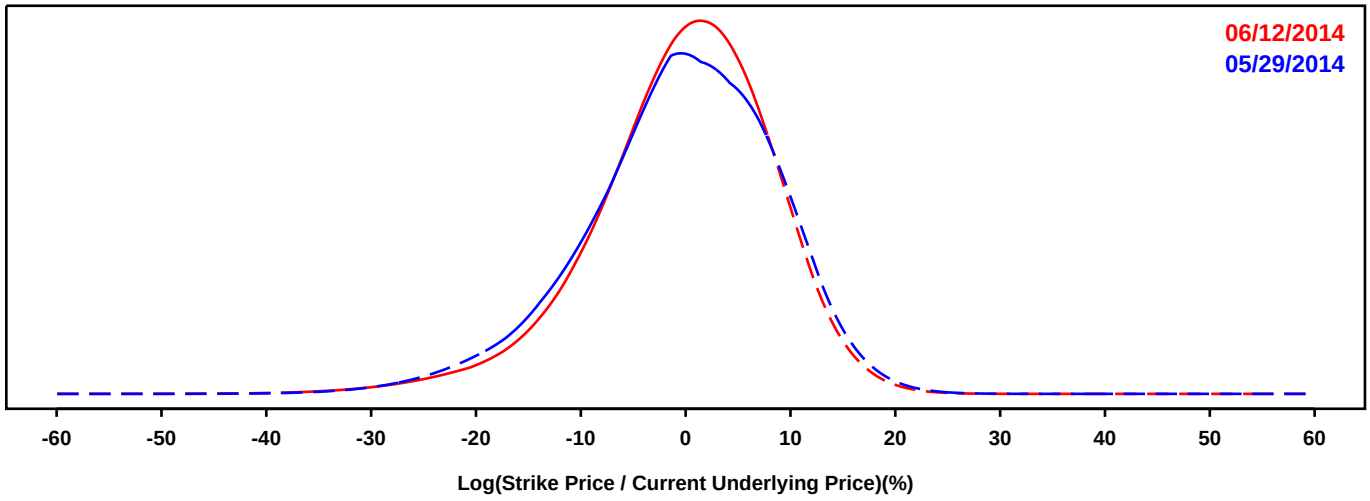
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CAPITAL ONE

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

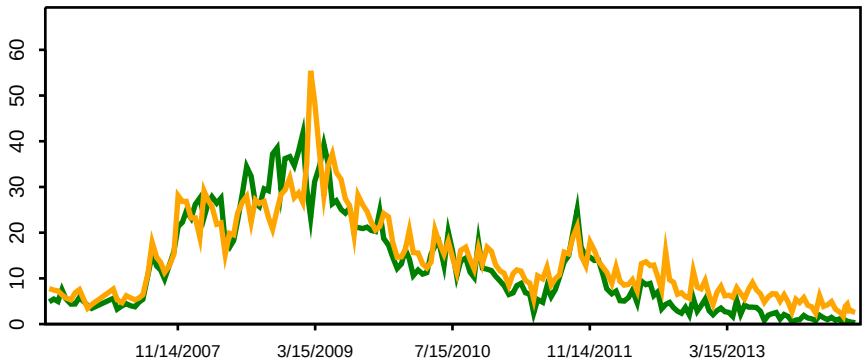
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



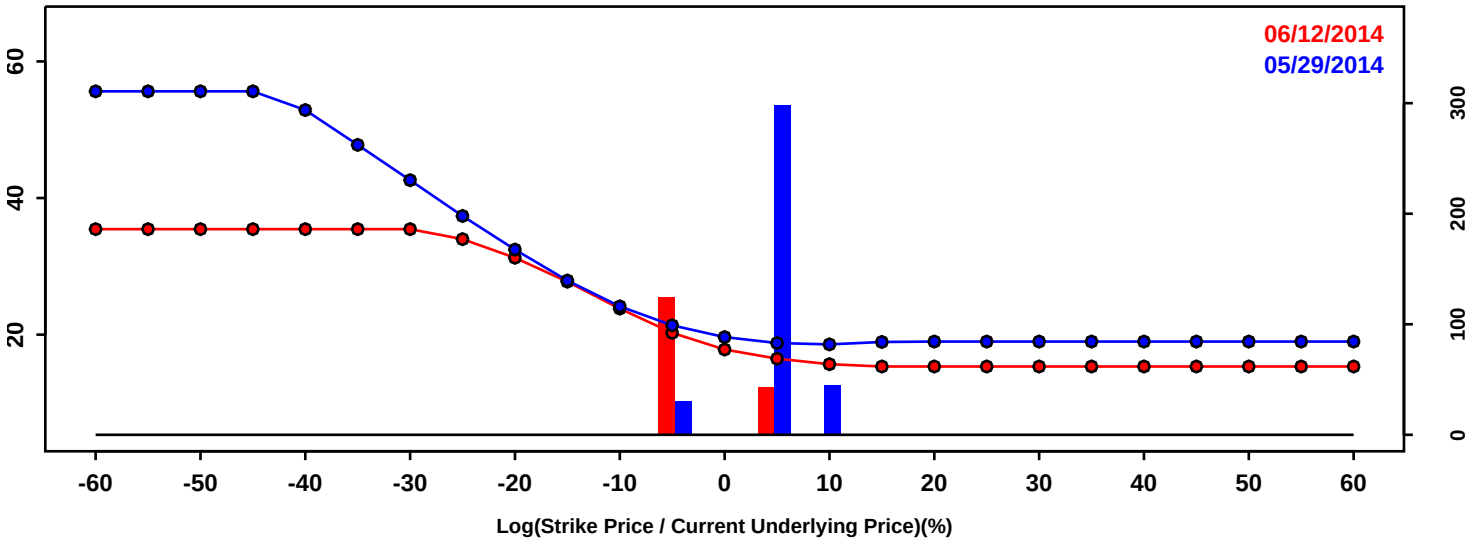
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-12.42%	-11.22%	1.20%
50th Pct	0.16%	0.47%	0.31%
90th Pct	10.45%	9.85%	-0.60%
Mean	-0.47%	-0.28%	0.19%
Std Dev	9.11%	8.63%	-0.48%
Skew	-0.52	-0.67	-0.15
Kurtosis	0.53	1.14	0.61

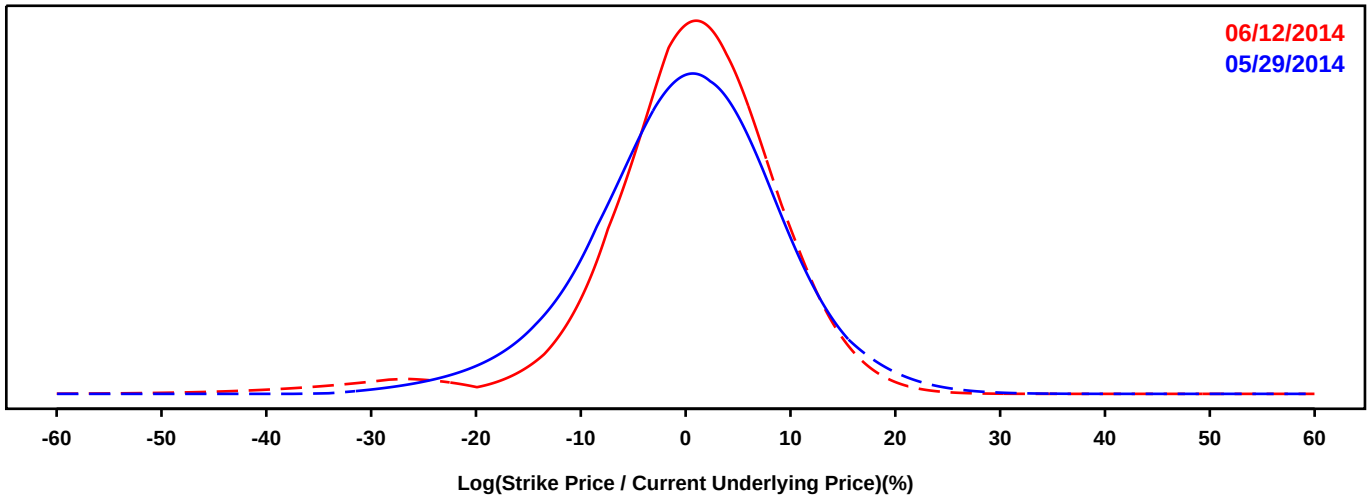
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- FIFTH THIRD

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

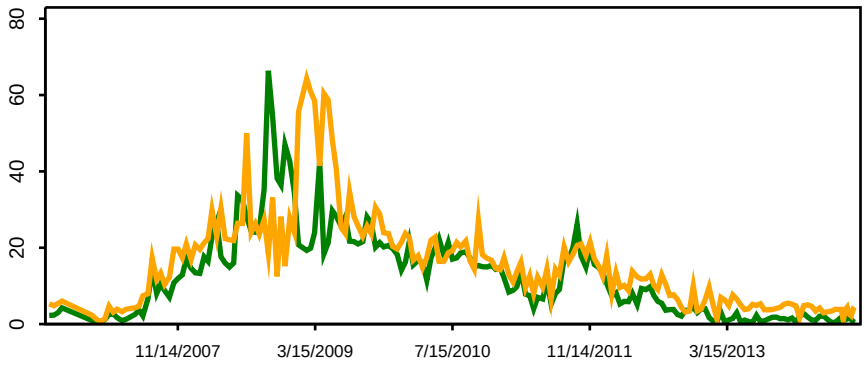
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

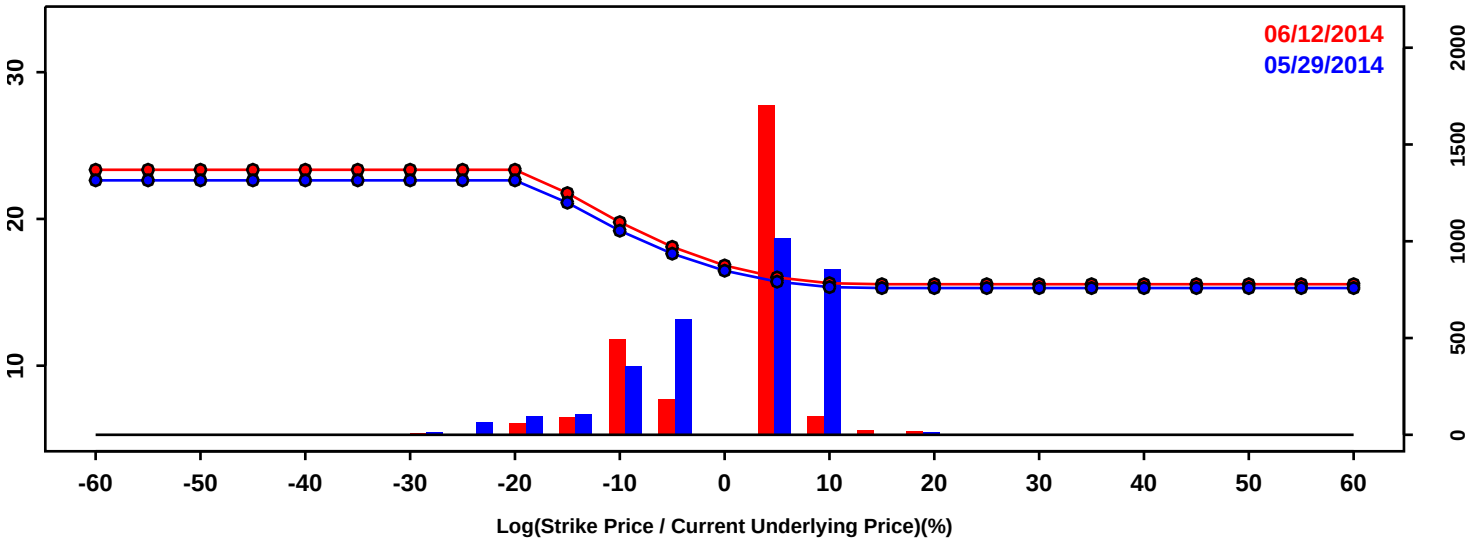
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-11.36%	-9.21%	2.15%
50th Pct	0.34%	0.95%	0.61%
90th Pct	10.85%	10.21%	-0.64%
Mean	0.02%	0.23%	0.21%
Std Dev	8.96%	9.22%	0.26%
Skew	-0.22	-1.40	-1.17
Kurtosis	0.49	4.69	4.21

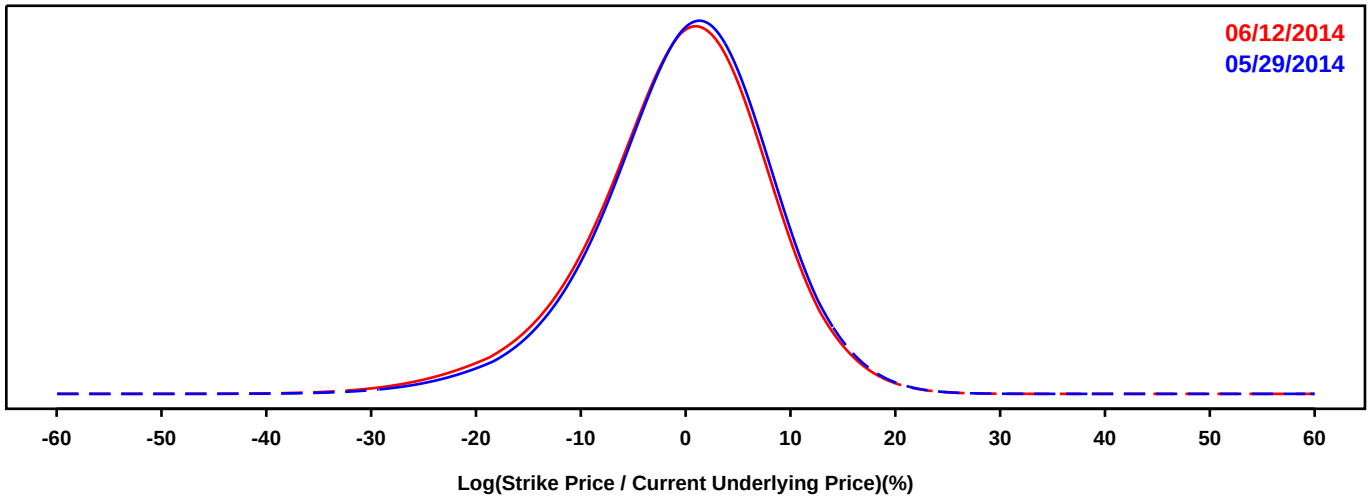
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- GOLDMAN SACHS

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

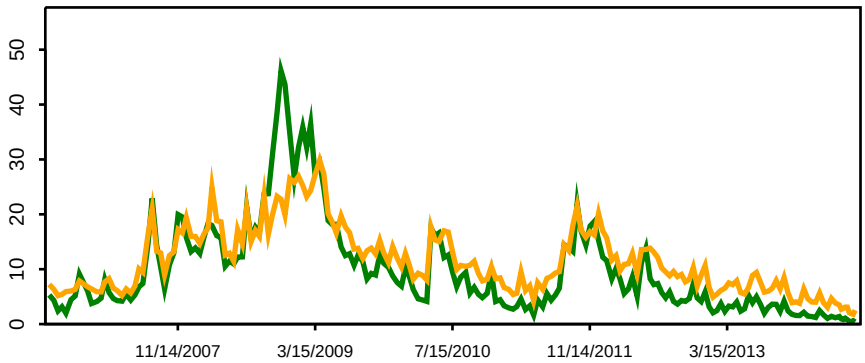
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

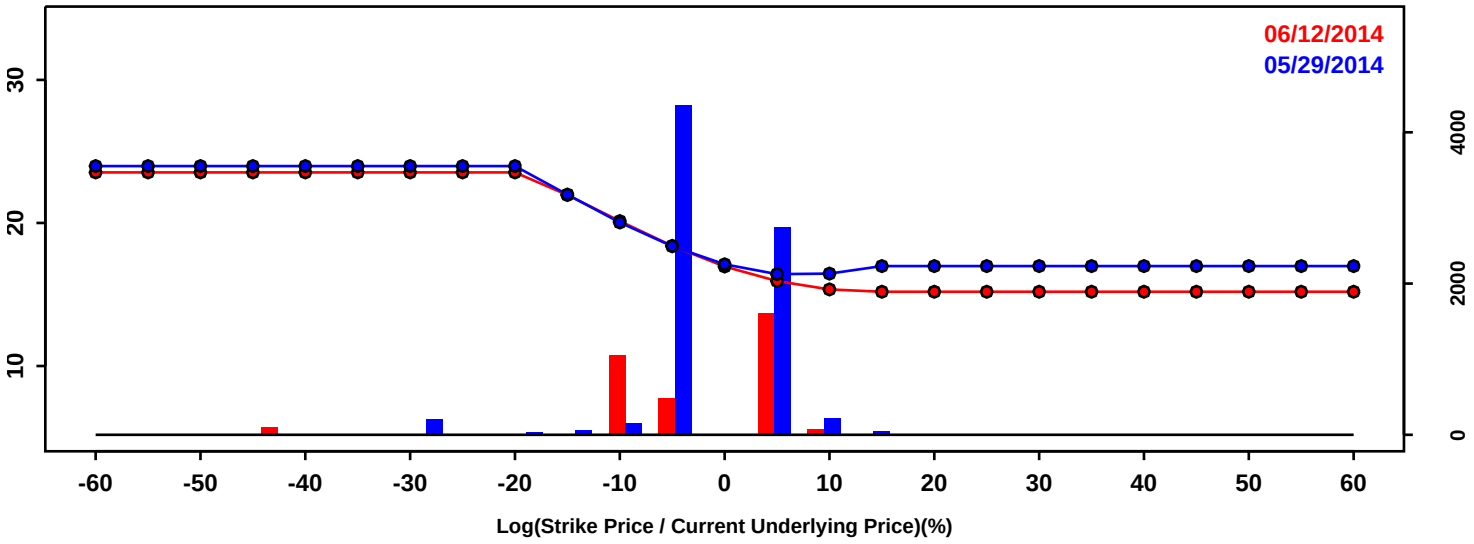
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-10.61%	-11.53%	-0.92%
50th Pct	0.48%	0.08%	-0.40%
90th Pct	9.78%	9.47%	-0.31%
Mean	-0.04%	-0.58%	-0.54%
Std Dev	8.28%	8.56%	0.27%
Skew	-0.47	-0.53	-0.07
Kurtosis	0.79	0.89	0.10

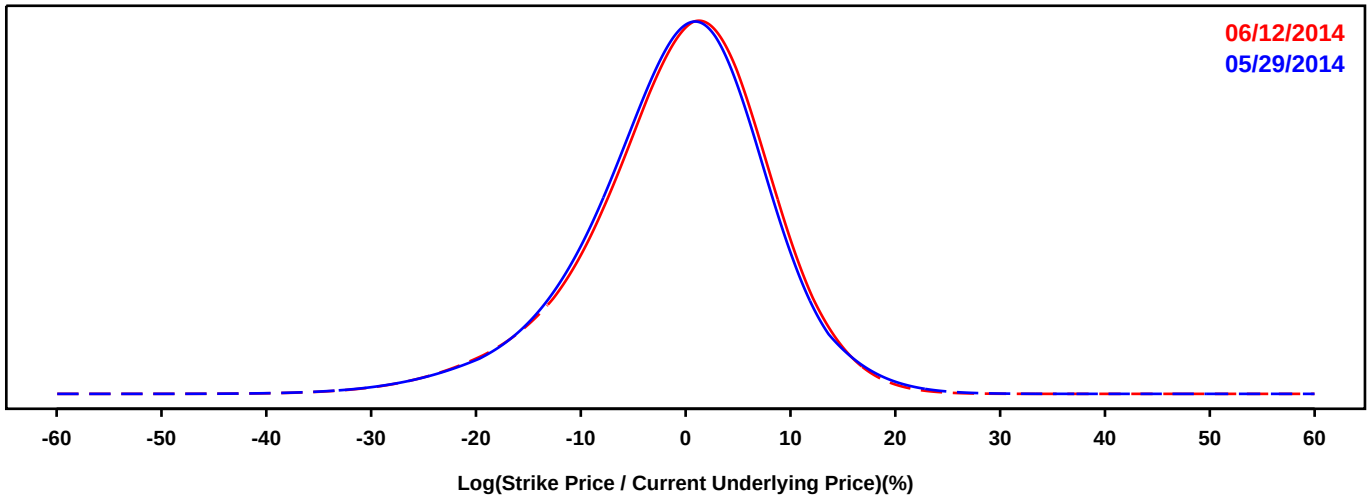
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- JP MORGAN

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

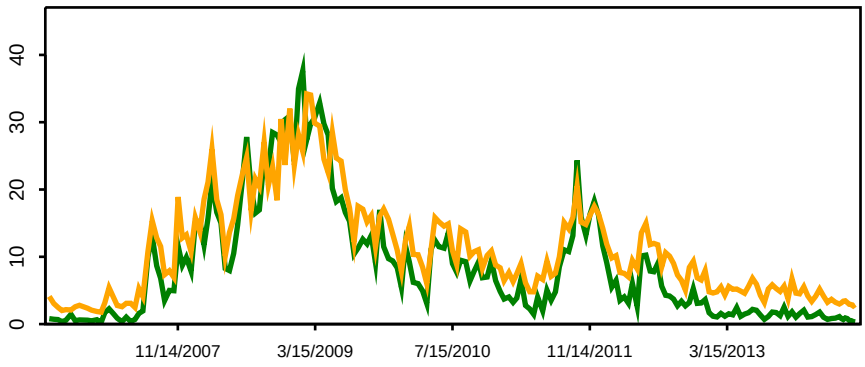
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

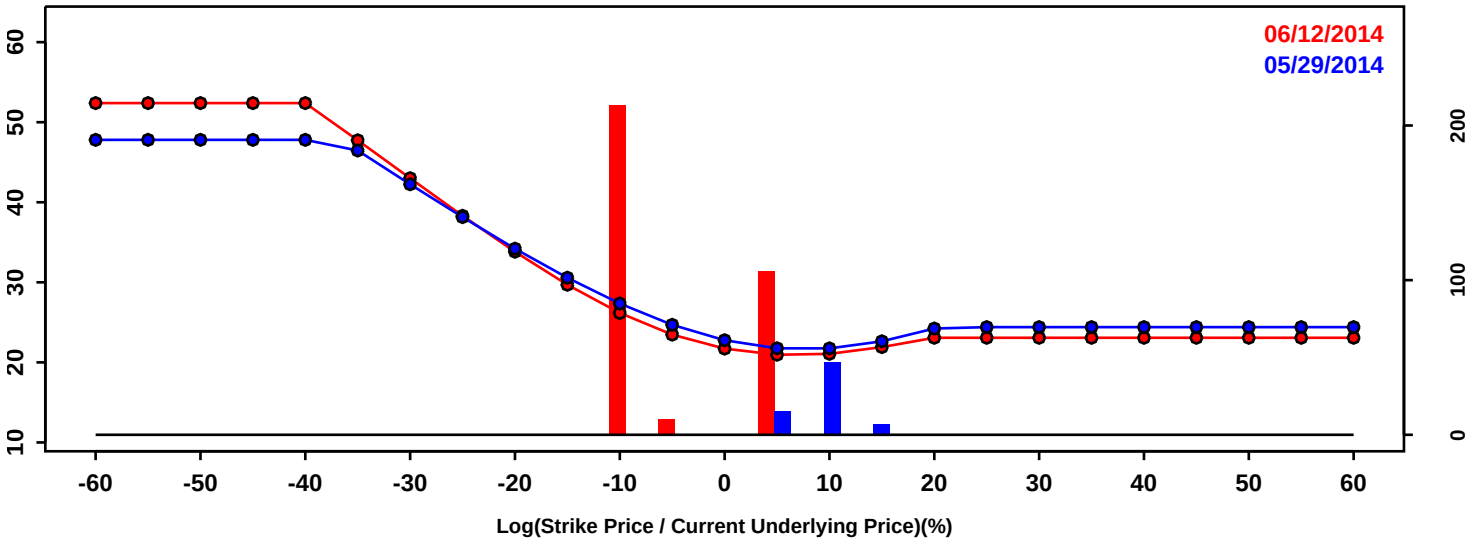
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-12.14%	-12.04%	0.10%
50th Pct	-0.24%	0.09%	0.33%
90th Pct	9.18%	9.35%	0.16%
Mean	-0.95%	-0.73%	0.21%
Std Dev	8.73%	8.69%	-0.04%
Skew	-0.53	-0.61	-0.08
Kurtosis	0.98	0.91	-0.07

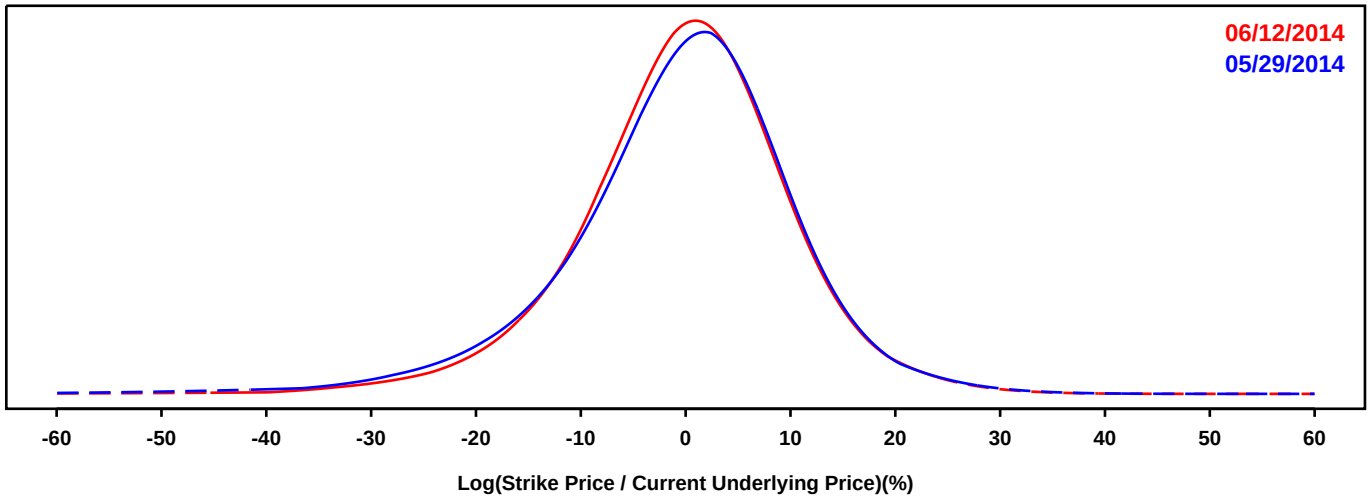
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- KEYCORP

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

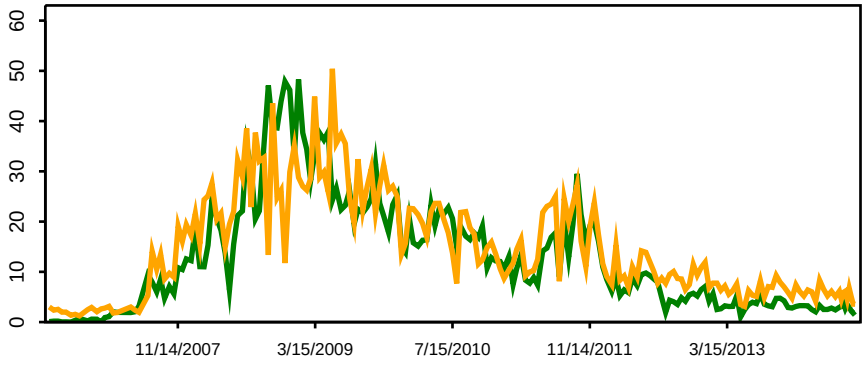
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

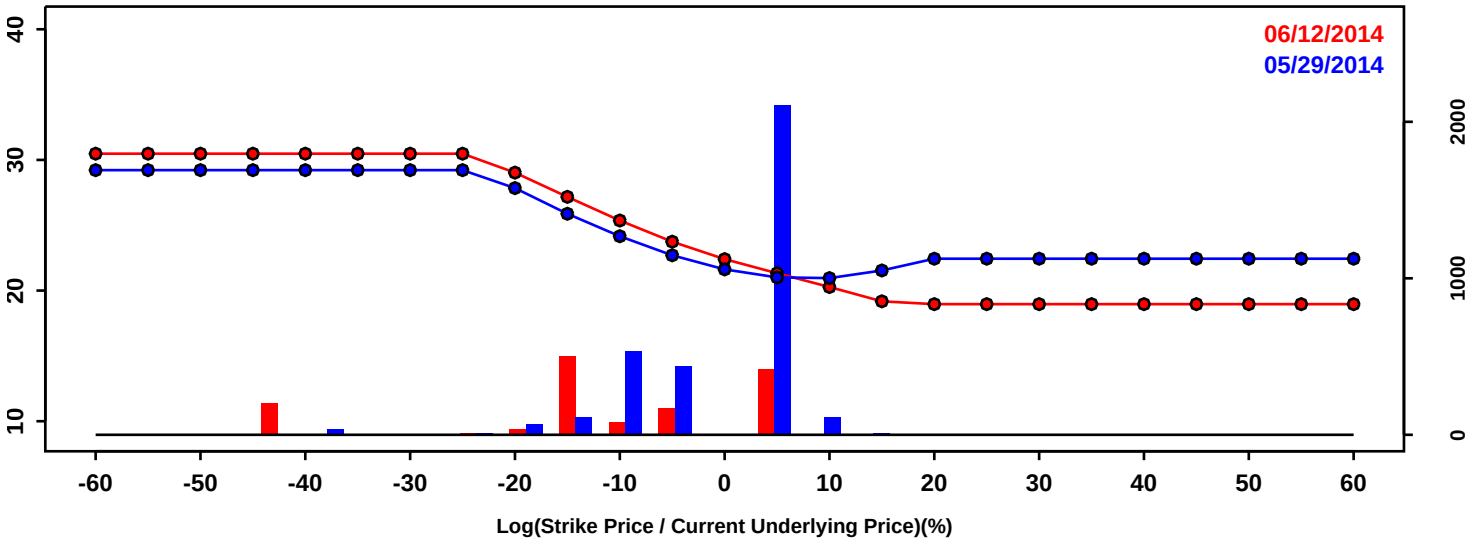
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-14.15%	-12.68%	1.47%
50th Pct	0.44%	0.34%	-0.10%
90th Pct	11.94%	11.73%	-0.21%
Mean	-0.55%	-0.19%	0.36%
Std Dev	11.32%	10.33%	-0.99%
Skew	-0.87	-0.58	0.29
Kurtosis	3.11	2.53	-0.58

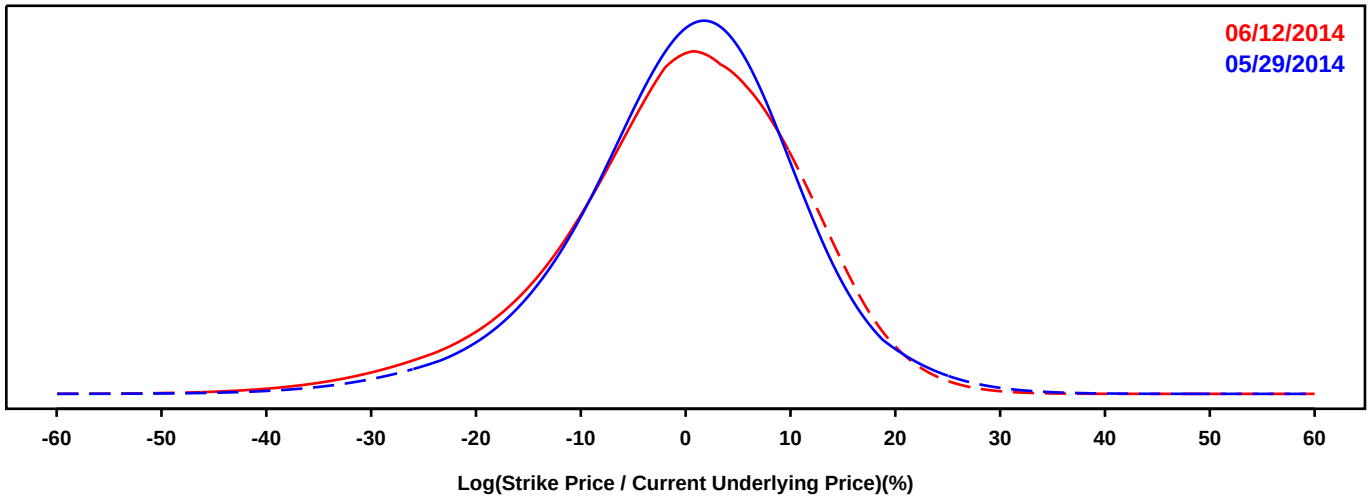
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- MORGAN STANLEY

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

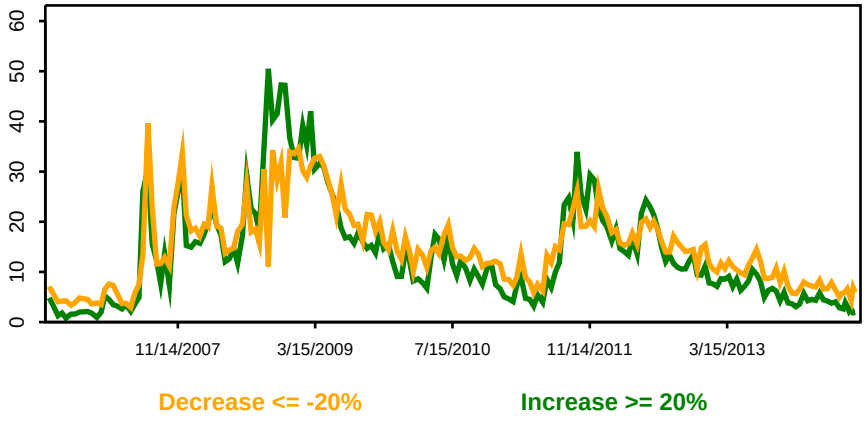
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



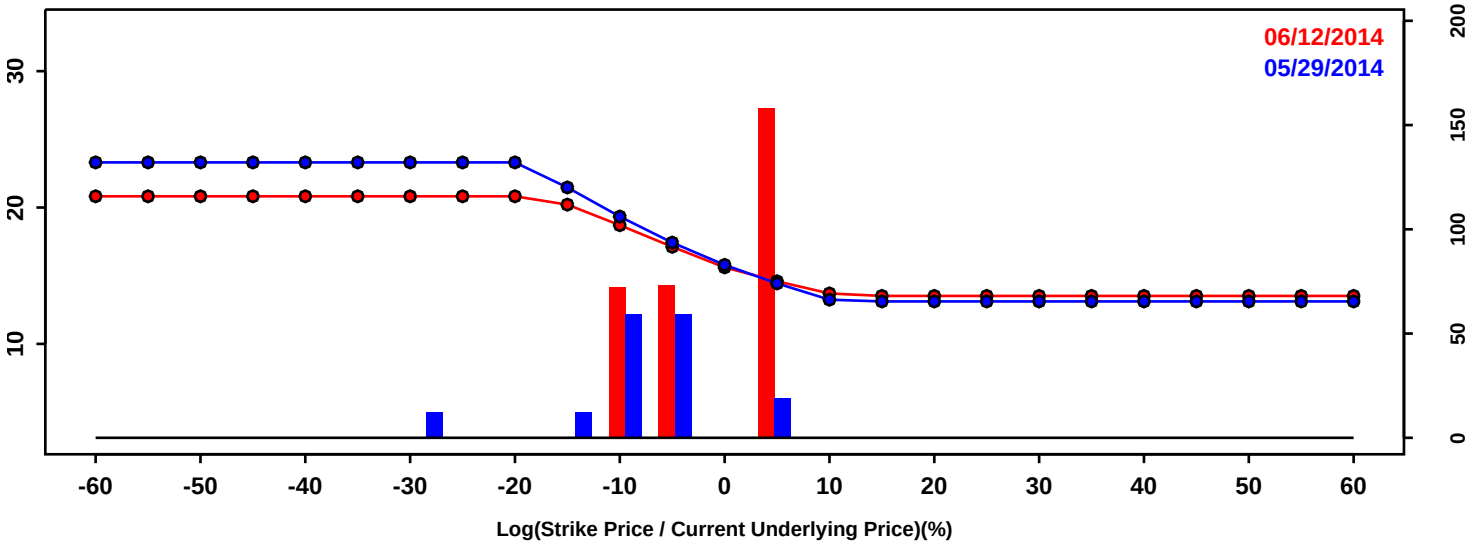
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-13.63%	-15.47%	-1.84%
50th Pct	0.72%	0.38%	-0.34%
90th Pct	12.71%	13.04%	0.34%
Mean	0.06%	-0.54%	-0.60%
Std Dev	10.80%	11.48%	0.68%
Skew	-0.40	-0.59	-0.19
Kurtosis	0.91	0.78	-0.13

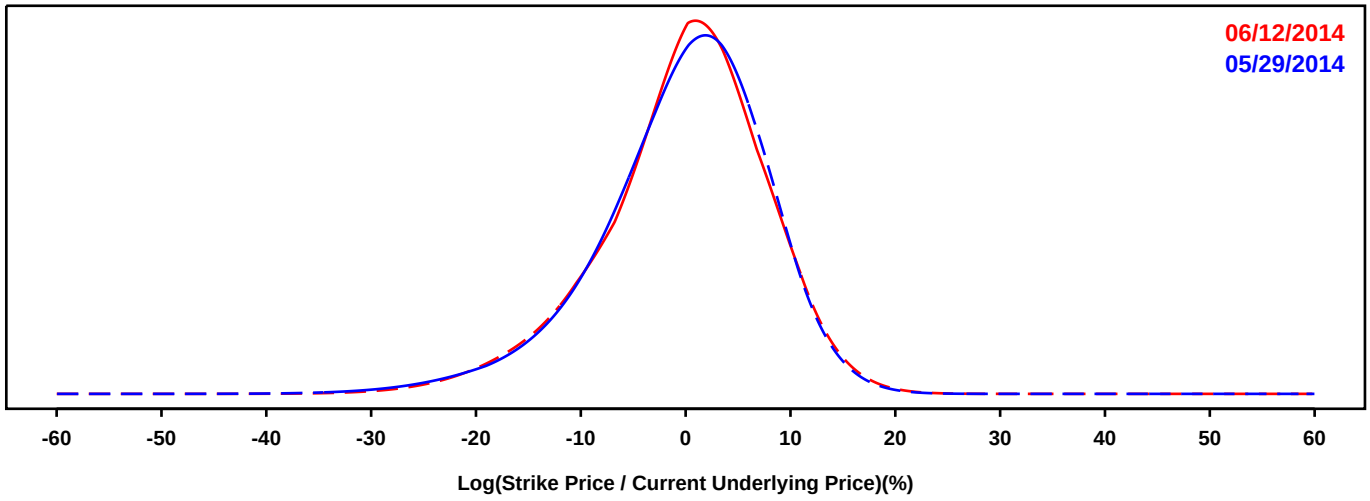
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- PNC FINANCIAL

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

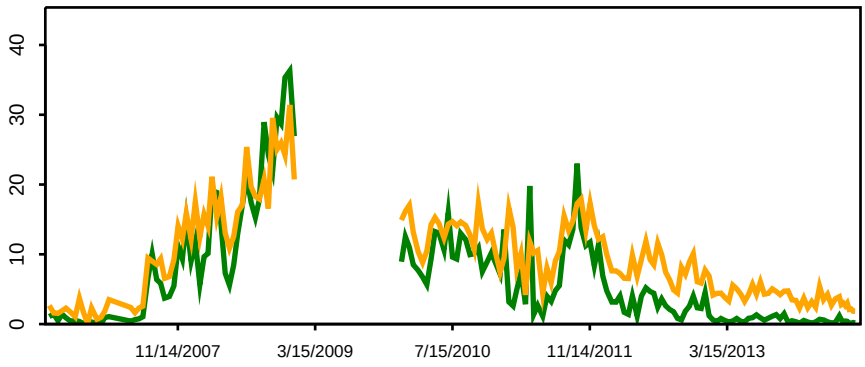
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



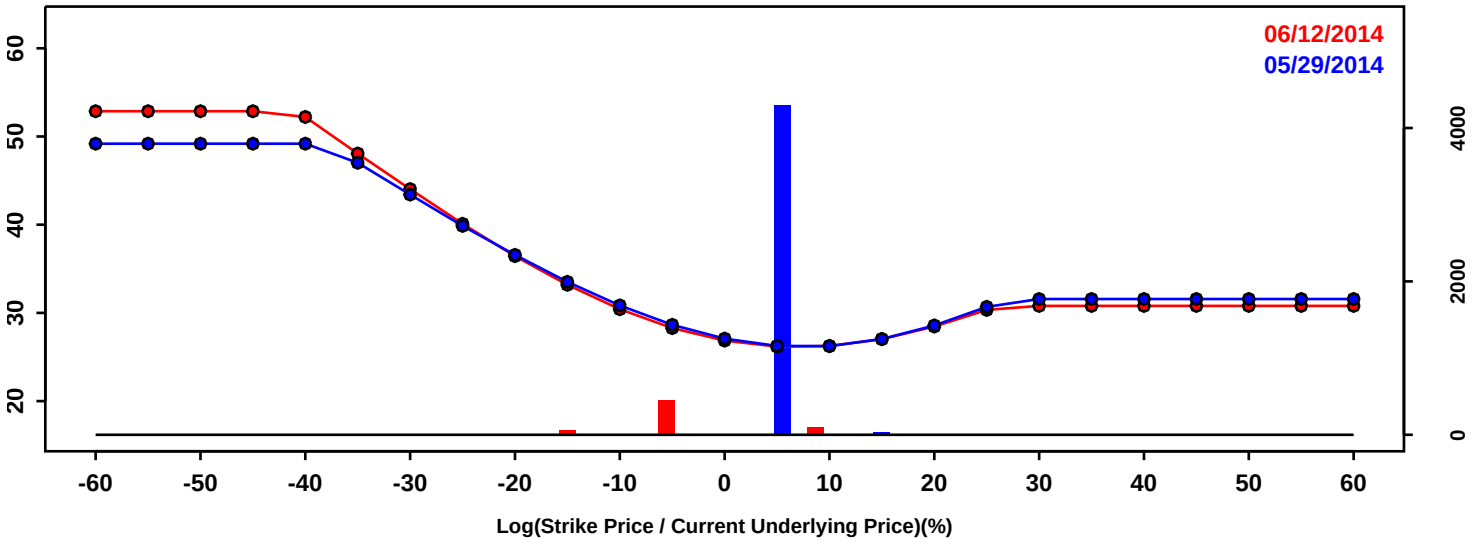
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-10.77%	-10.82%	-0.05%
50th Pct	0.58%	0.48%	-0.10%
90th Pct	9.04%	9.19%	0.14%
Mean	-0.28%	-0.22%	0.06%
Std Dev	8.08%	7.98%	-0.09%
Skew	-0.71	-0.58	0.13
Kurtosis	1.08	0.73	-0.36

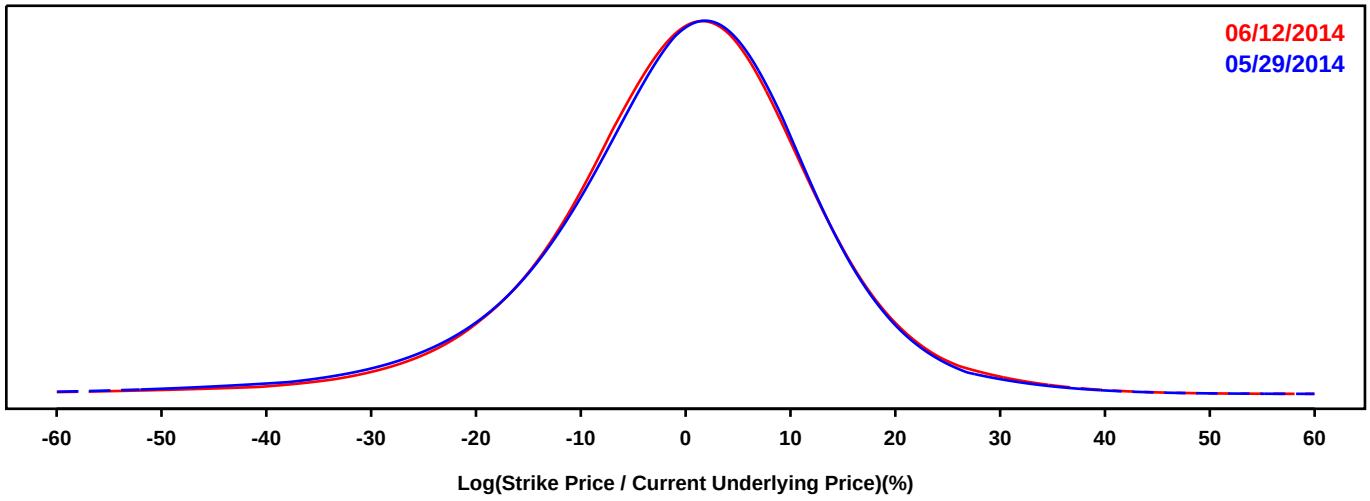
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- REGIONS FINANCIAL

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

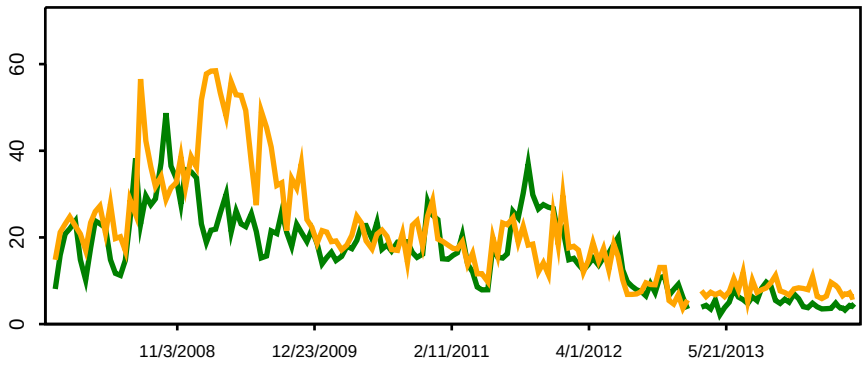
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

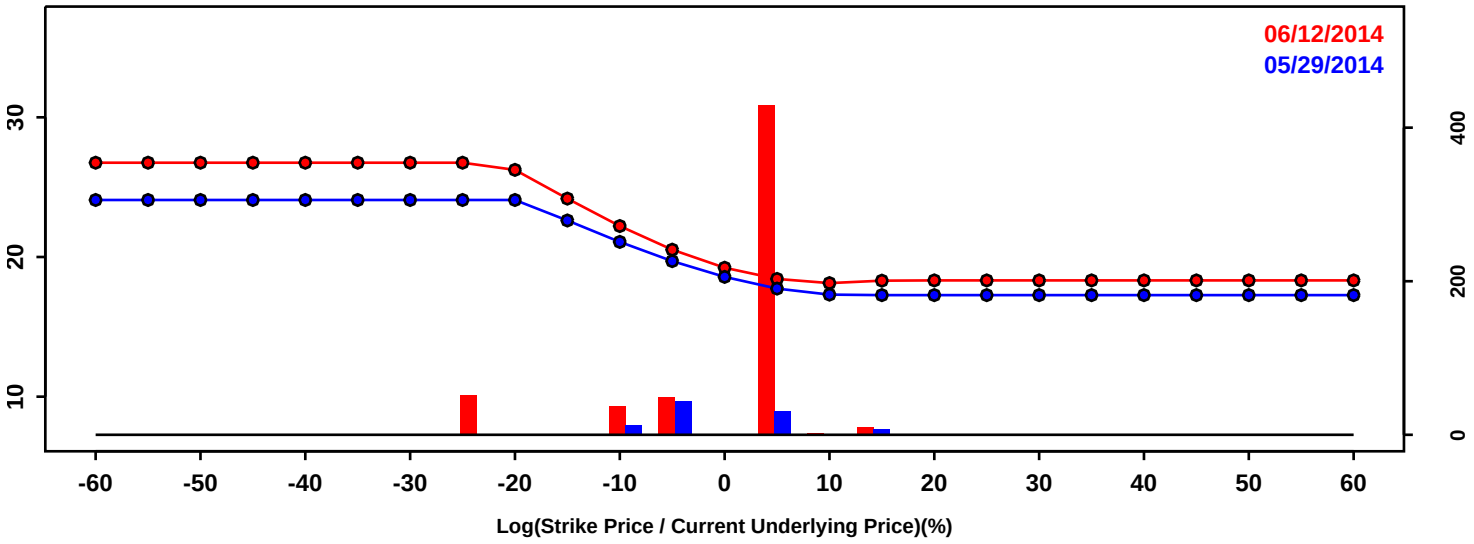
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-16.65%	-15.81%	0.84%
50th Pct	0.63%	0.64%	0.01%
90th Pct	14.55%	14.84%	0.29%
Mean	-0.46%	-0.11%	0.35%
Std Dev	13.54%	13.25%	-0.29%
Skew	-0.75	-0.65	0.10
Kurtosis	2.51	2.61	0.10

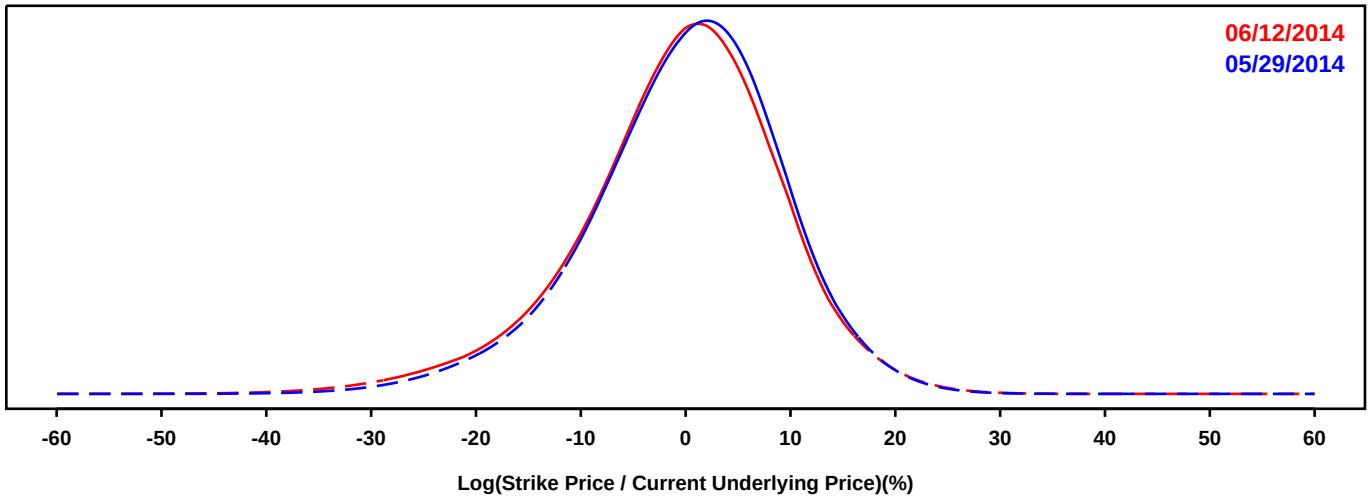
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- SUNTRUST

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

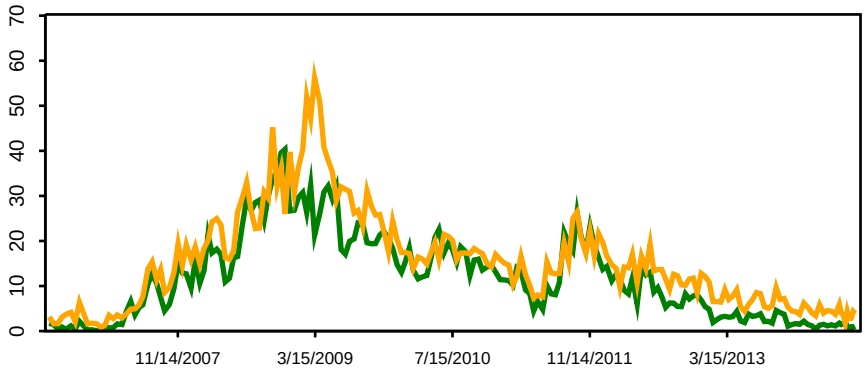
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

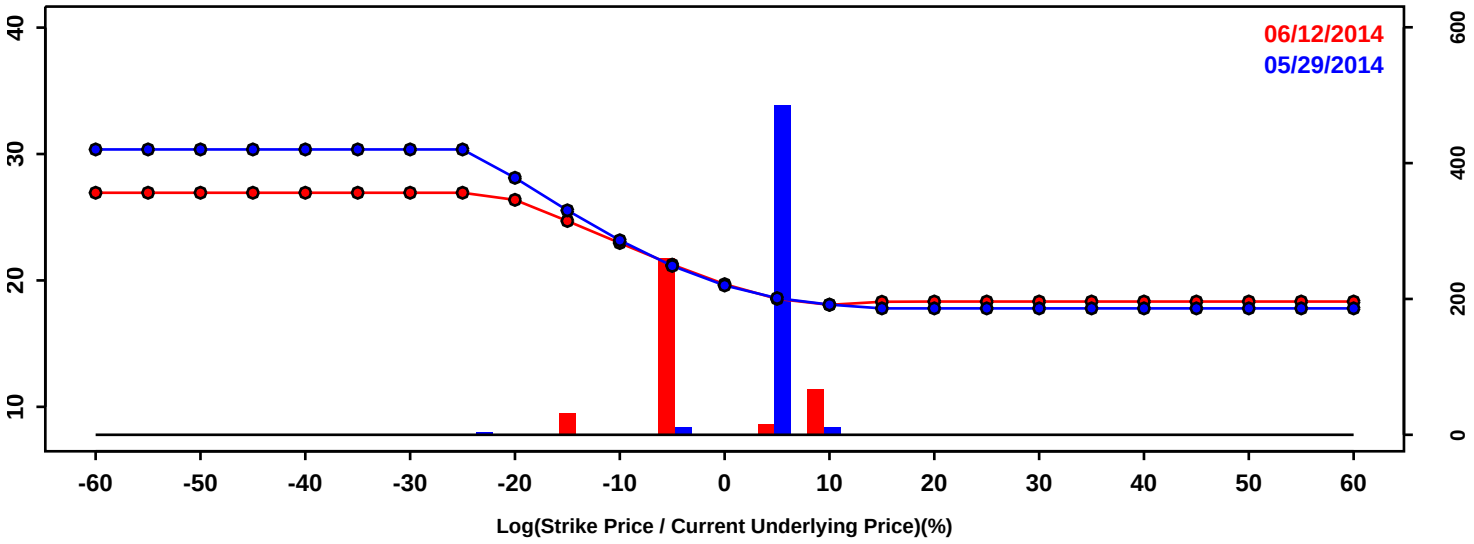
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-11.98%	-13.10%	-1.12%
50th Pct	0.66%	0.15%	-0.51%
90th Pct	11.00%	10.71%	-0.29%
Mean	0.01%	-0.64%	-0.65%
Std Dev	9.29%	9.76%	0.47%
Skew	-0.45	-0.54	-0.09
Kurtosis	0.66	0.98	0.32

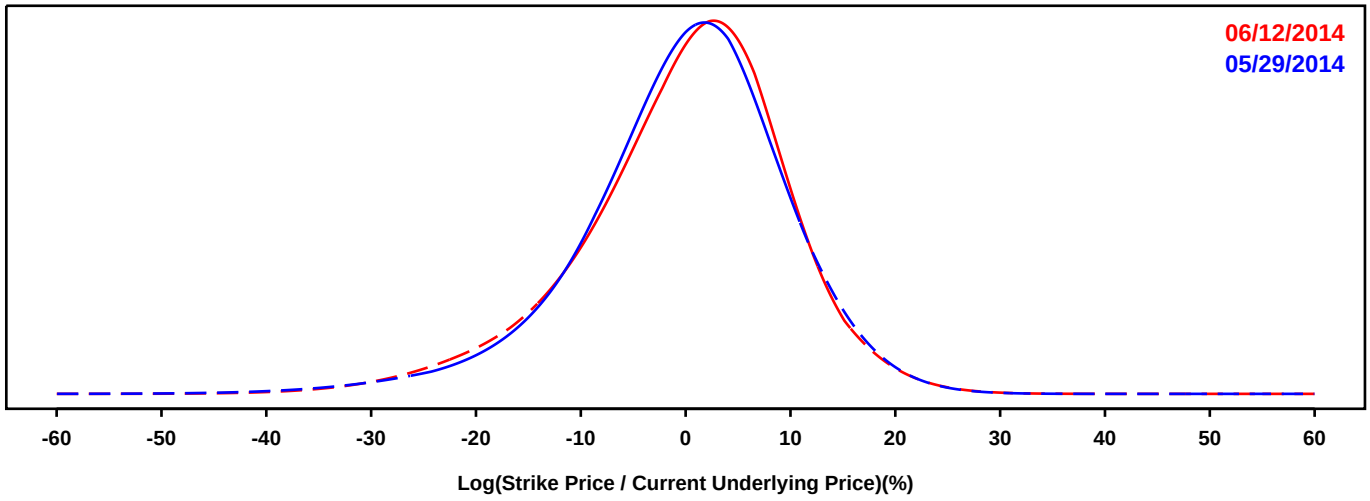
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- STATE STREET

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

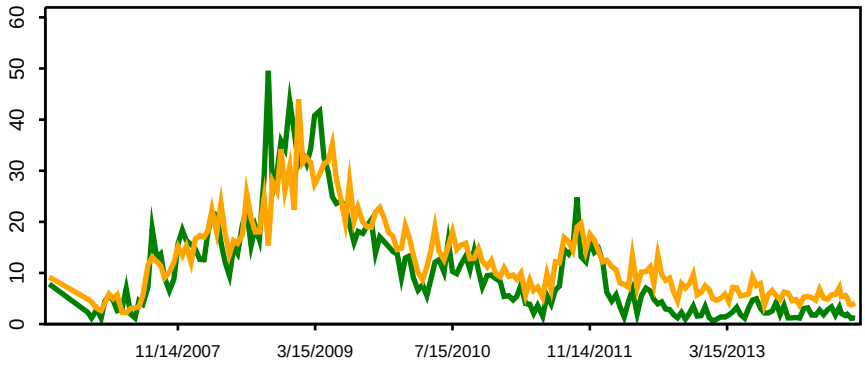
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



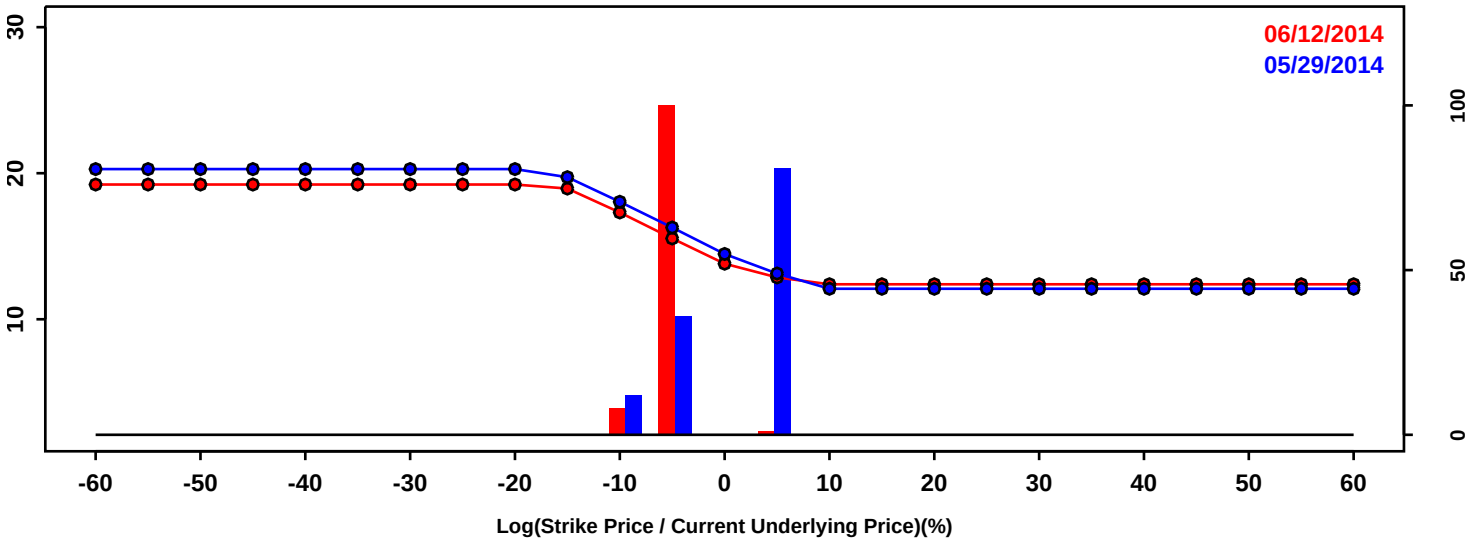
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-12.60%	-13.29%	-0.69%
50th Pct	0.58%	0.85%	0.27%
90th Pct	11.29%	11.09%	-0.20%
Mean	-0.22%	-0.22%	-0.01%
Std Dev	9.91%	9.95%	0.04%
Skew	-0.66	-0.62	0.04
Kurtosis	1.39	0.96	-0.43

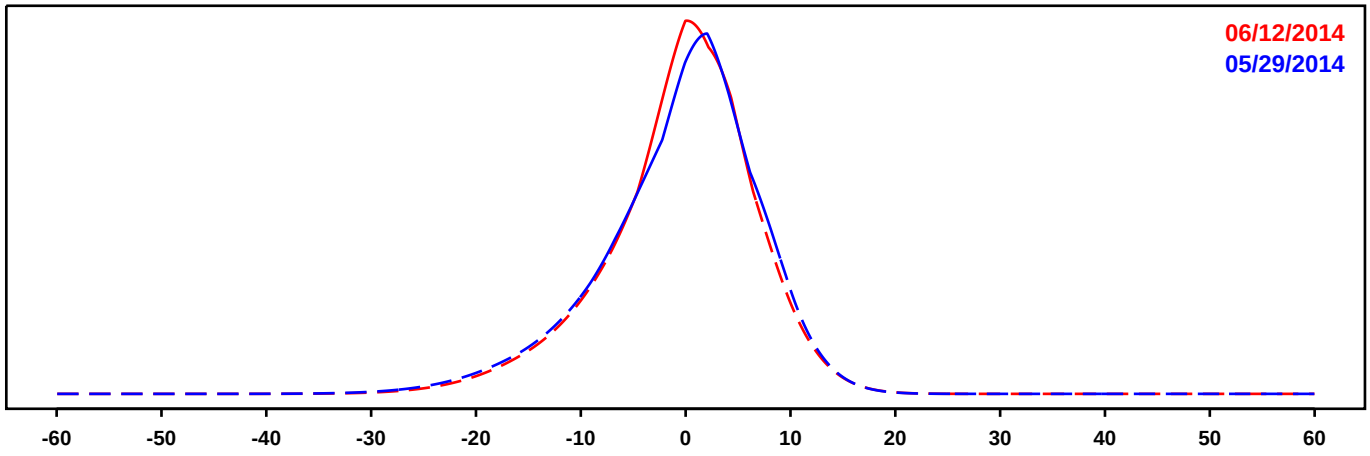
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- US BANCORP

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

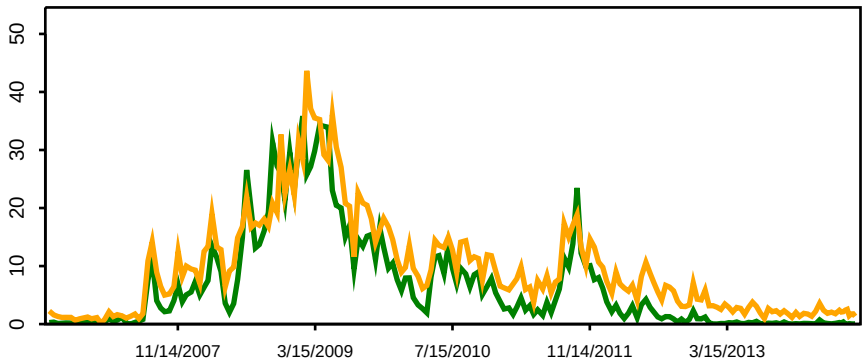
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

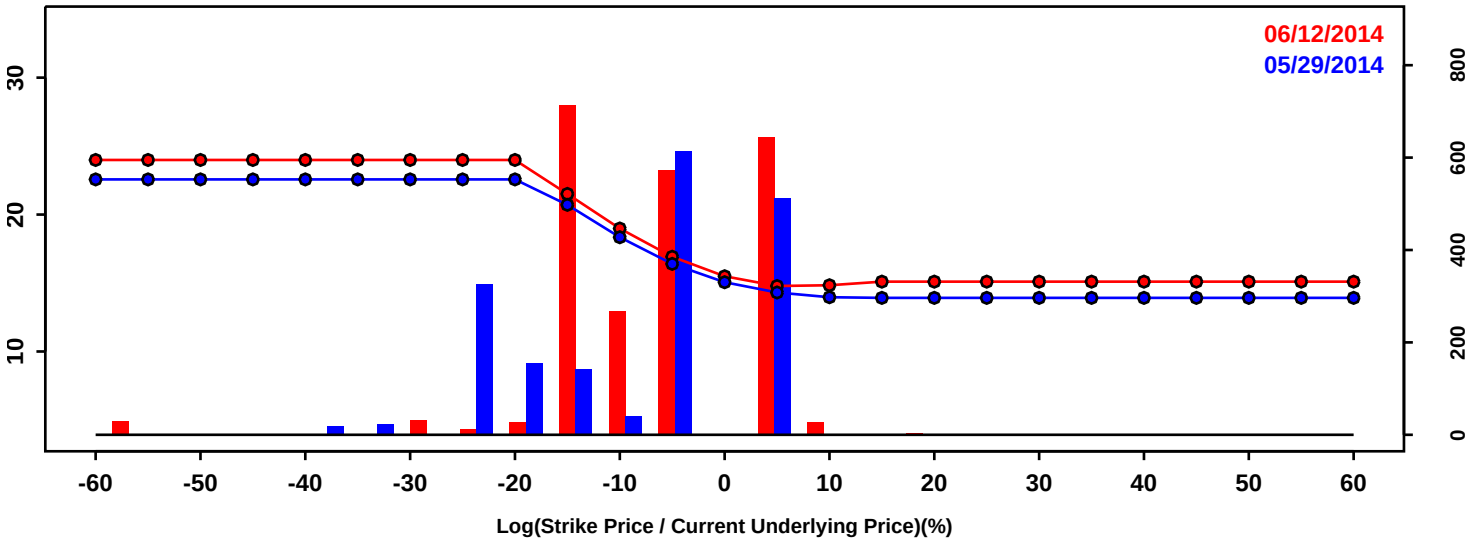
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-10.63%	-10.02%	0.61%
50th Pct	0.40%	0.22%	-0.19%
90th Pct	8.09%	7.74%	-0.35%
Mean	-0.57%	-0.52%	0.04%
Std Dev	7.53%	7.15%	-0.38%
Skew	-0.71	-0.65	0.06
Kurtosis	0.92	0.97	0.04

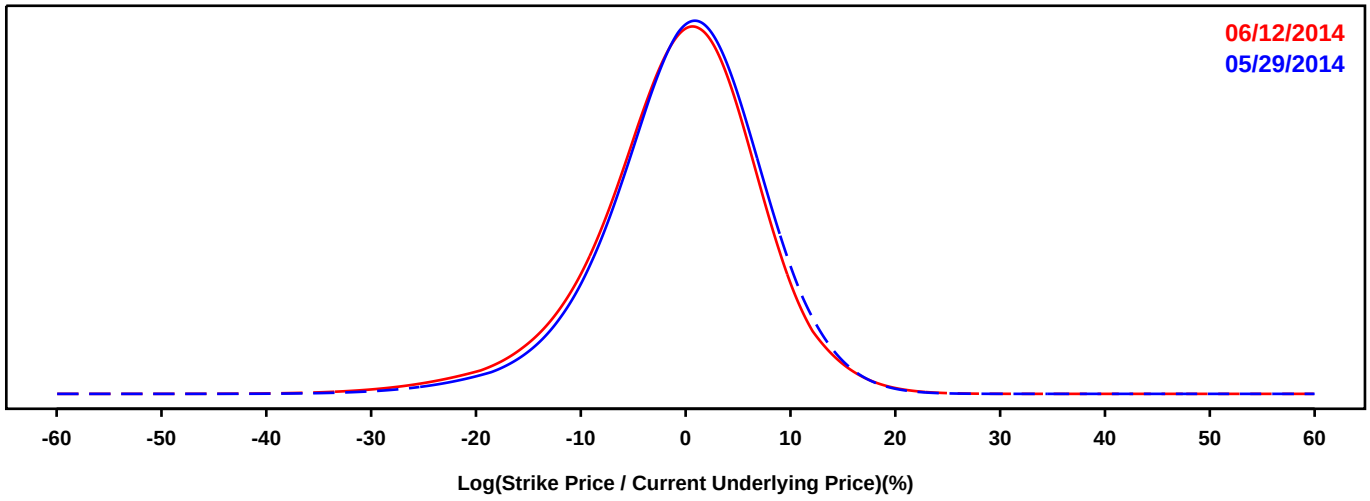
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- WELLS FARGO

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

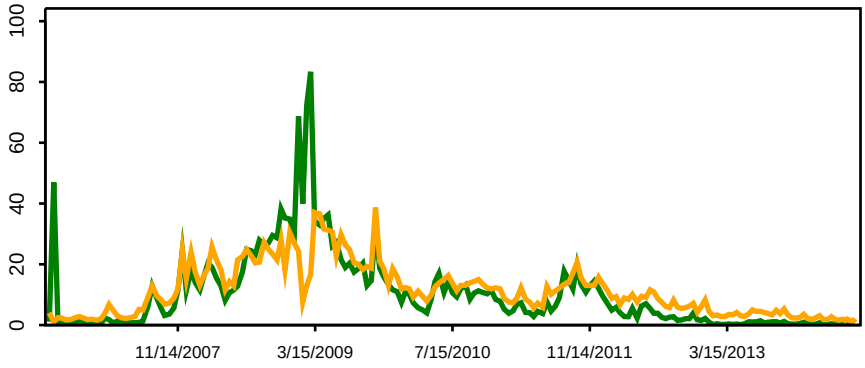
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

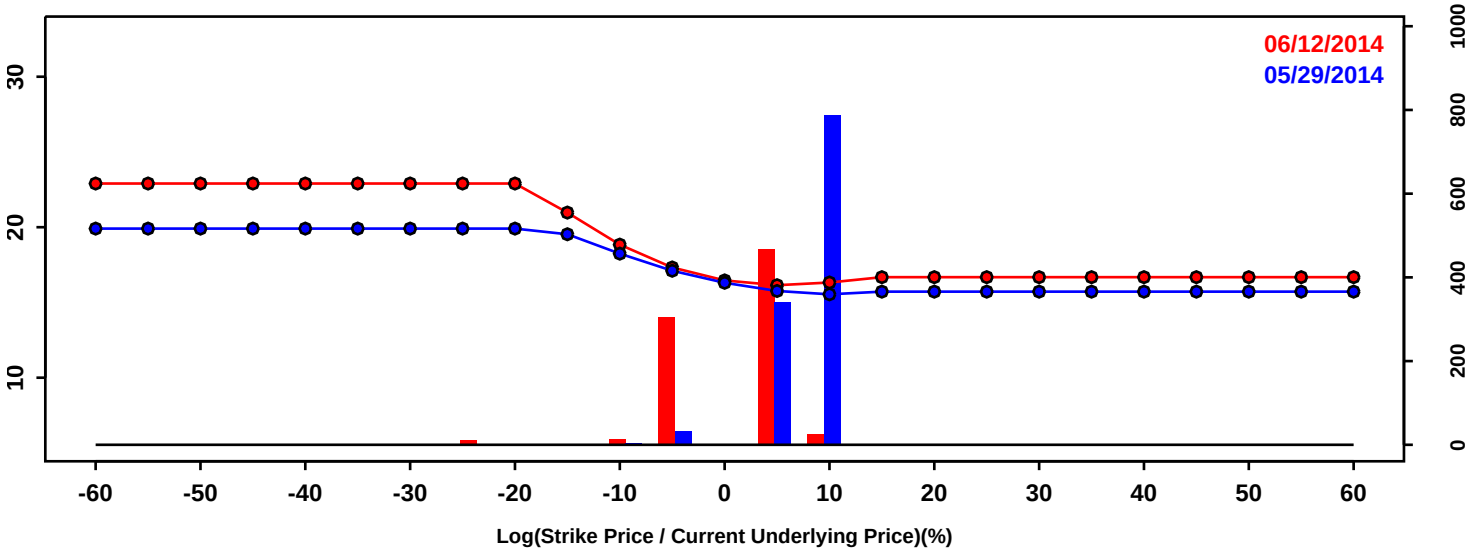
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-9.58%	-10.71%	-1.13%
50th Pct	0.30%	-0.19%	-0.49%
90th Pct	8.77%	8.31%	-0.46%
Mean	-0.15%	-0.80%	-0.66%
Std Dev	7.54%	7.91%	0.37%
Skew	-0.54	-0.63	-0.09
Kurtosis	1.12	1.39	0.27

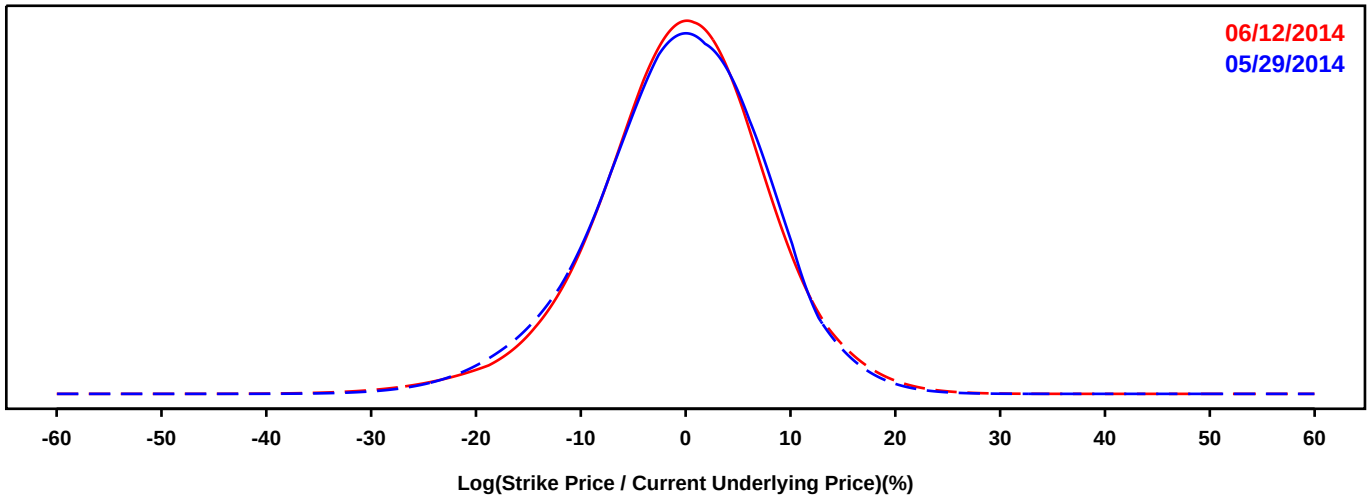
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- AFLAC

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

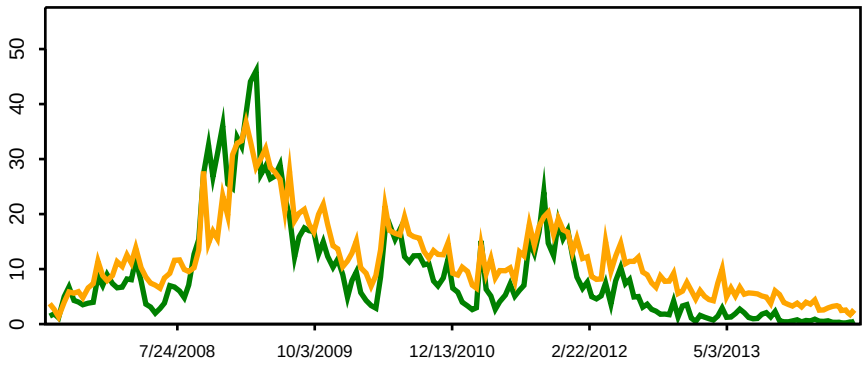
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



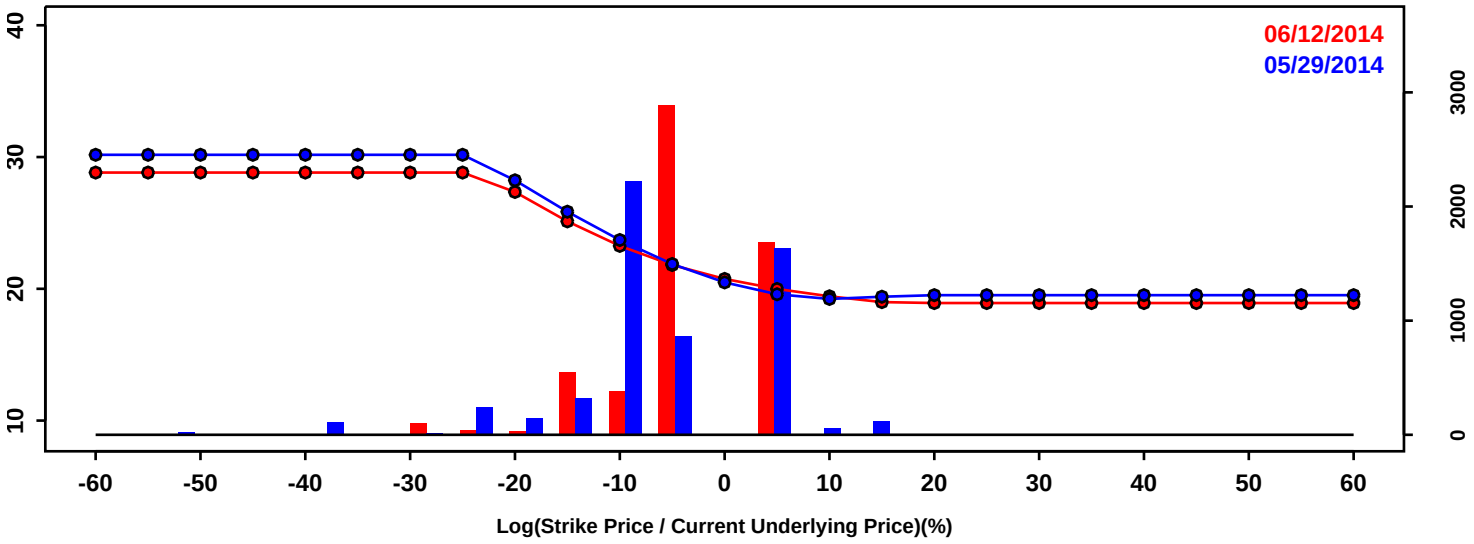
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-11.15%	-10.71%	0.44%
50th Pct	-0.19%	-0.16%	0.03%
90th Pct	9.27%	9.43%	0.16%
Mean	-0.58%	-0.46%	0.12%
Std Dev	8.18%	8.25%	0.07%
Skew	-0.34	-0.34	-0.00
Kurtosis	0.45	0.86	0.42

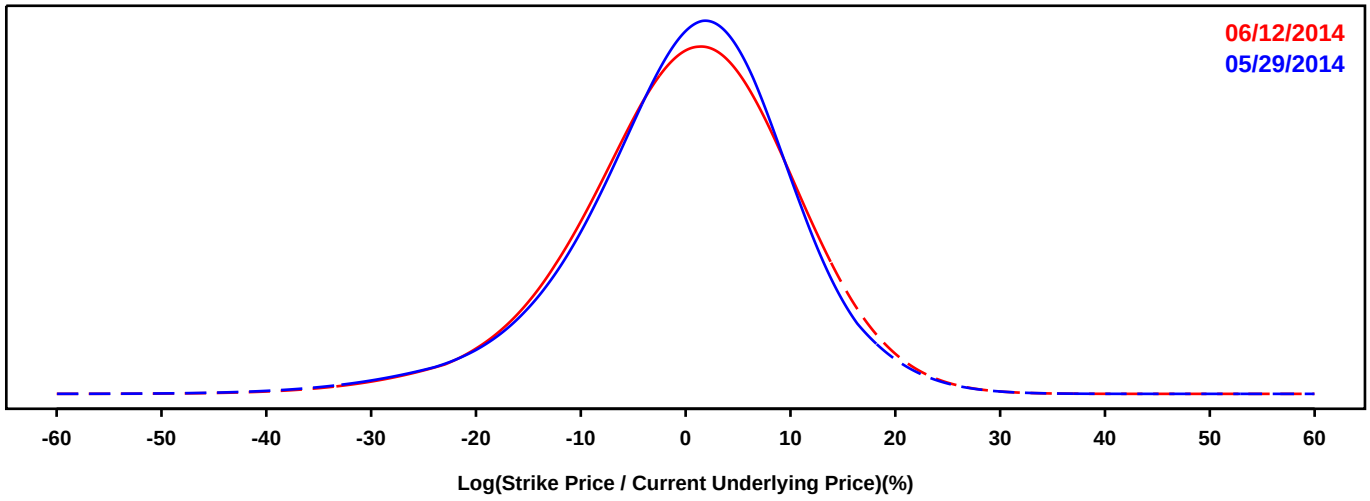
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- AIG

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

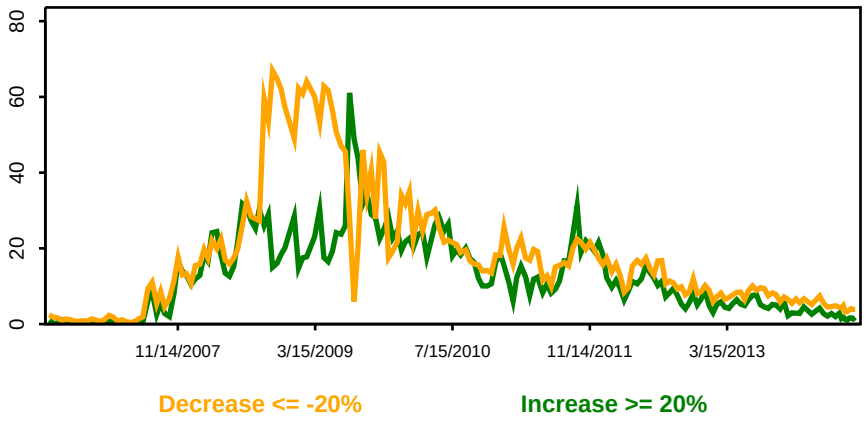
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



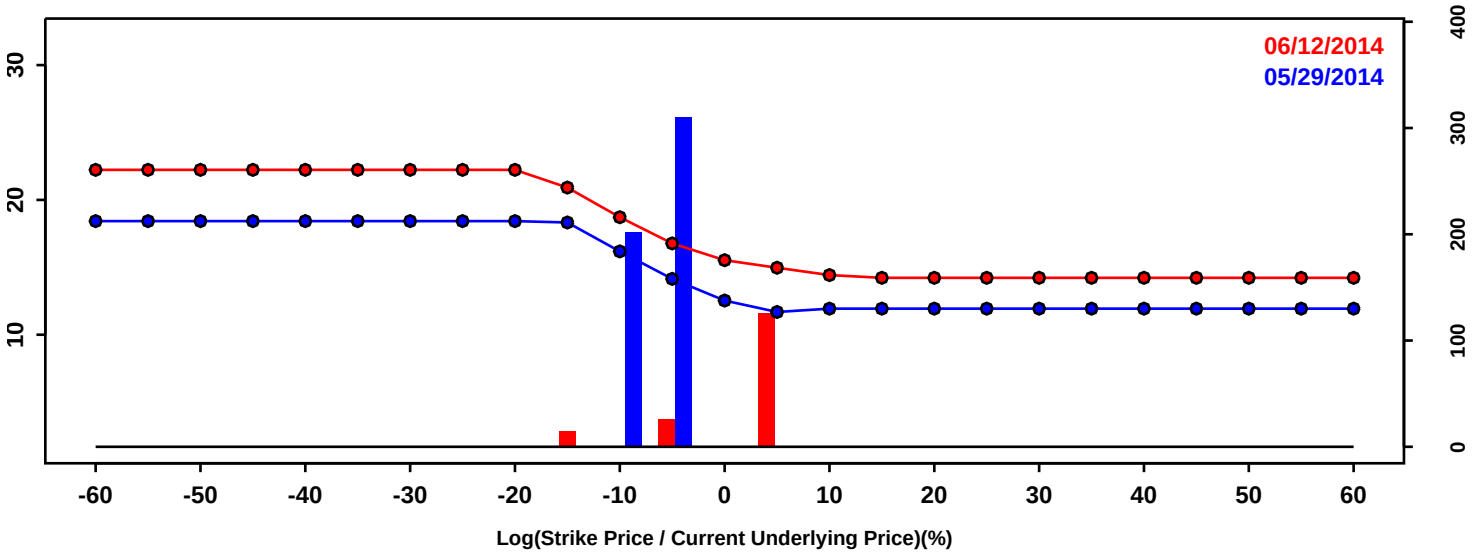
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-13.09%	-13.23%	-0.14%
50th Pct	0.68%	0.58%	-0.09%
90th Pct	11.81%	12.53%	0.72%
Mean	-0.13%	-0.02%	0.11%
Std Dev	10.31%	10.42%	0.12%
Skew	-0.58	-0.46	0.13
Kurtosis	1.20	0.78	-0.42

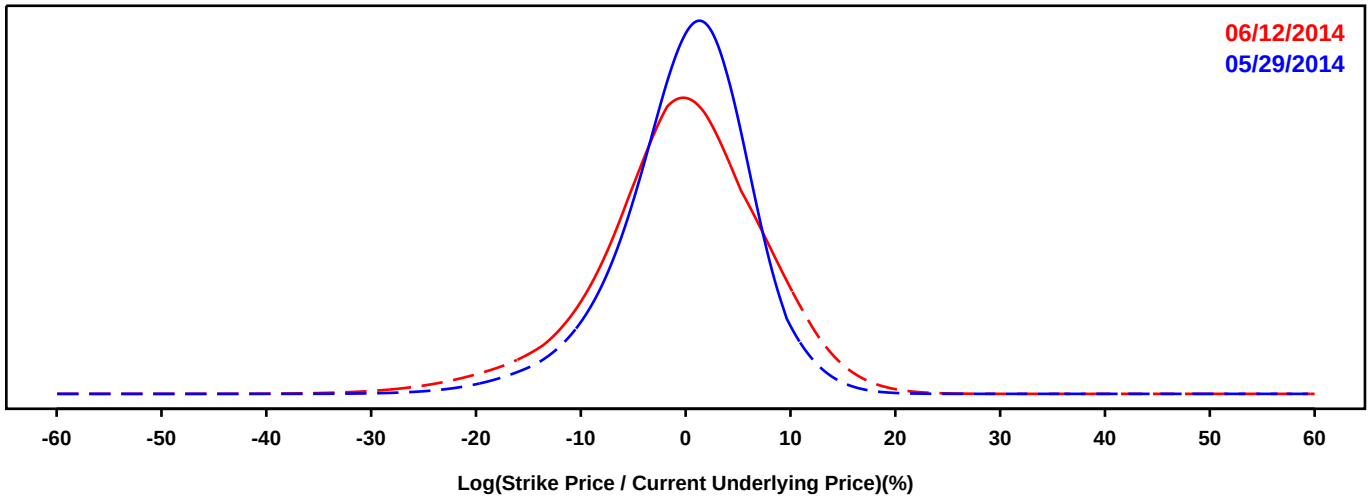
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- ALLSTATE

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

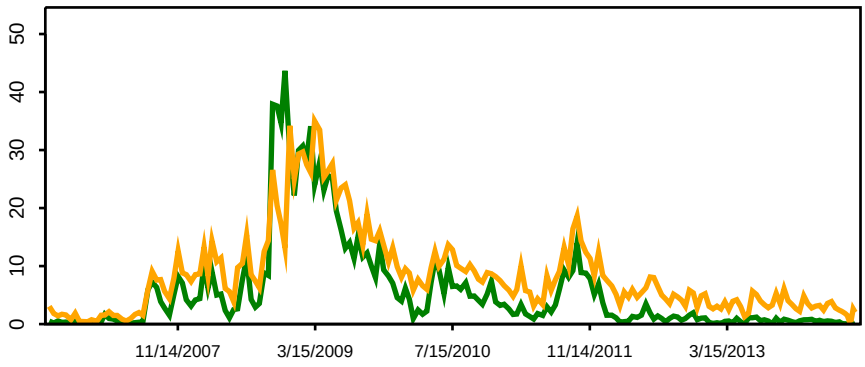
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

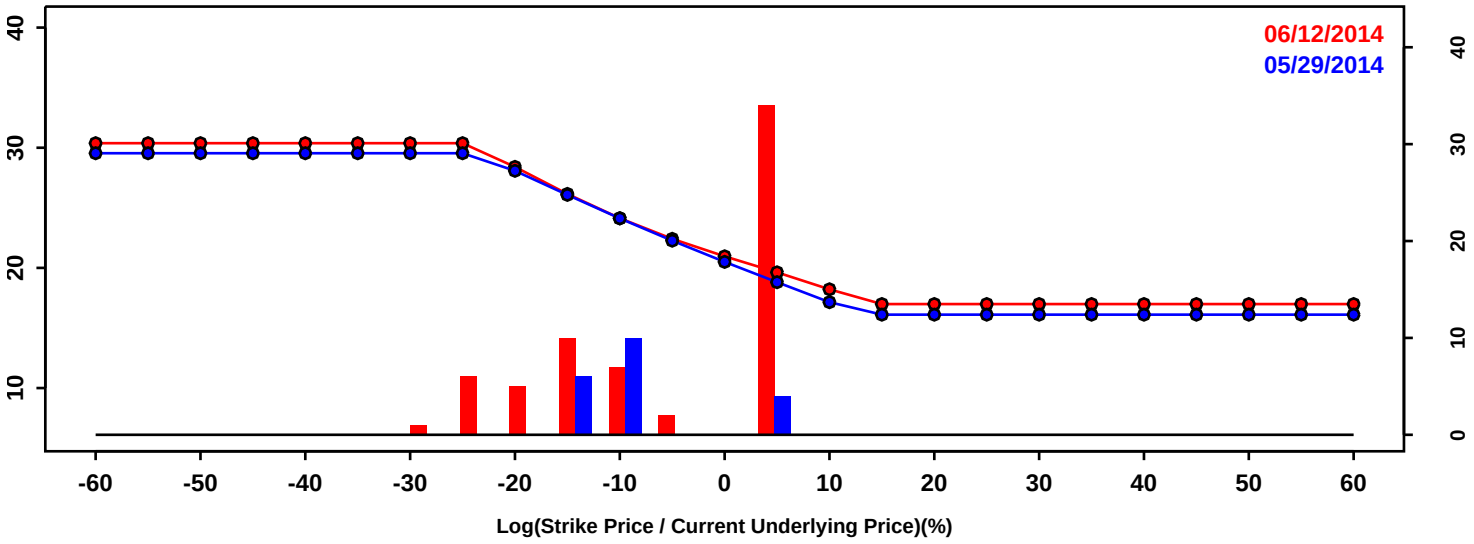
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-8.10%	-10.49%	-2.39%
50th Pct	0.48%	-0.19%	-0.67%
90th Pct	7.19%	9.00%	1.81%
Mean	-0.07%	-0.58%	-0.52%
Std Dev	6.32%	7.95%	1.63%
Skew	-0.62	-0.53	0.09
Kurtosis	1.21	1.04	-0.17

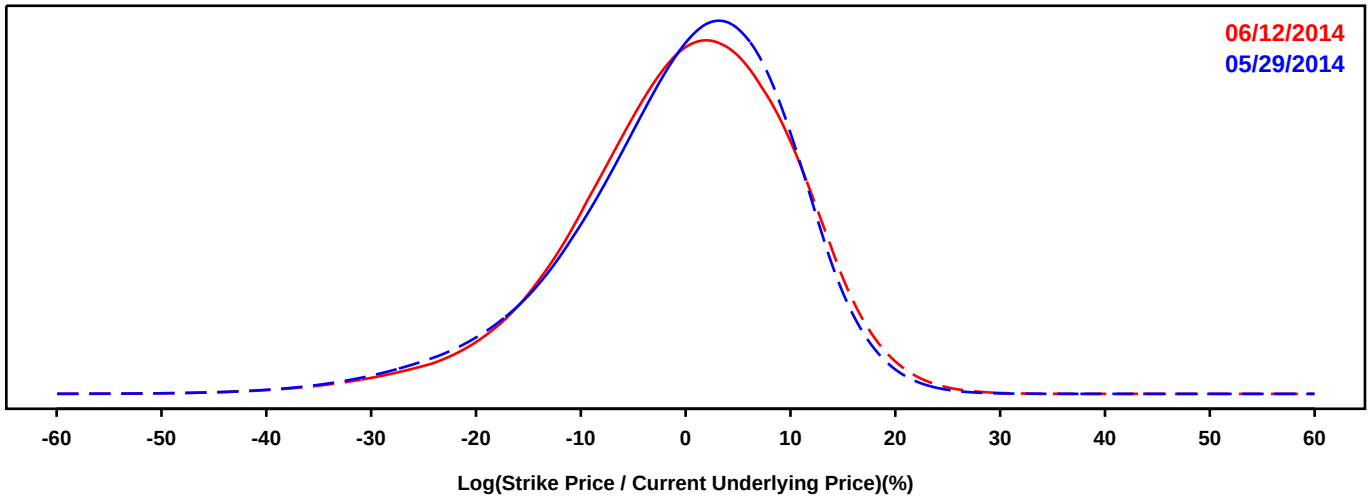
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- AMERIPRISE

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

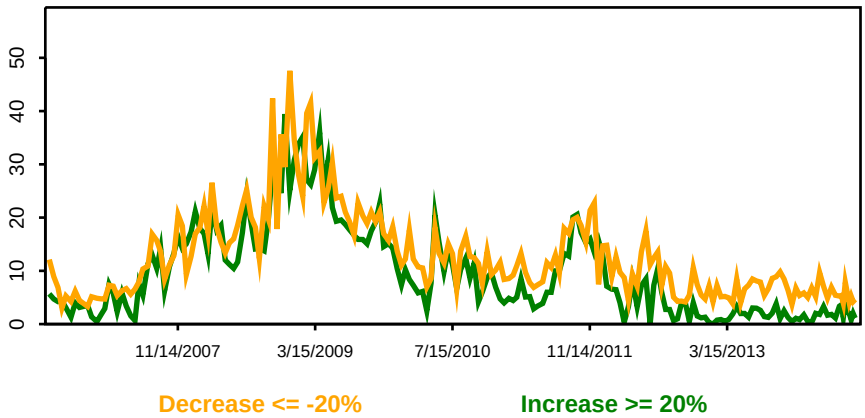
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



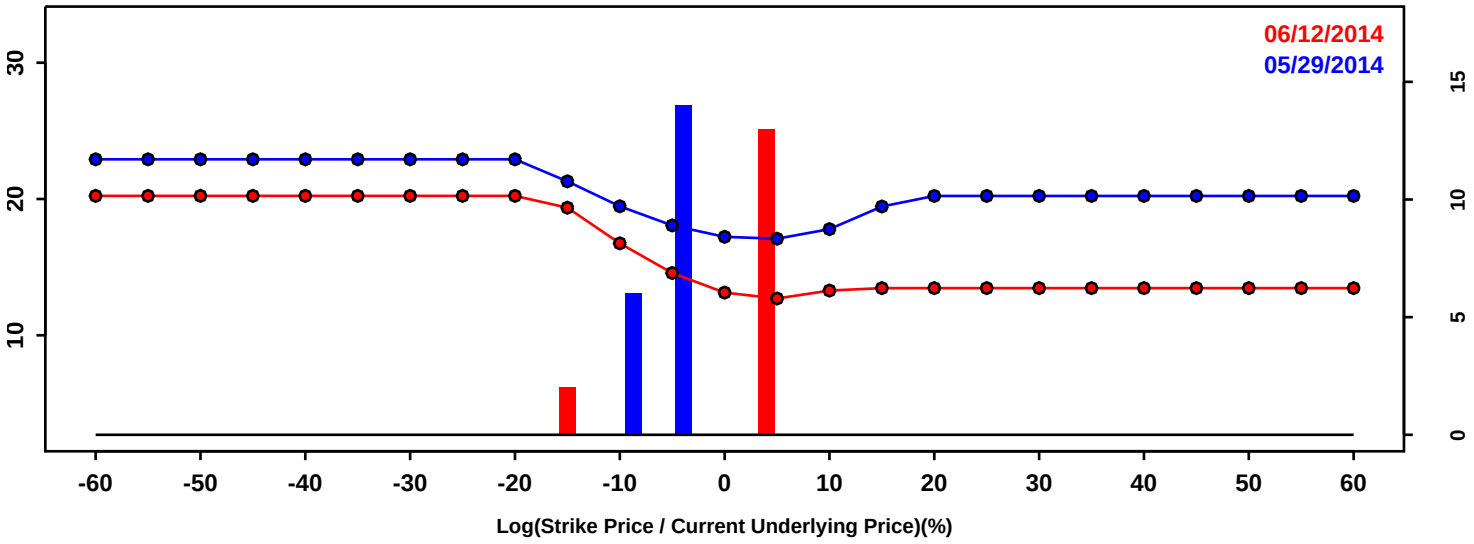
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-14.57%	-14.01%	0.56%
50th Pct	0.80%	0.60%	-0.20%
90th Pct	11.52%	12.15%	0.63%
Mean	-0.55%	-0.35%	0.20%
Std Dev	10.61%	10.63%	0.03%
Skew	-0.78	-0.66	0.12
Kurtosis	1.02	0.95	-0.06

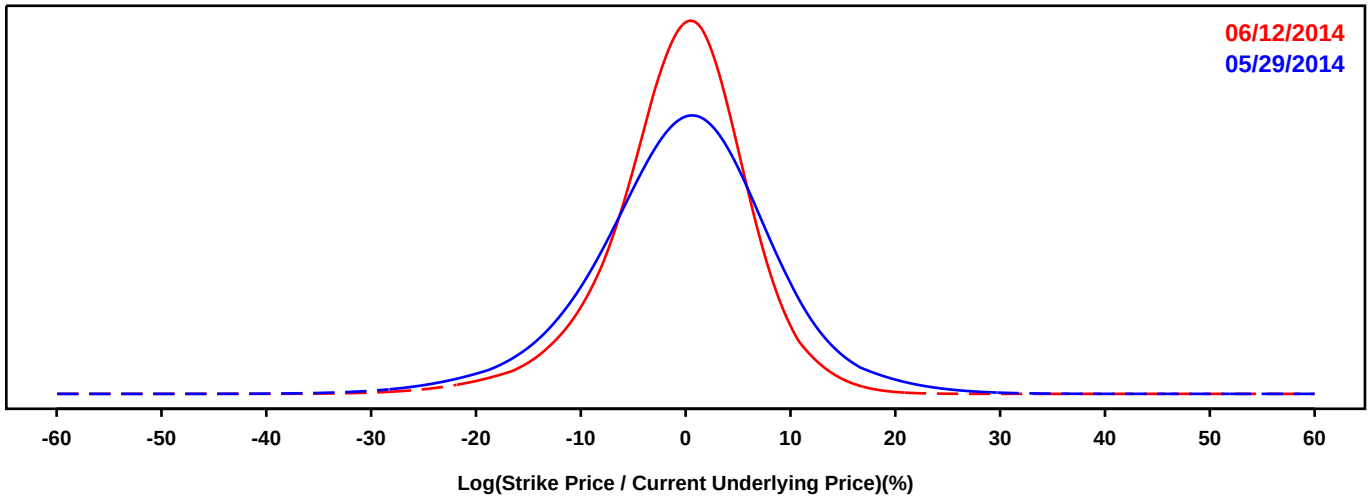
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CHUBB

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

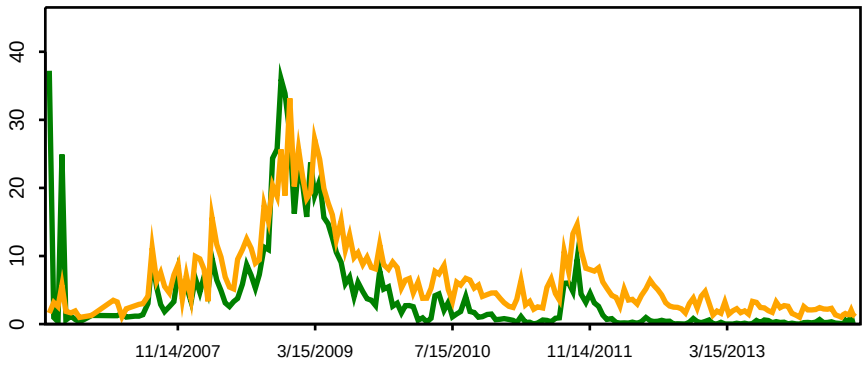
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

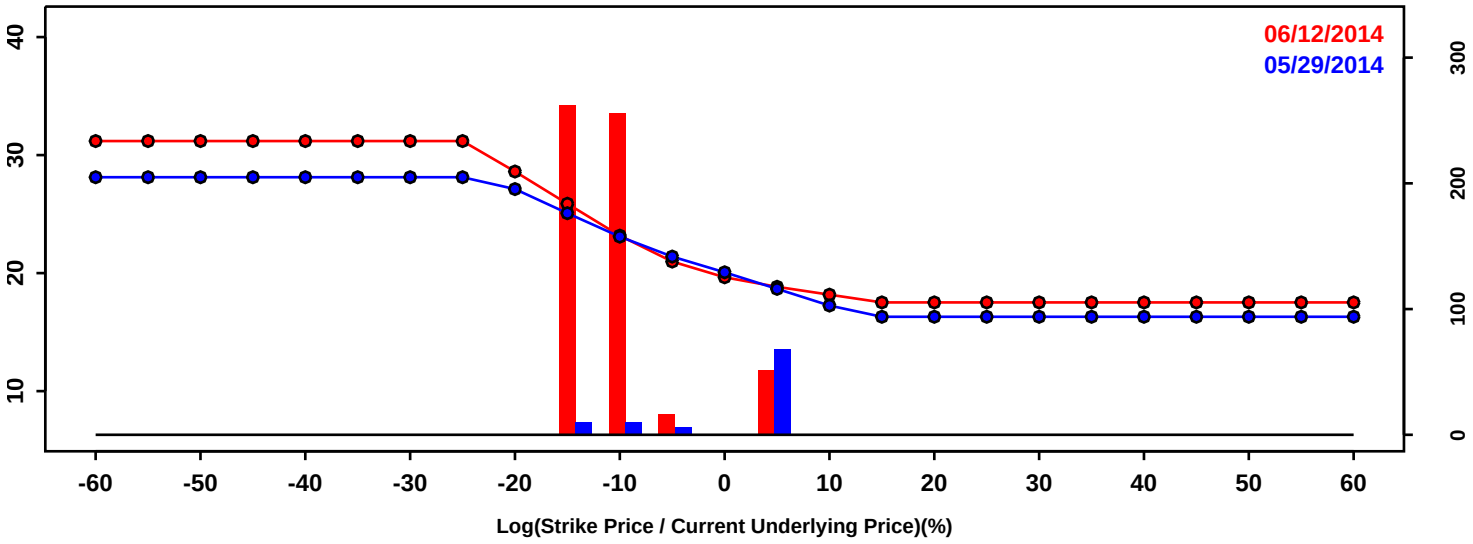
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-11.00%	-8.97%	2.04%
50th Pct	0.06%	-0.19%	-0.25%
90th Pct	9.95%	7.04%	-2.91%
Mean	-0.24%	-0.65%	-0.40%
Std Dev	8.63%	6.69%	-1.95%
Skew	-0.24	-0.58	-0.34
Kurtosis	0.95	1.40	0.46

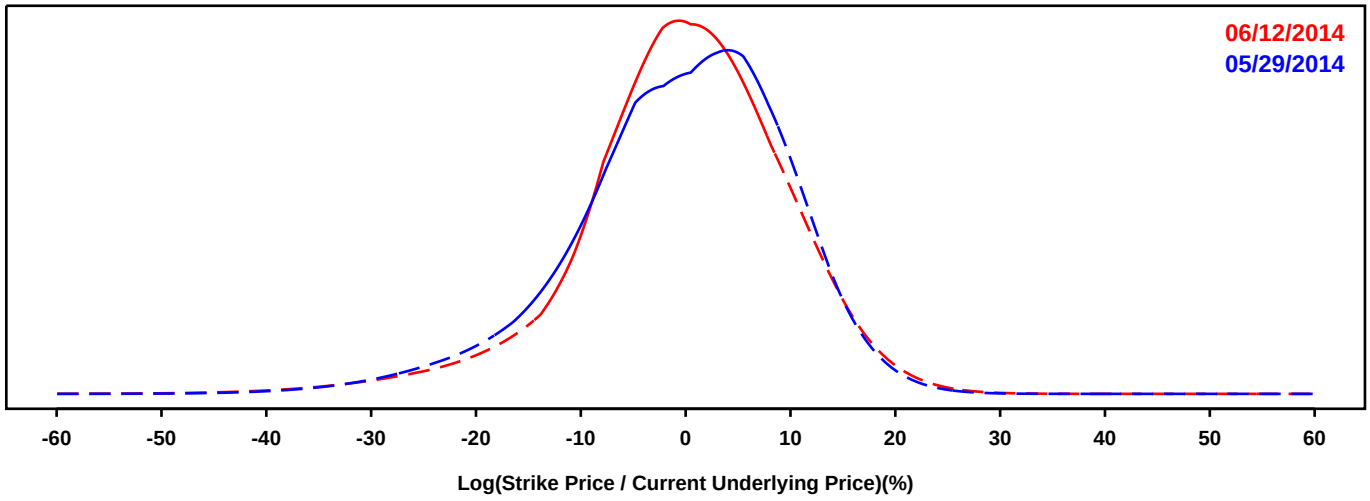
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- HARTFORD FINANCIAL

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

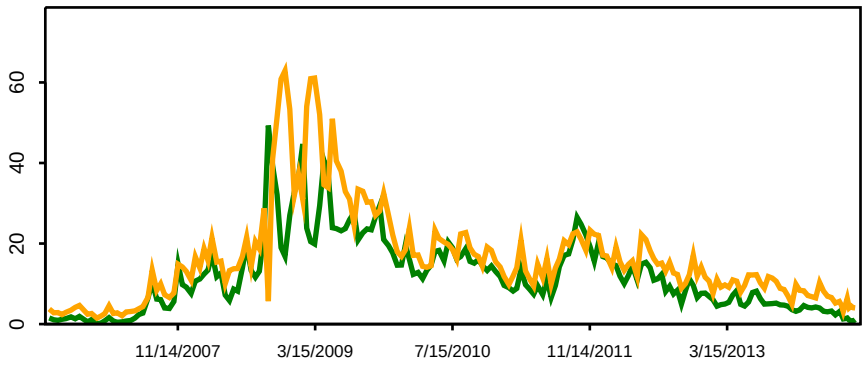
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

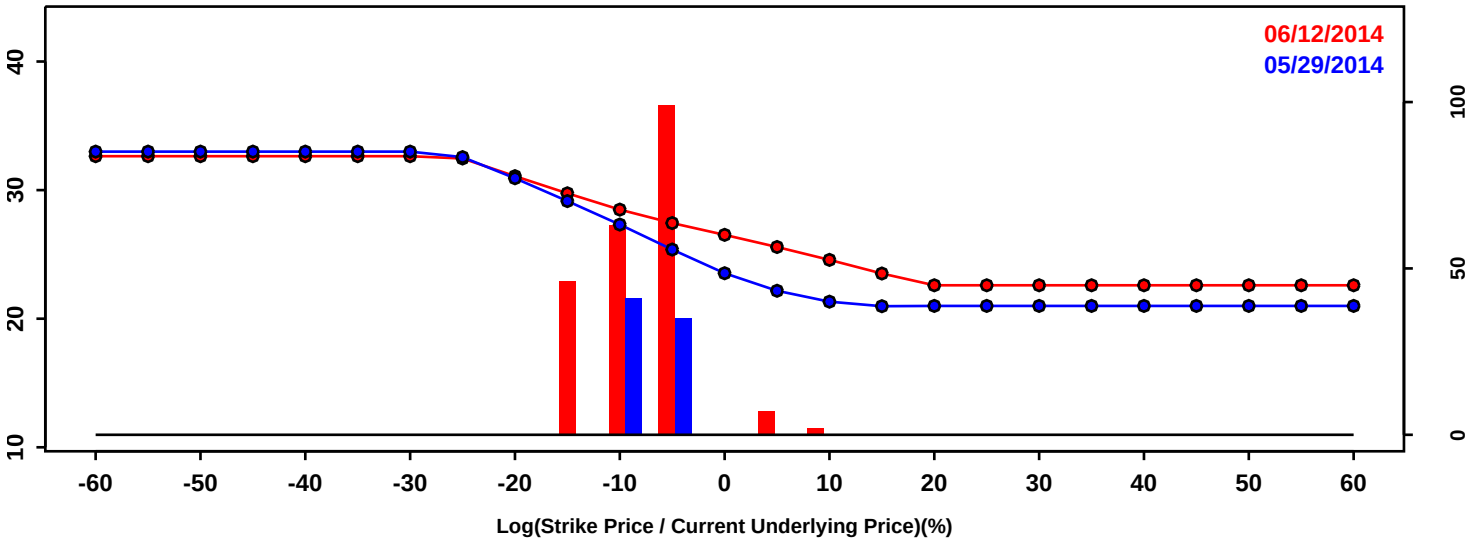
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-13.58%	-12.19%	1.39%
50th Pct	0.48%	0.22%	-0.27%
90th Pct	11.45%	11.54%	0.09%
Mean	-0.48%	-0.33%	0.15%
Std Dev	10.22%	10.01%	-0.21%
Skew	-0.66	-0.68	-0.03
Kurtosis	0.88	1.59	0.71

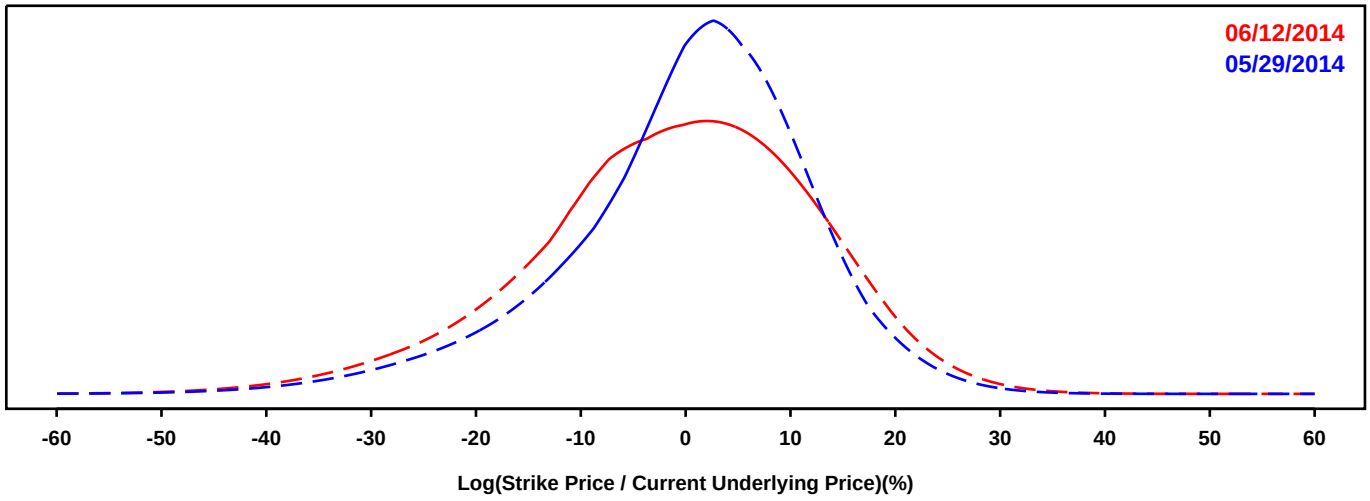
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- LINCOLN NATIONAL

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

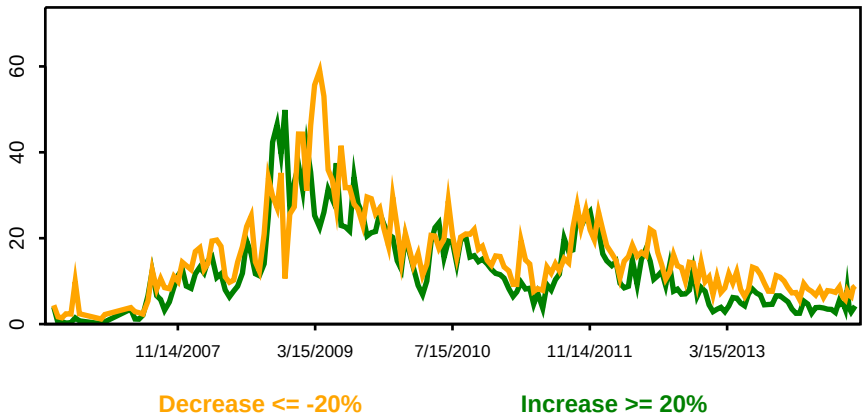
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



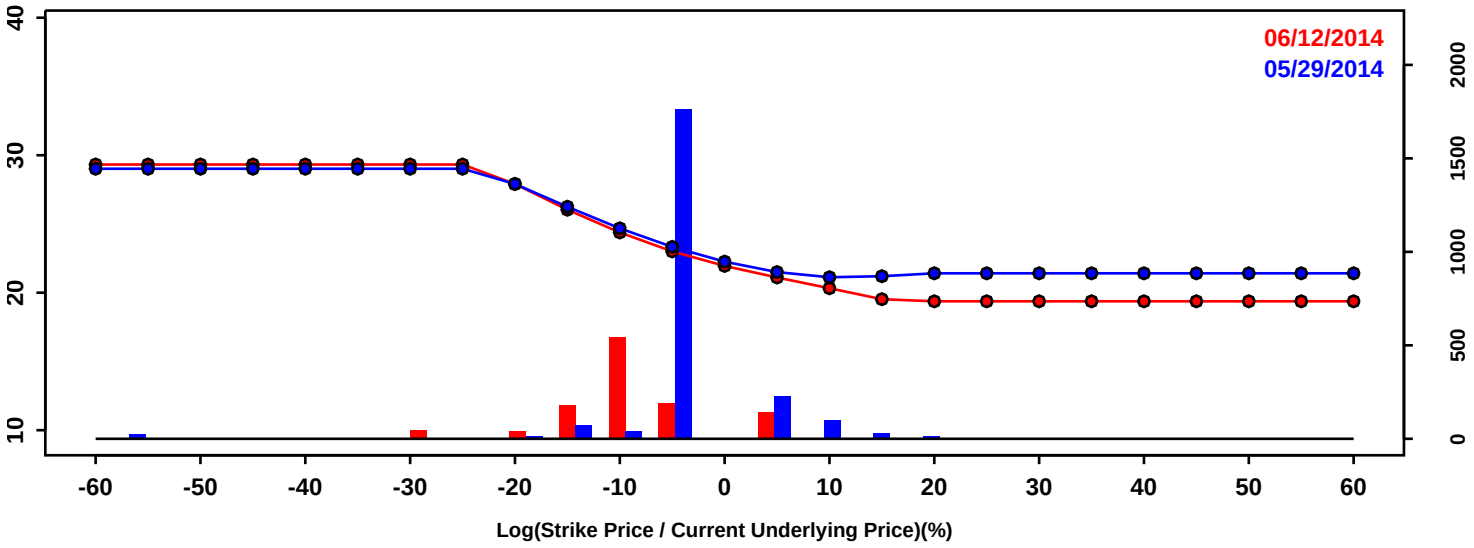
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-15.71%	-18.86%	-3.15%
50th Pct	1.49%	-0.23%	-1.72%
90th Pct	13.63%	15.28%	1.65%
Mean	0.15%	-1.12%	-1.27%
Std Dev	11.95%	13.52%	1.57%
Skew	-0.71	-0.43	0.27
Kurtosis	1.10	0.35	-0.76

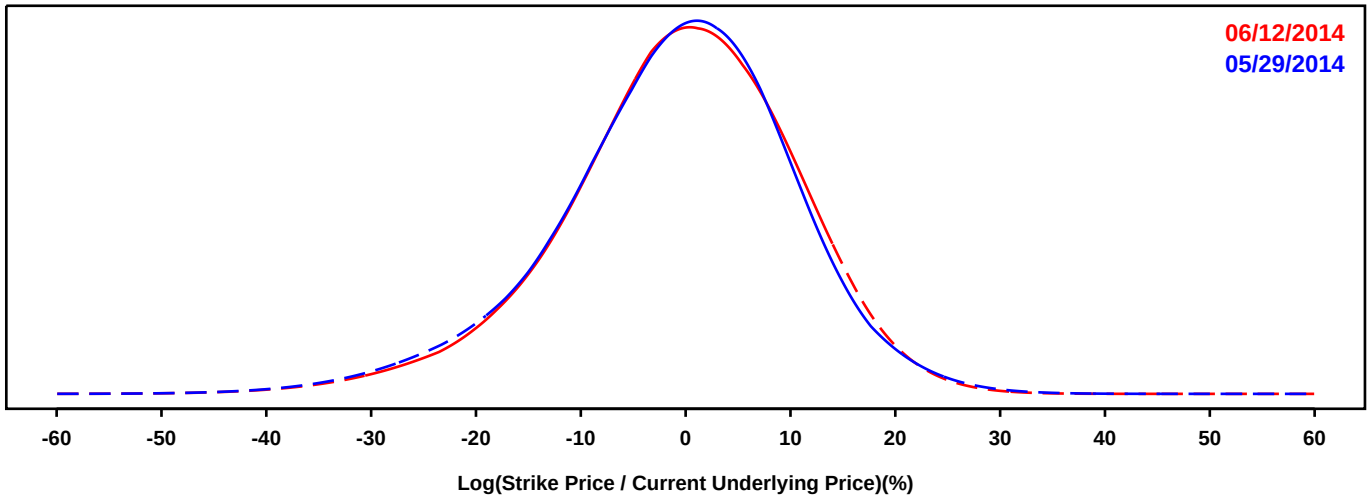
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- METLIFE

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

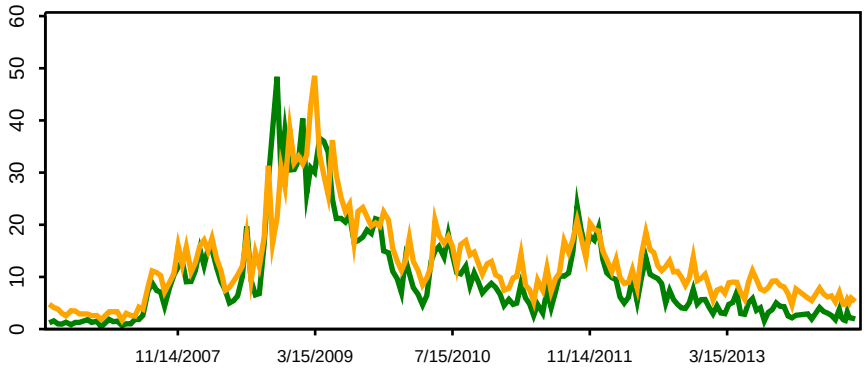
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



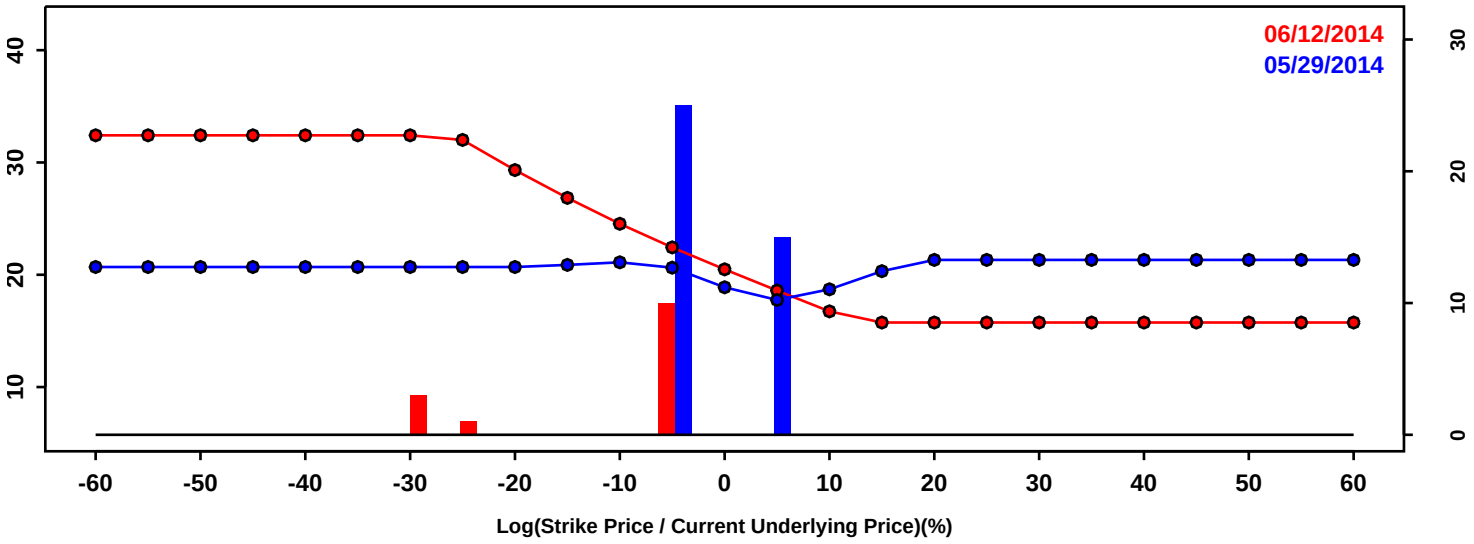
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-15.67%	-15.01%	0.66%
50th Pct	-0.24%	0.00%	0.24%
90th Pct	12.22%	12.71%	0.49%
Mean	-1.07%	-0.71%	0.37%
Std Dev	11.30%	11.14%	-0.16%
Skew	-0.46	-0.48	-0.01
Kurtosis	0.70	0.65	-0.05

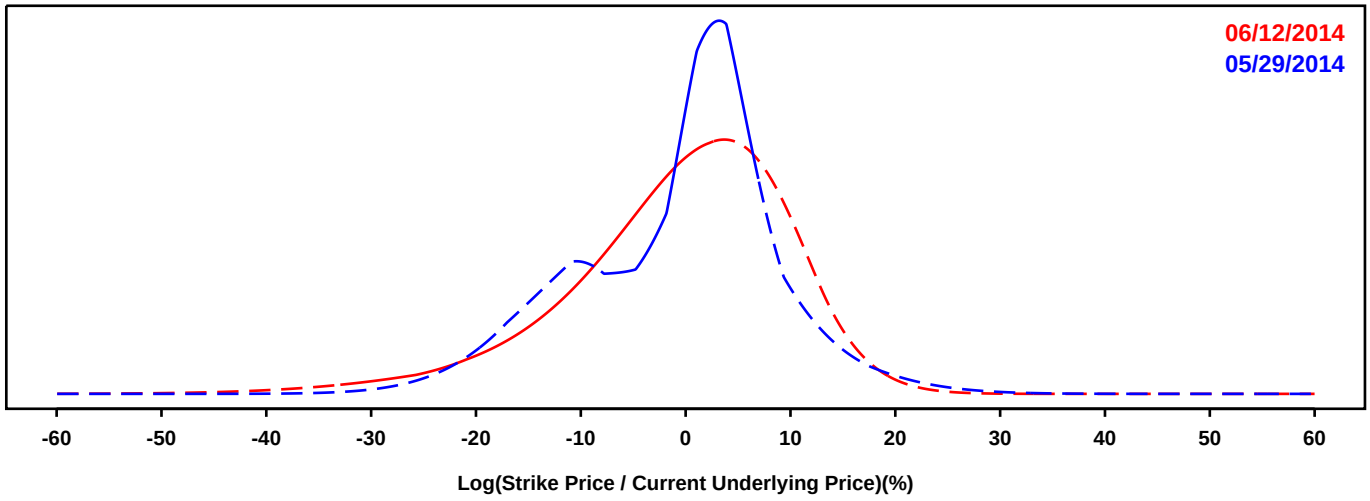
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- PRINCIPAL FINANCIAL

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

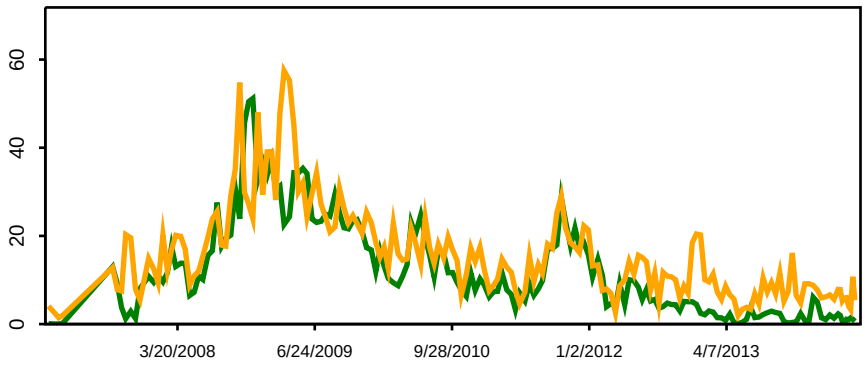
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

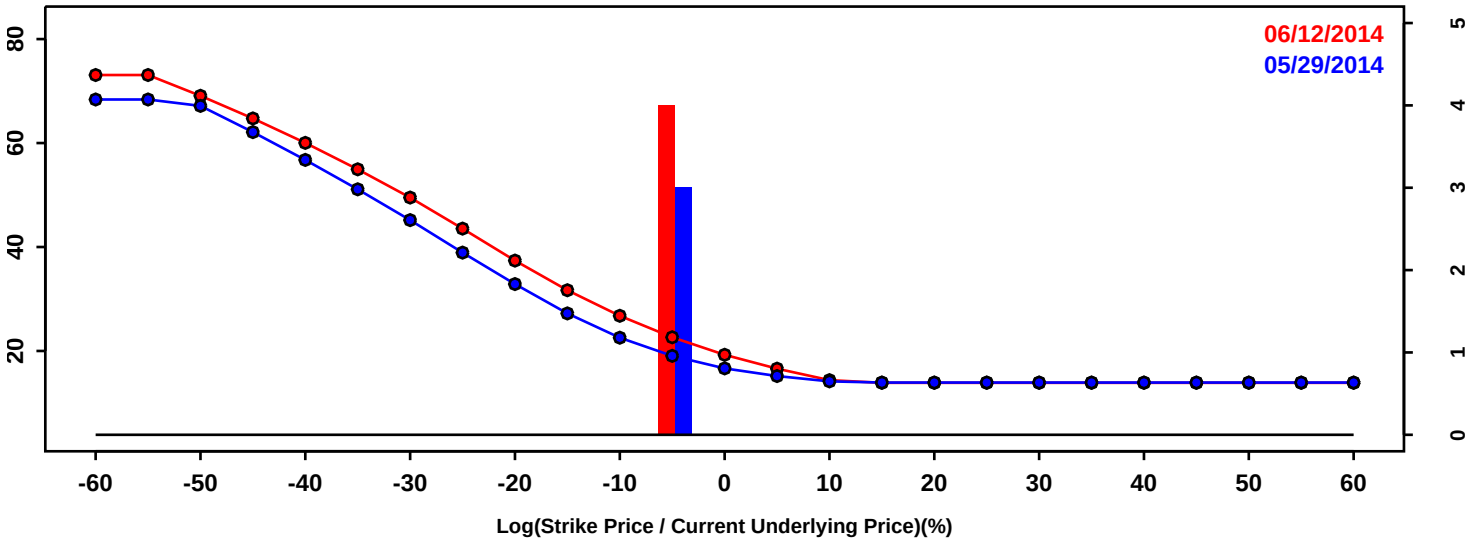
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-14.37%	-14.75%	-0.38%
50th Pct	1.08%	0.75%	-0.32%
90th Pct	9.95%	11.24%	1.30%
Mean	-0.65%	-0.73%	-0.08%
Std Dev	9.67%	10.73%	1.05%
Skew	-0.35	-0.90	-0.55
Kurtosis	0.35	1.43	1.08

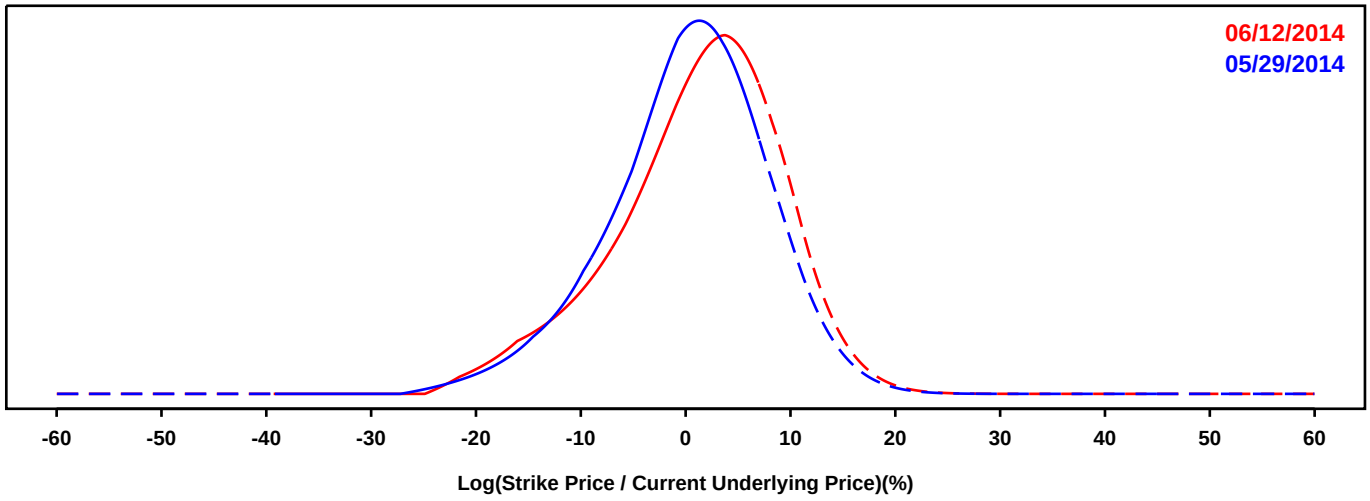
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- PROGRESSIVE

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

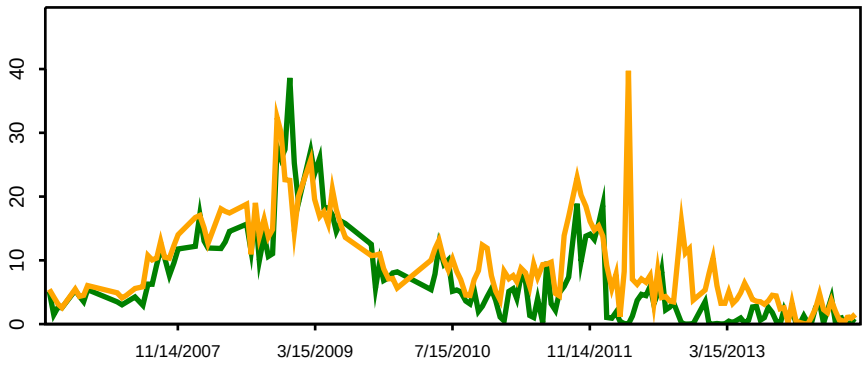
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



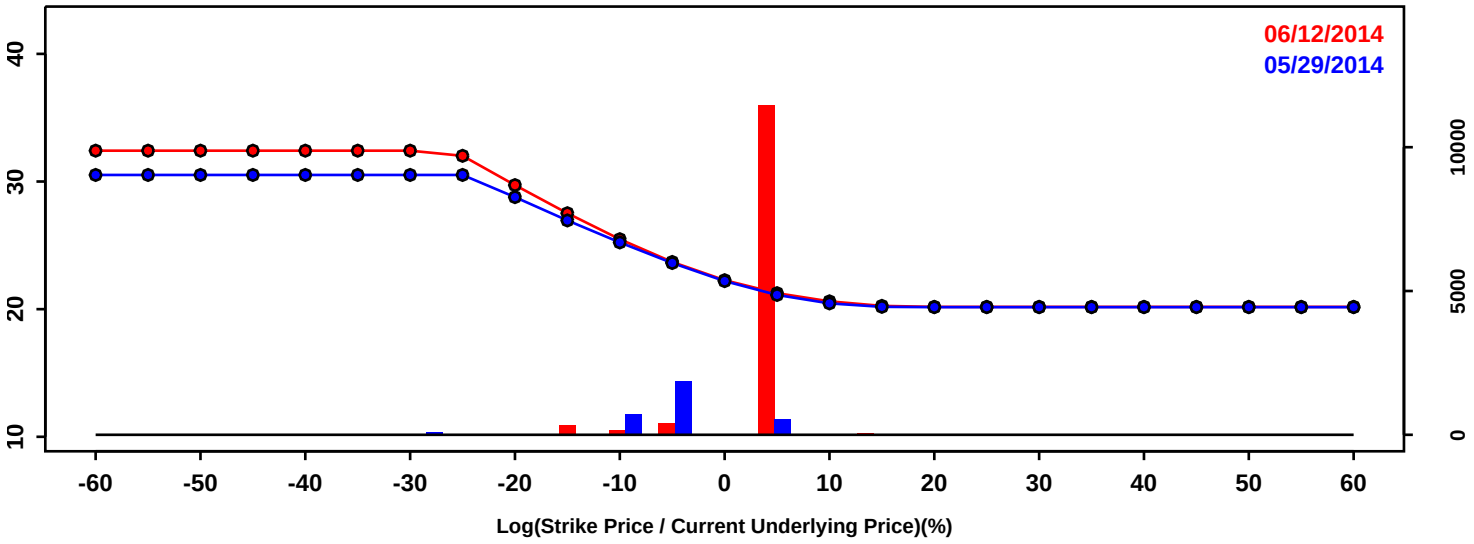
Statistics of the Log Return Distributions

	05/29/2014	06/12/2014	Change
10th Pct	-9.87%	-10.01%	-0.14%
50th Pct	0.72%	2.05%	1.33%
90th Pct	9.35%	10.55%	1.20%
Mean	0.23%	1.16%	0.93%
Std Dev	7.56%	7.98%	0.42%
Skew	-0.35	-0.47	-0.12
Kurtosis	0.22	0.07	-0.15

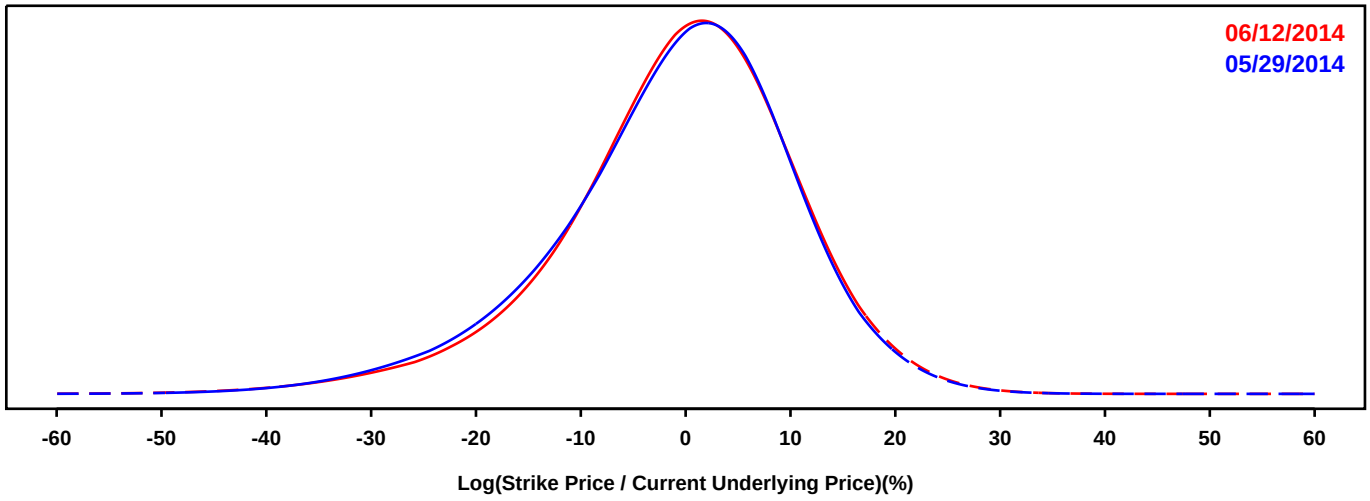
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- PRUDENTIAL

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

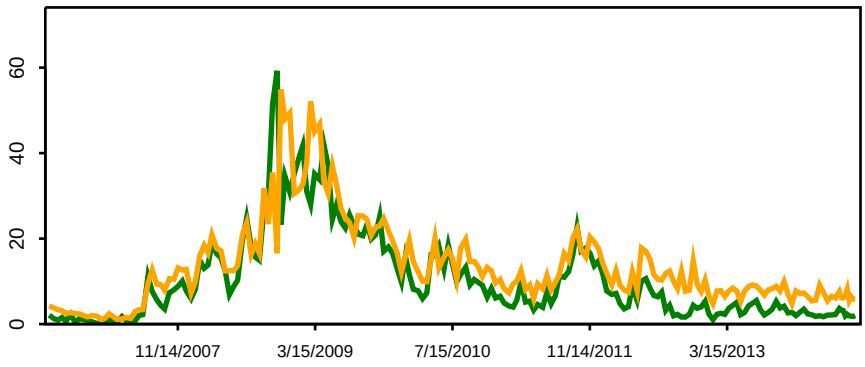
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



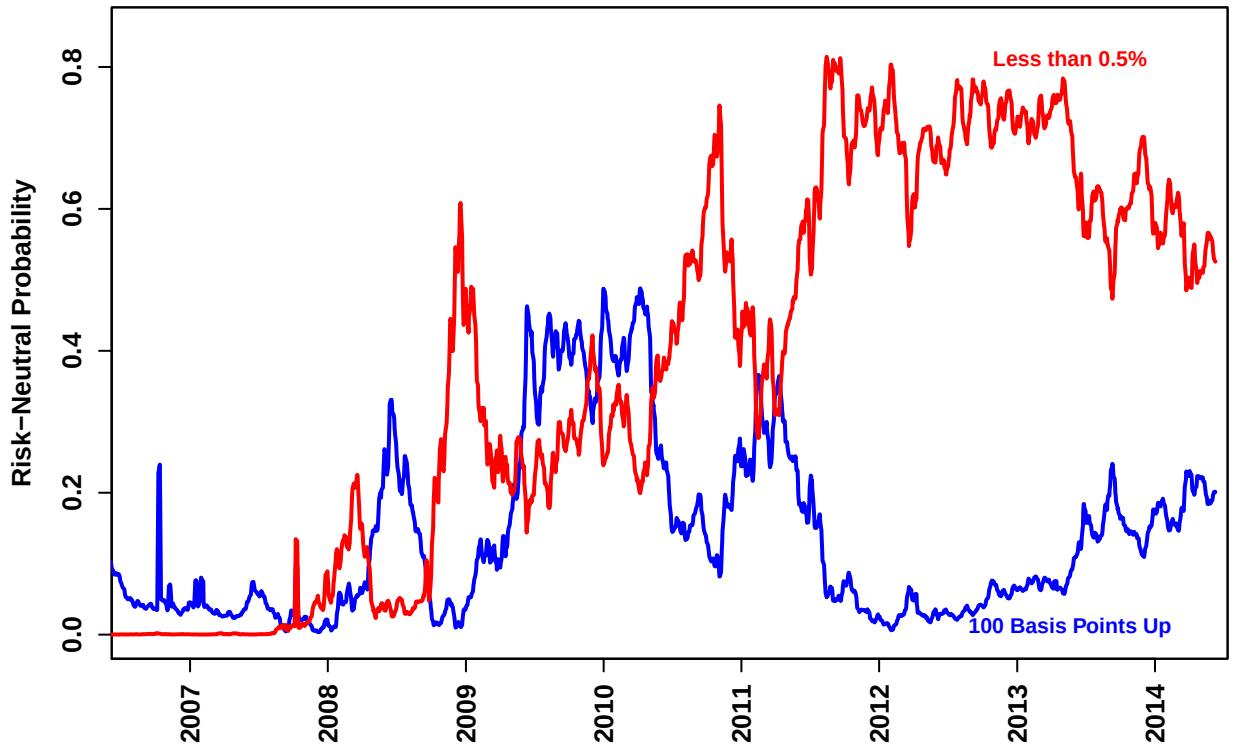
Decrease <= -20% Increase >= 20%

Statistics of the Log Return Distributions

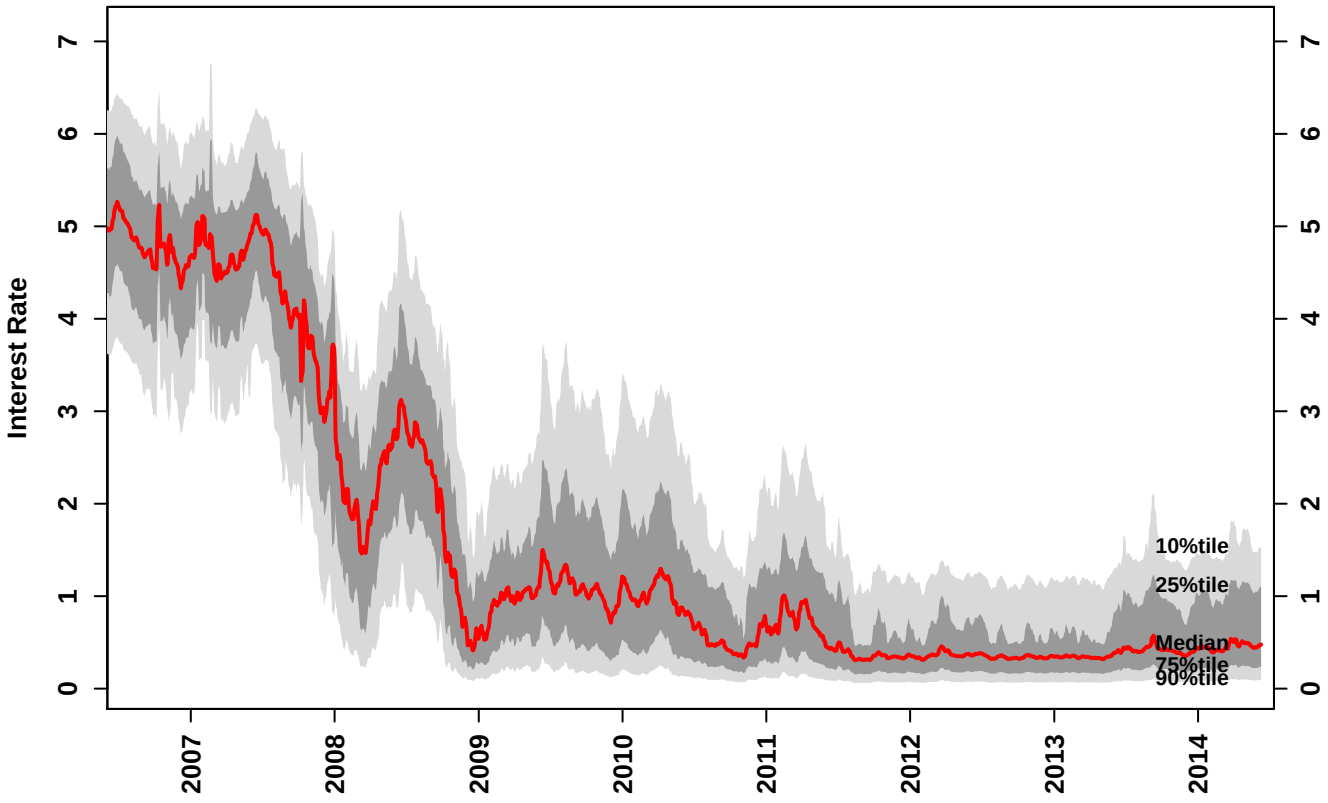
	05/29/2014	06/12/2014	Change
10th Pct	-16.10%	-15.21%	0.89%
50th Pct	0.08%	0.26%	0.18%
90th Pct	12.12%	12.45%	0.33%
Mean	-1.08%	-0.73%	0.35%
Std Dev	11.44%	11.36%	-0.08%
Skew	-0.60	-0.63	-0.03
Kurtosis	0.85	1.12	0.27

MARKET PROBABILITY DENSITY FUNCTIONS −− Interest Rate Caps & Floors

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

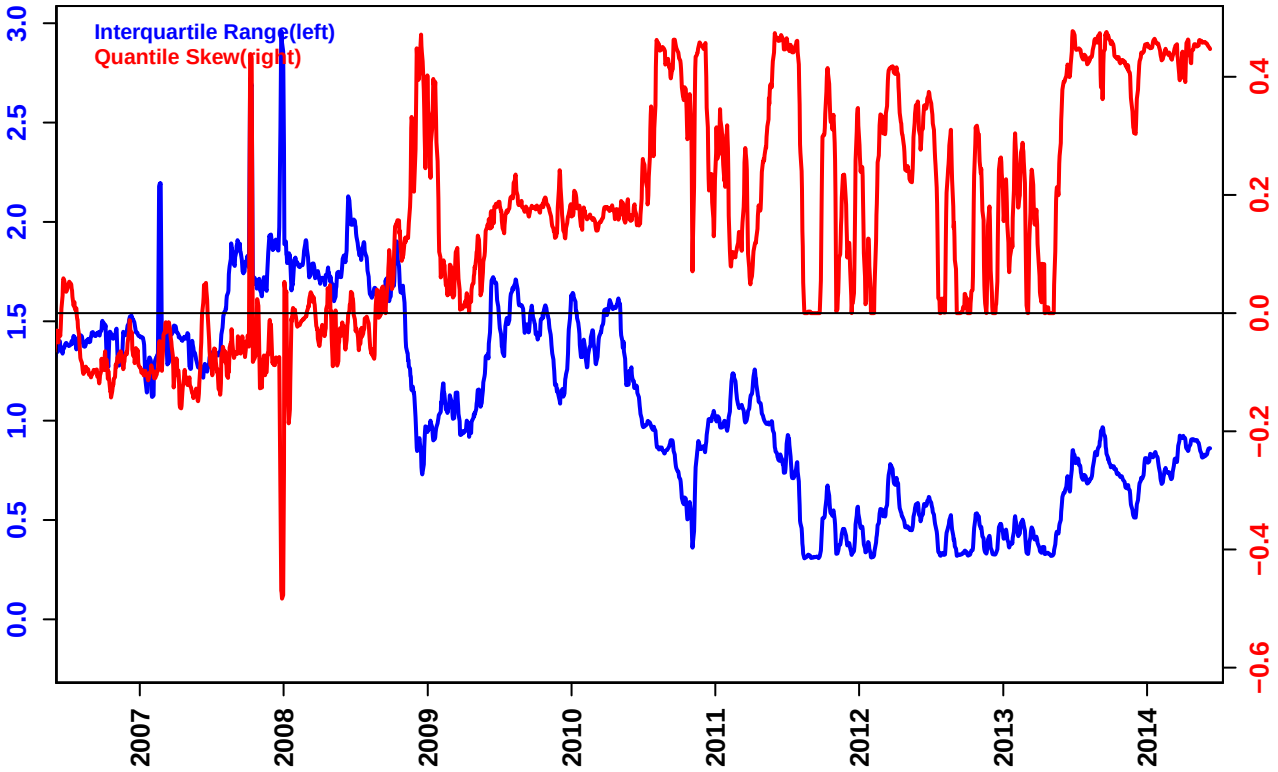


Distribution for LIBOR over 2 Years 5−Day Rolling Average



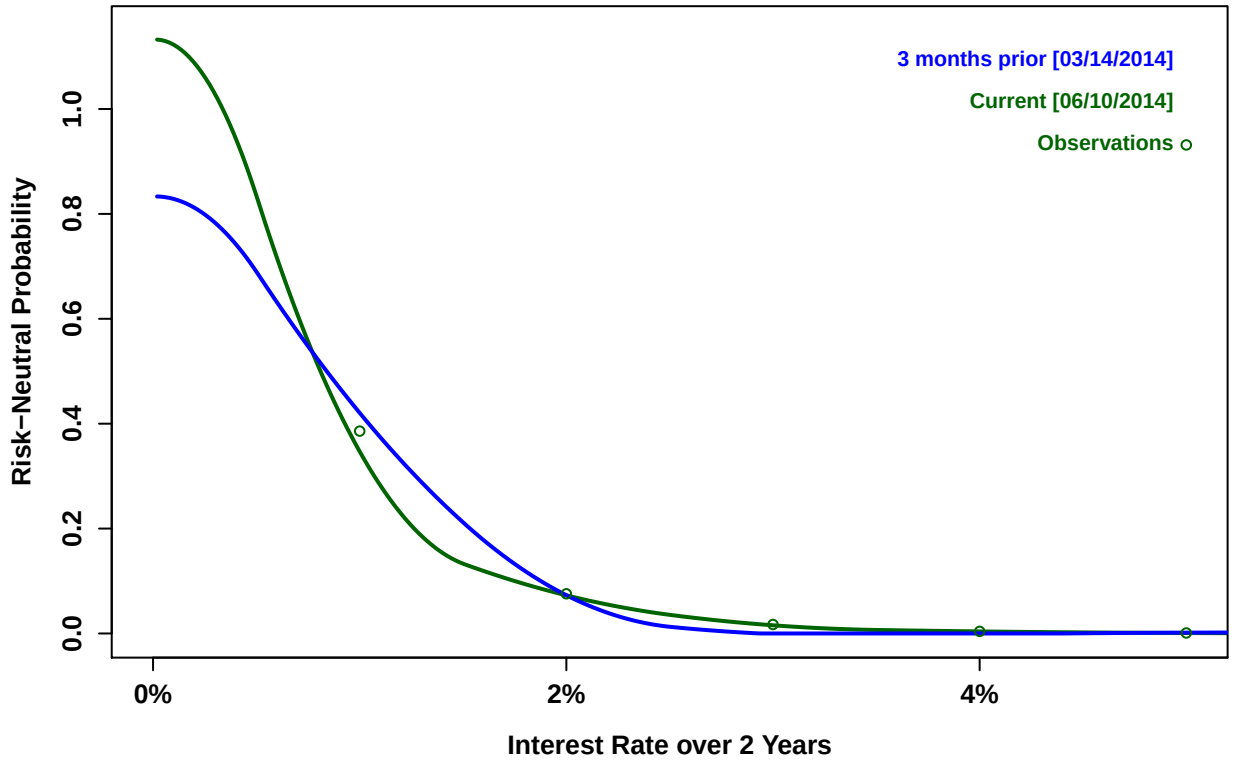
MARKET PROBABILITY DENSITY FUNCTIONS −− Interest Rate Caps & Floors

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



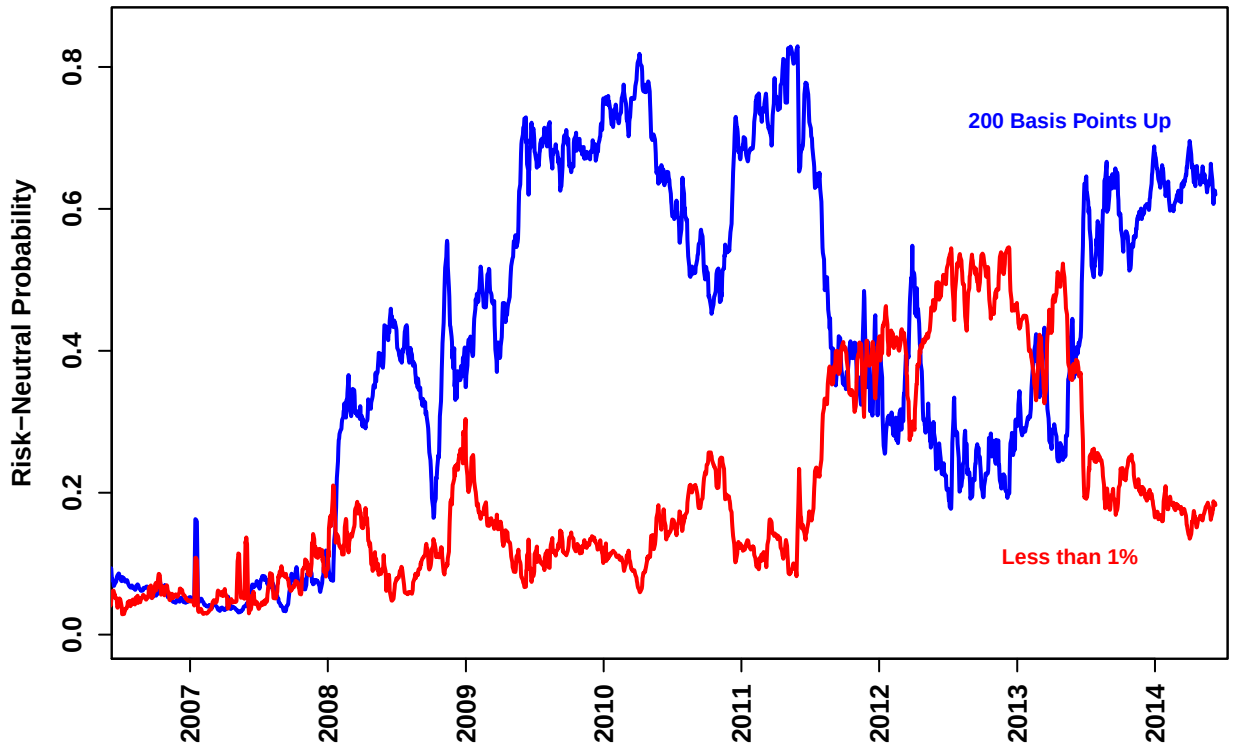
Note: Quantile skew is defined here as [(75th pctile − median) − (median − 25th pctile)] / (75th − 25th pctile)

Market Probability Density Function for LIBOR over the Next 2 Years

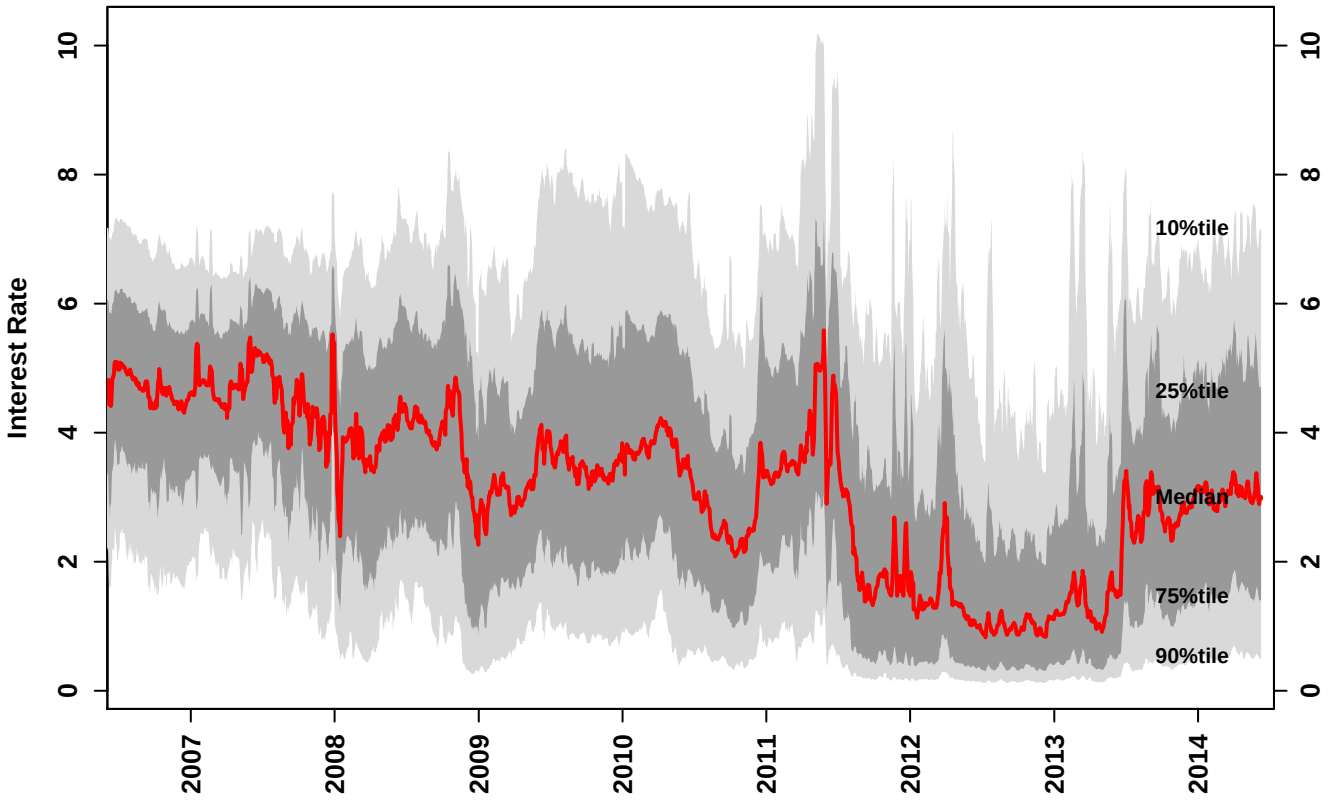


MARKET PROBABILITY DENSITY FUNCTIONS −− Interest Rate Caps & Floors

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

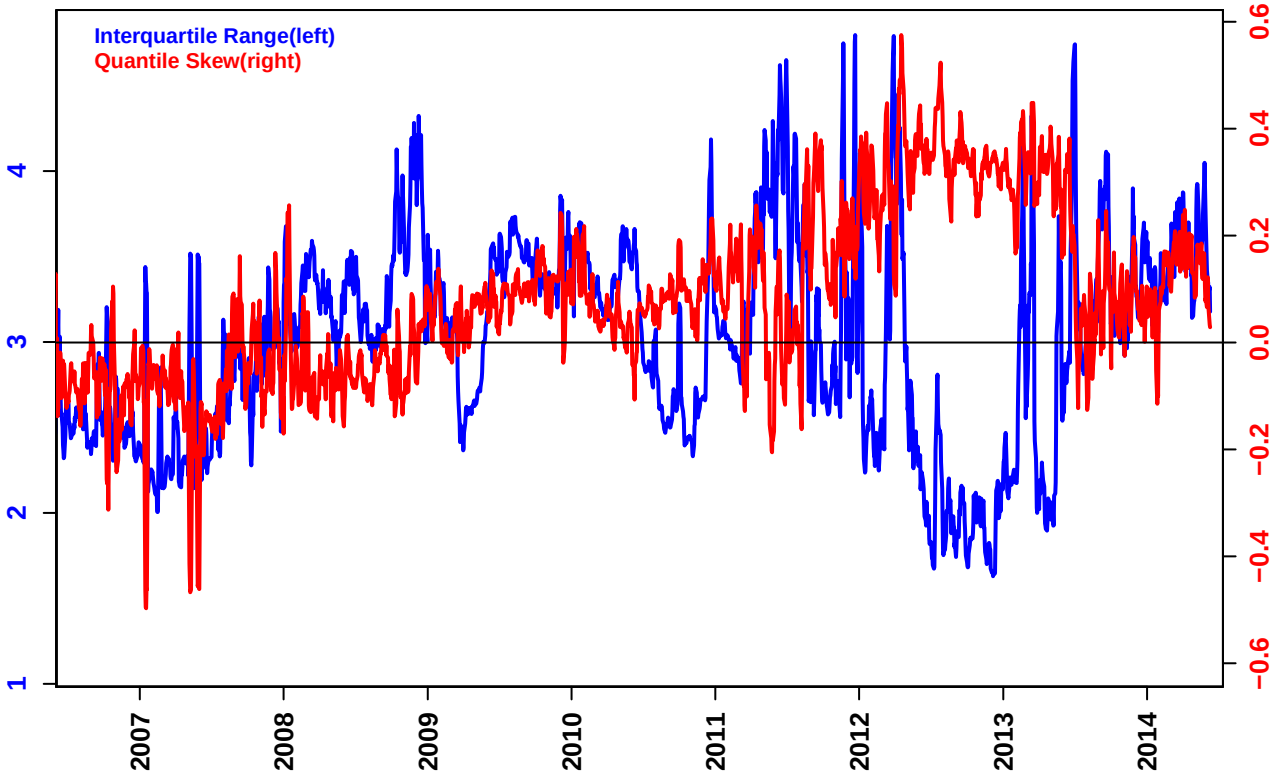


Distribution for LIBOR over 5 Years 5−Day Rolling Average



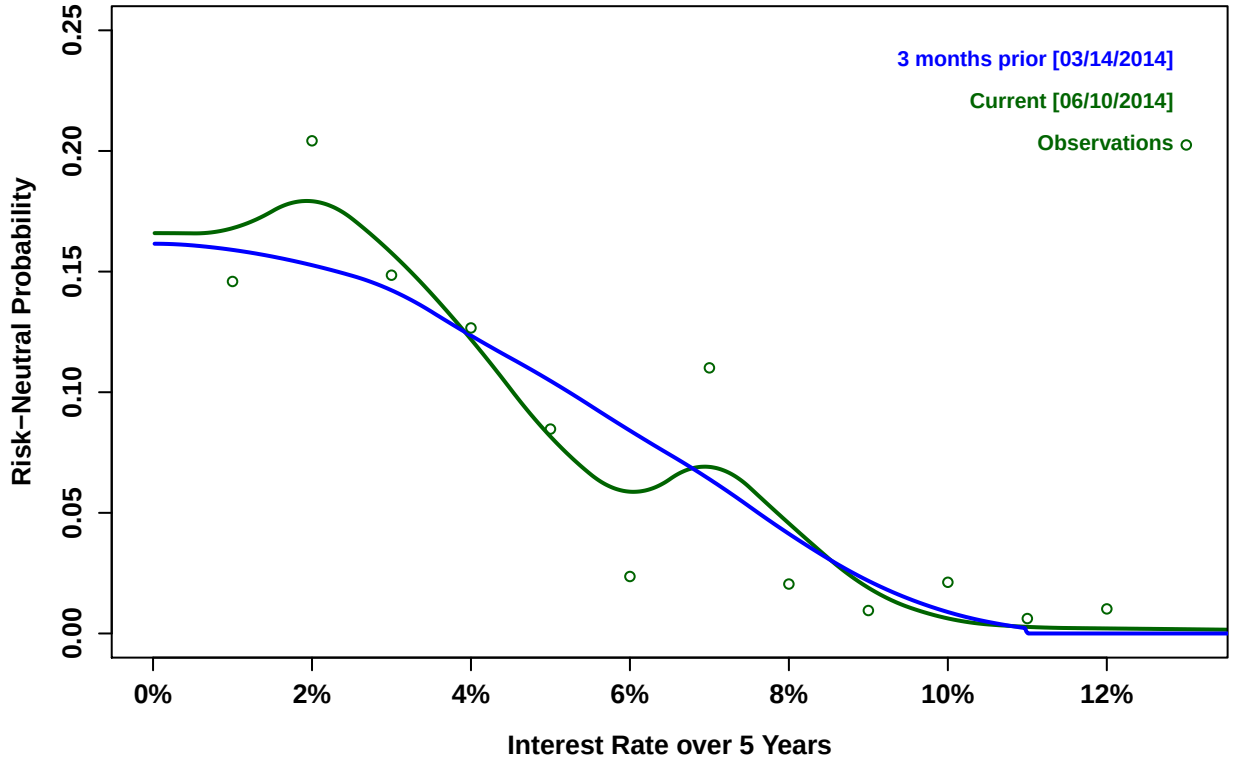
MARKET PROBABILITY DENSITY FUNCTIONS −− Interest Rate Caps & Floors

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

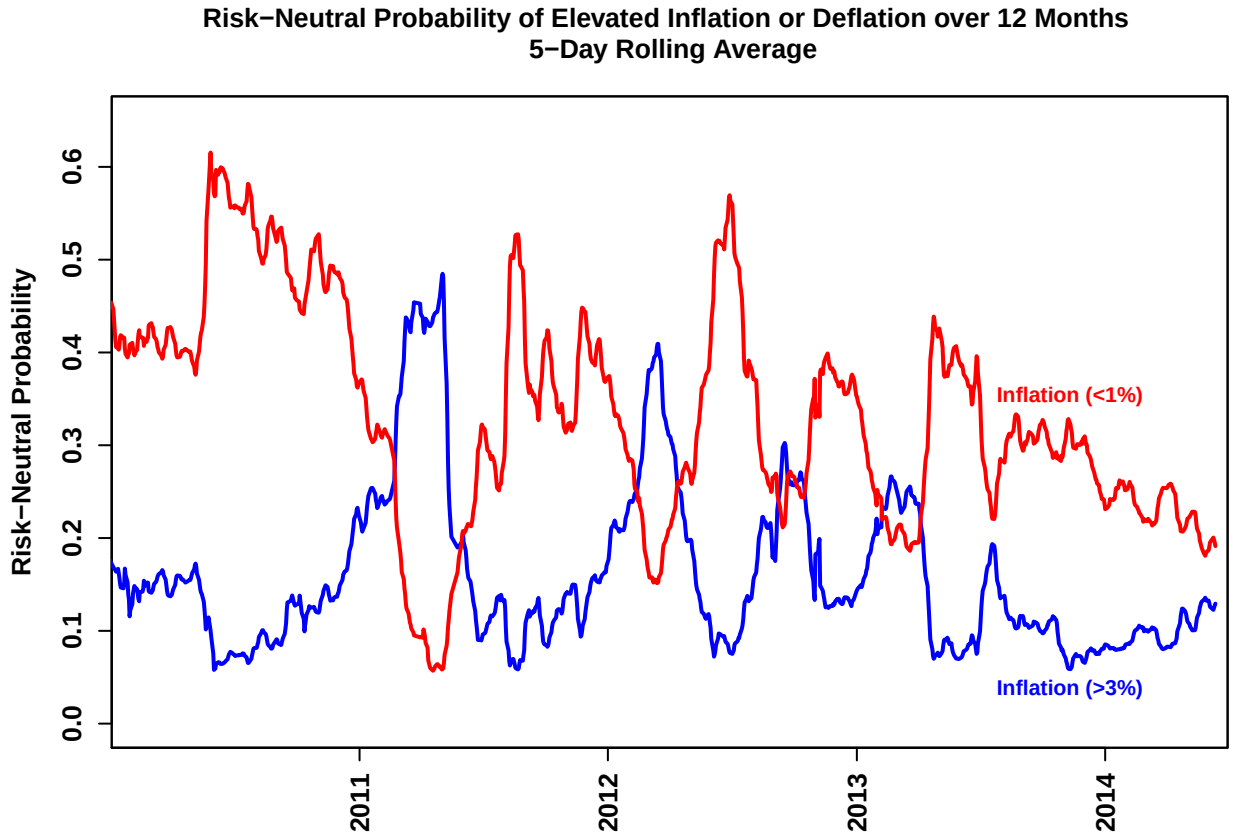


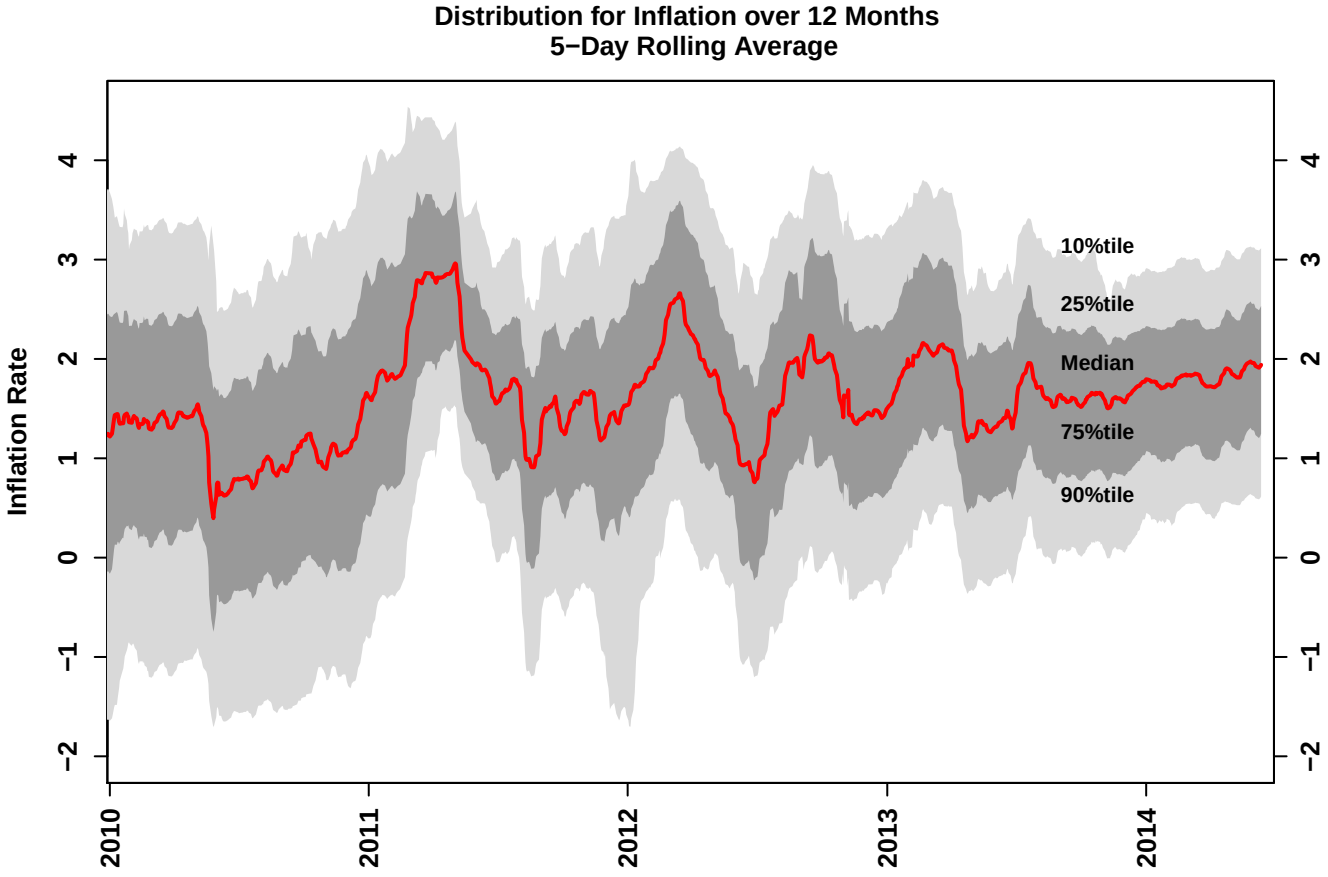
Note: Quantile skew is defined here as [(75th pctile − median) − (median − 25th pctile)] / (75th − 25th pctile)

Market Probability Density Function for LIBOR over the Next 5 Years



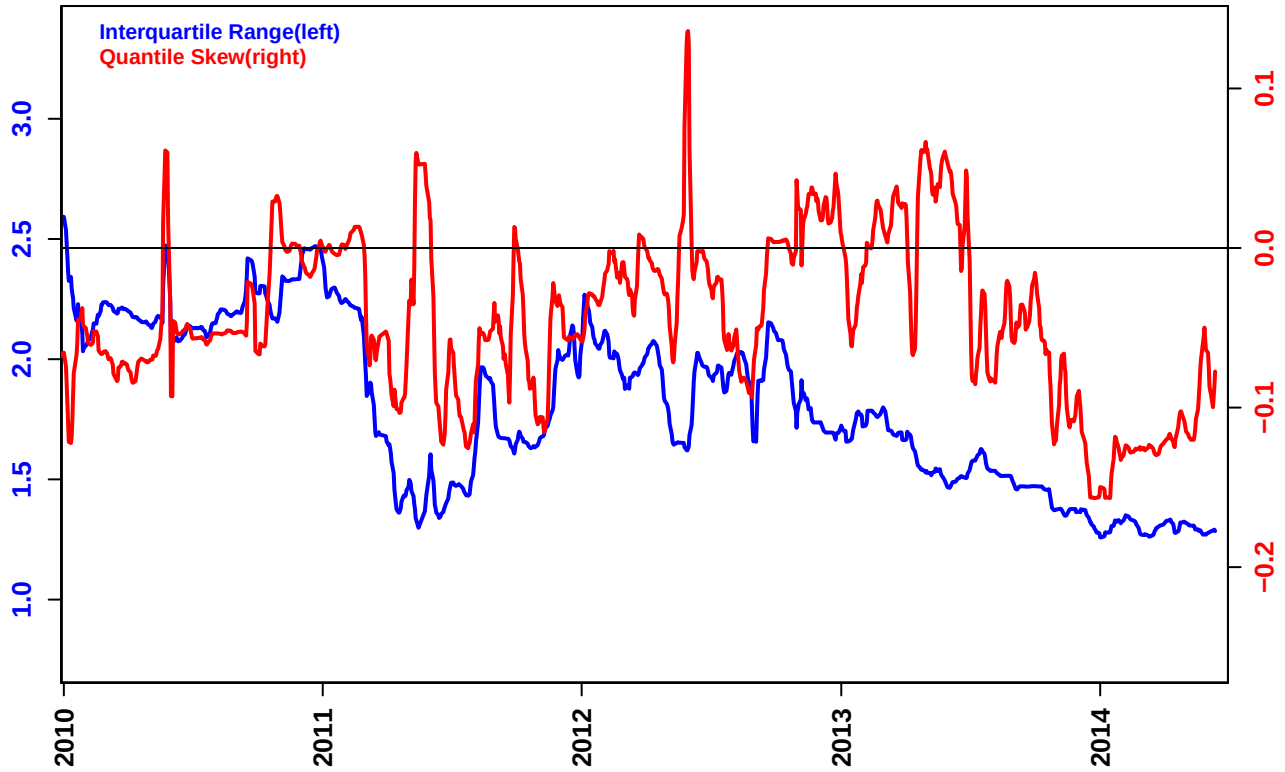
MARKET PROBABILITY DENSITY FUNCTIONS −− Inflation Rate Caps & Floors





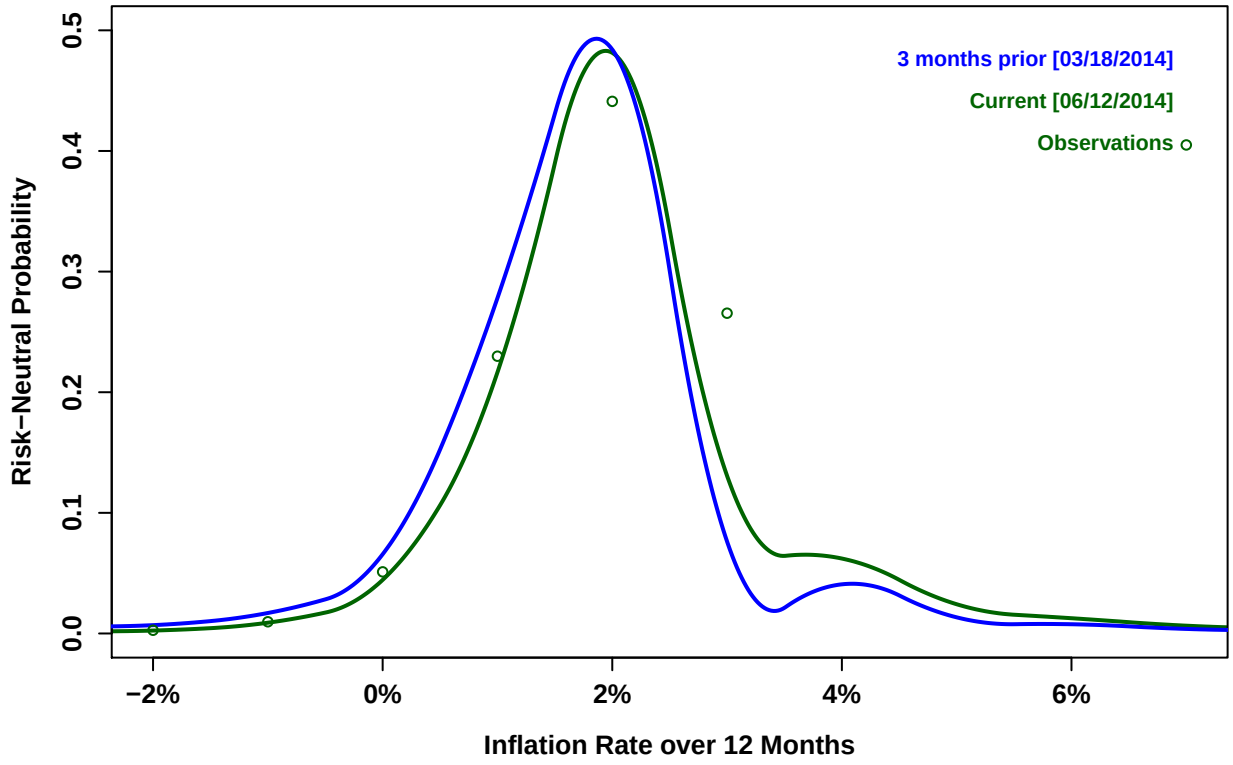
MARKET PROBABILITY DENSITY FUNCTIONS −− Inflation Rate Caps & Floors

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

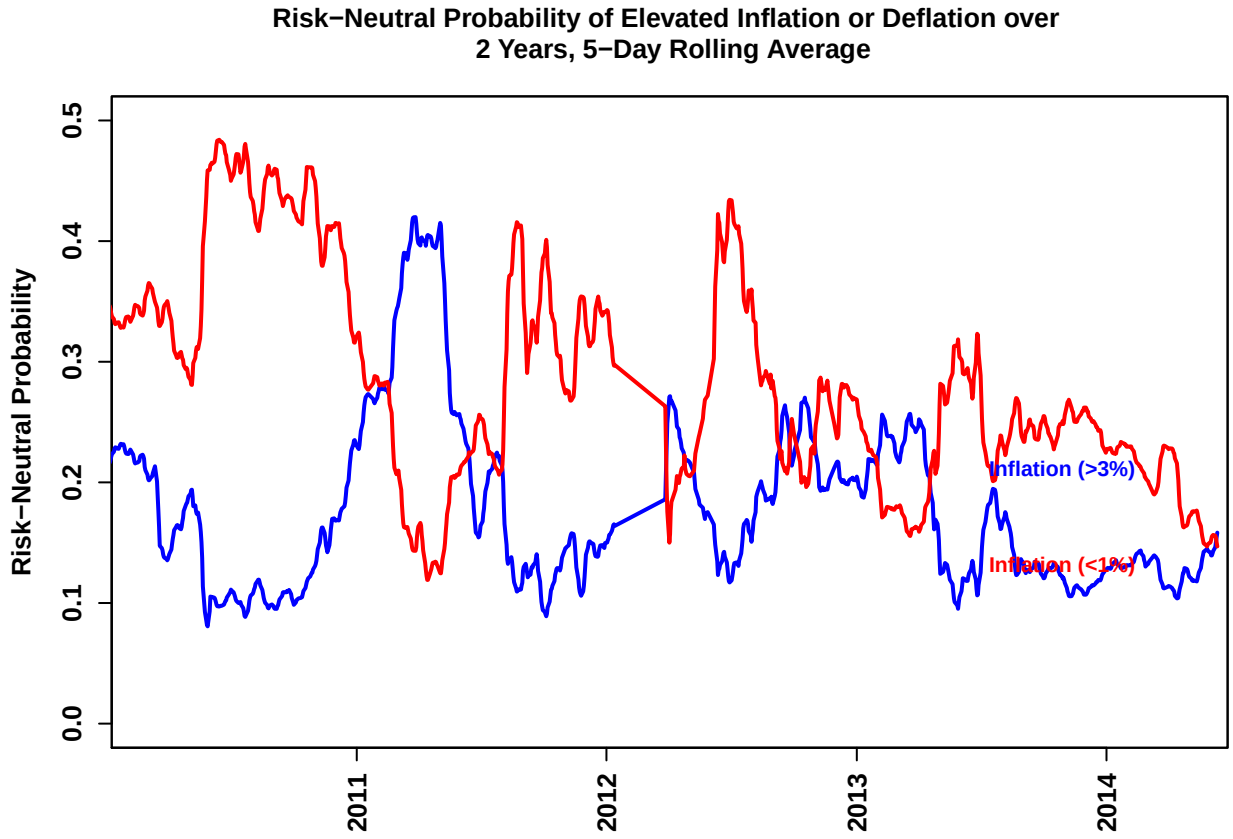


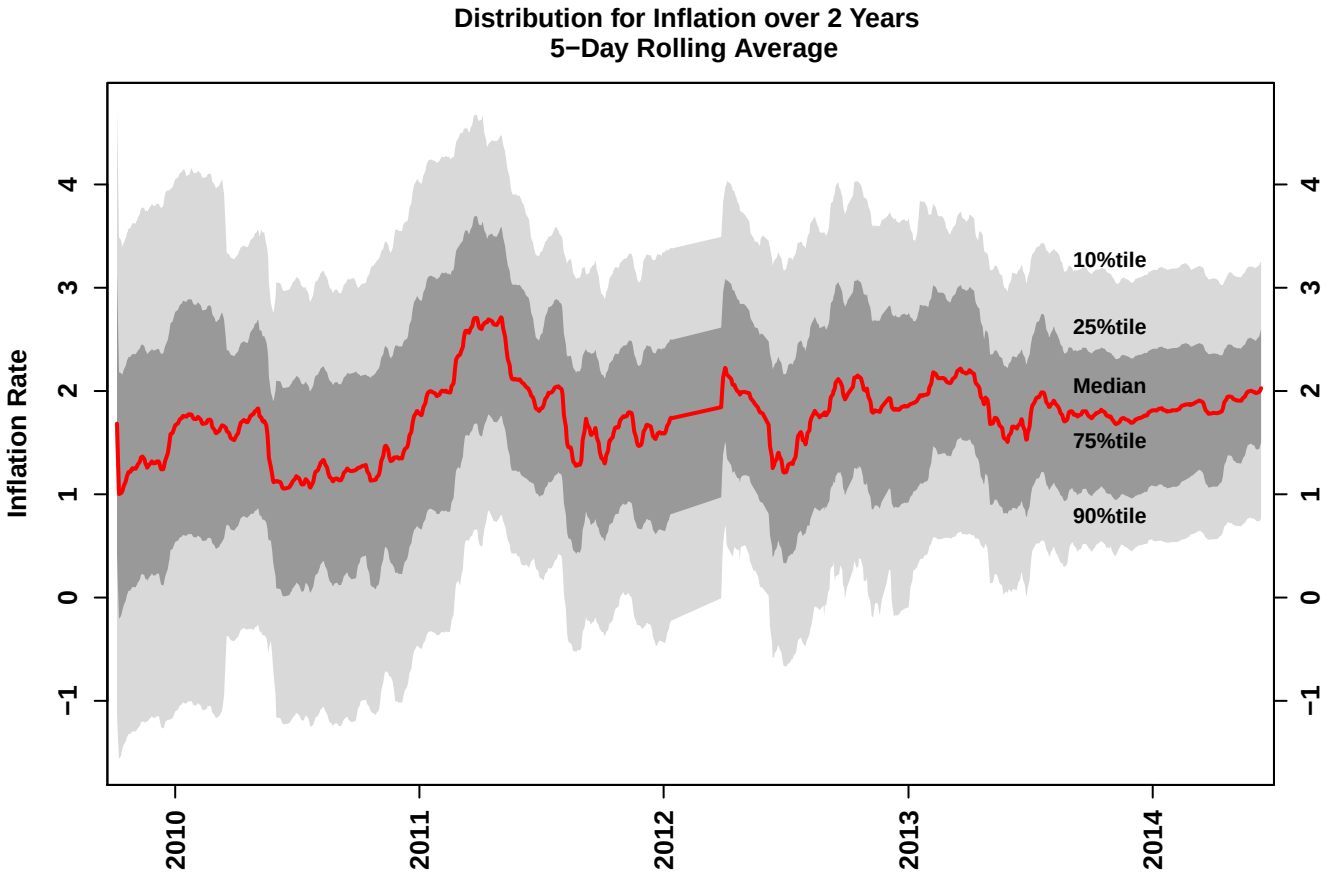
Note: Quantile skew is defined here as [(75th pctile − median) − (median − 25th pctile)] / (75th − 25th pctile)

Market Probability Density Function for Inflation over the Next 12 Months



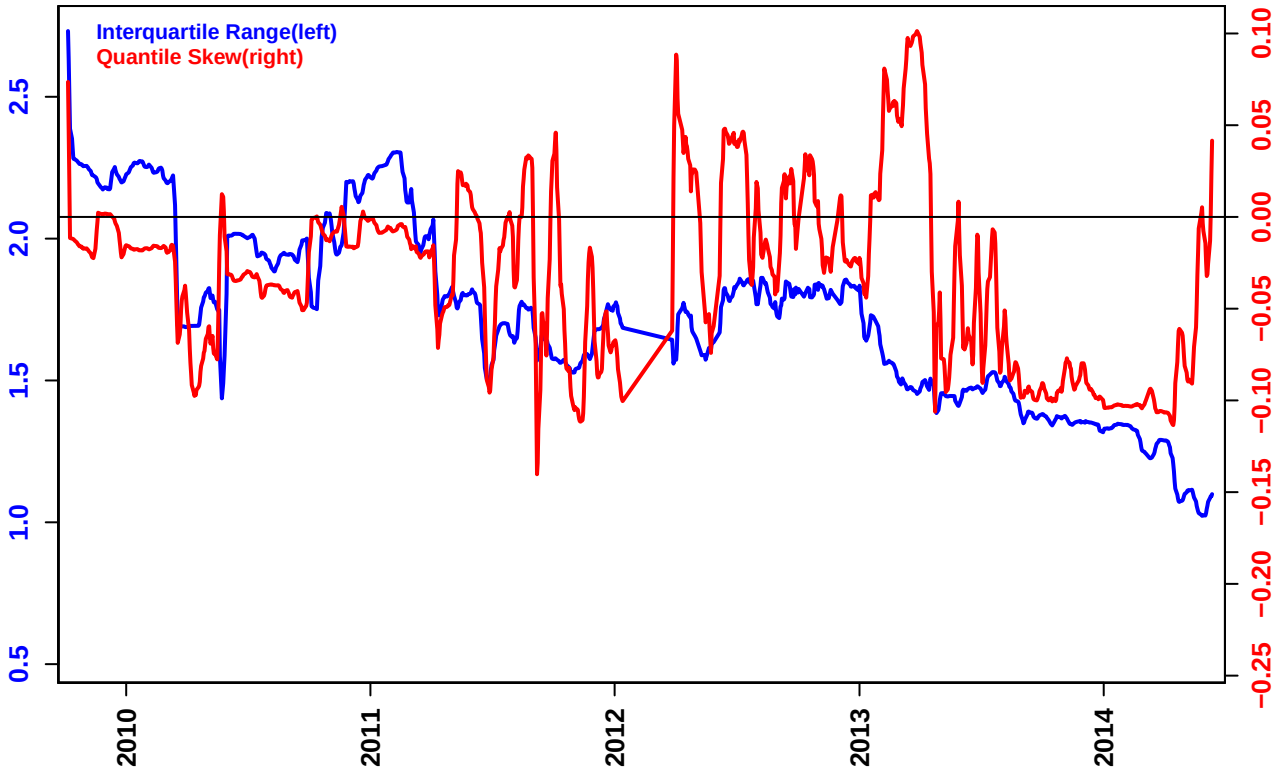
MARKET PROBABILITY DENSITY FUNCTIONS −− Inflation Rate Caps & Floors





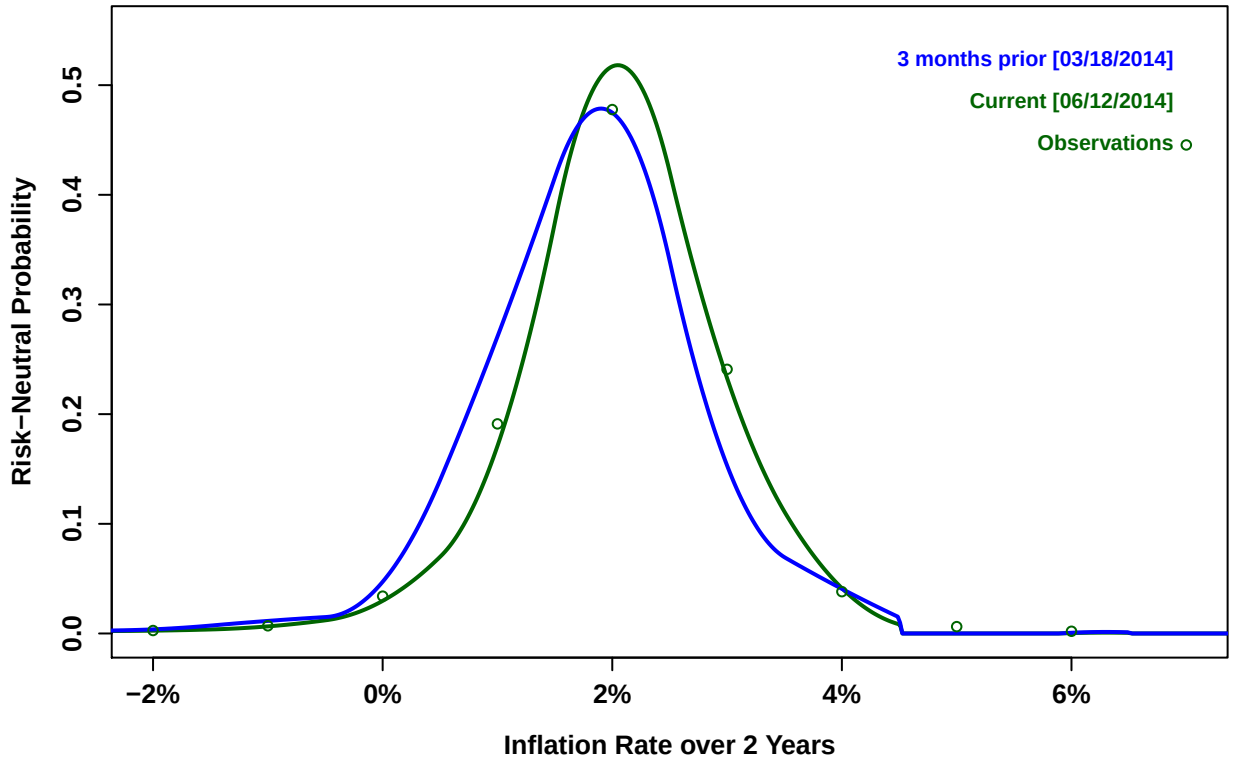
MARKET PROBABILITY DENSITY FUNCTIONS −− Inflation Rate Caps & Floors

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

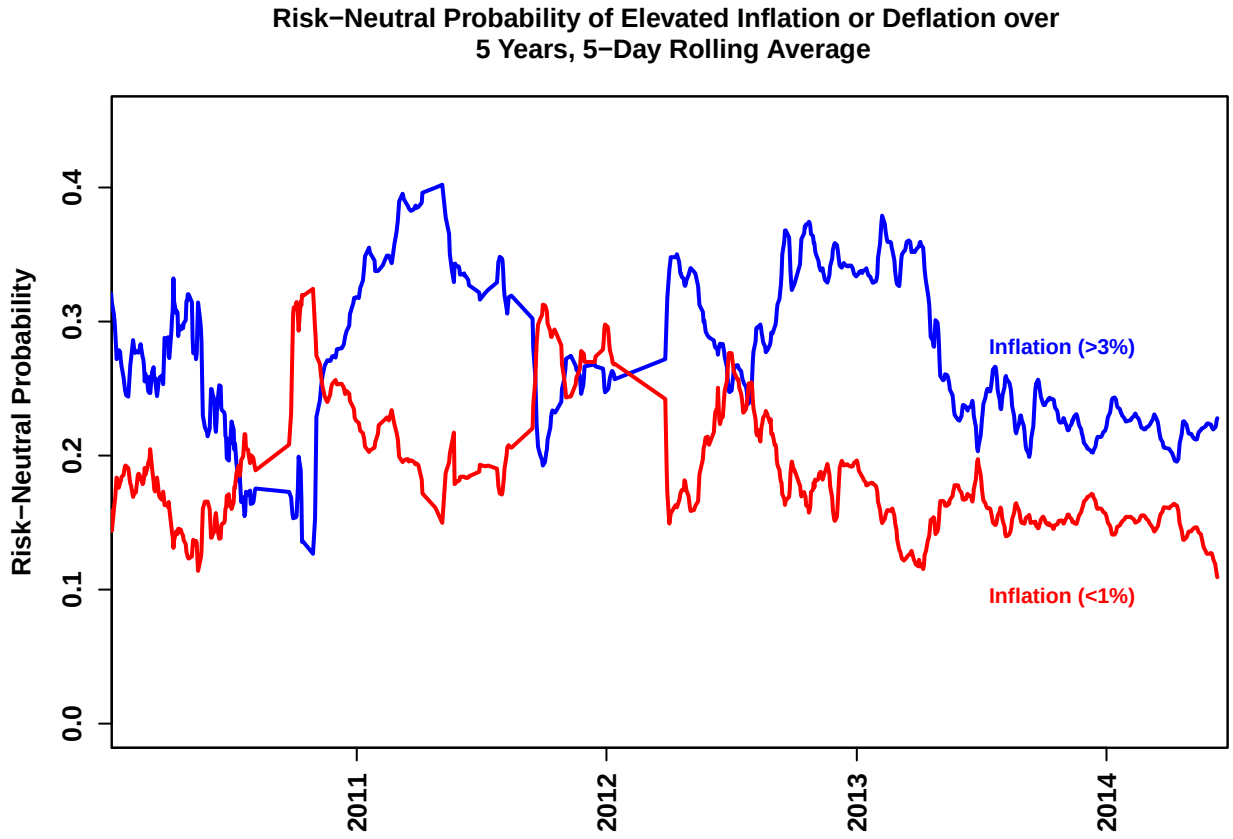


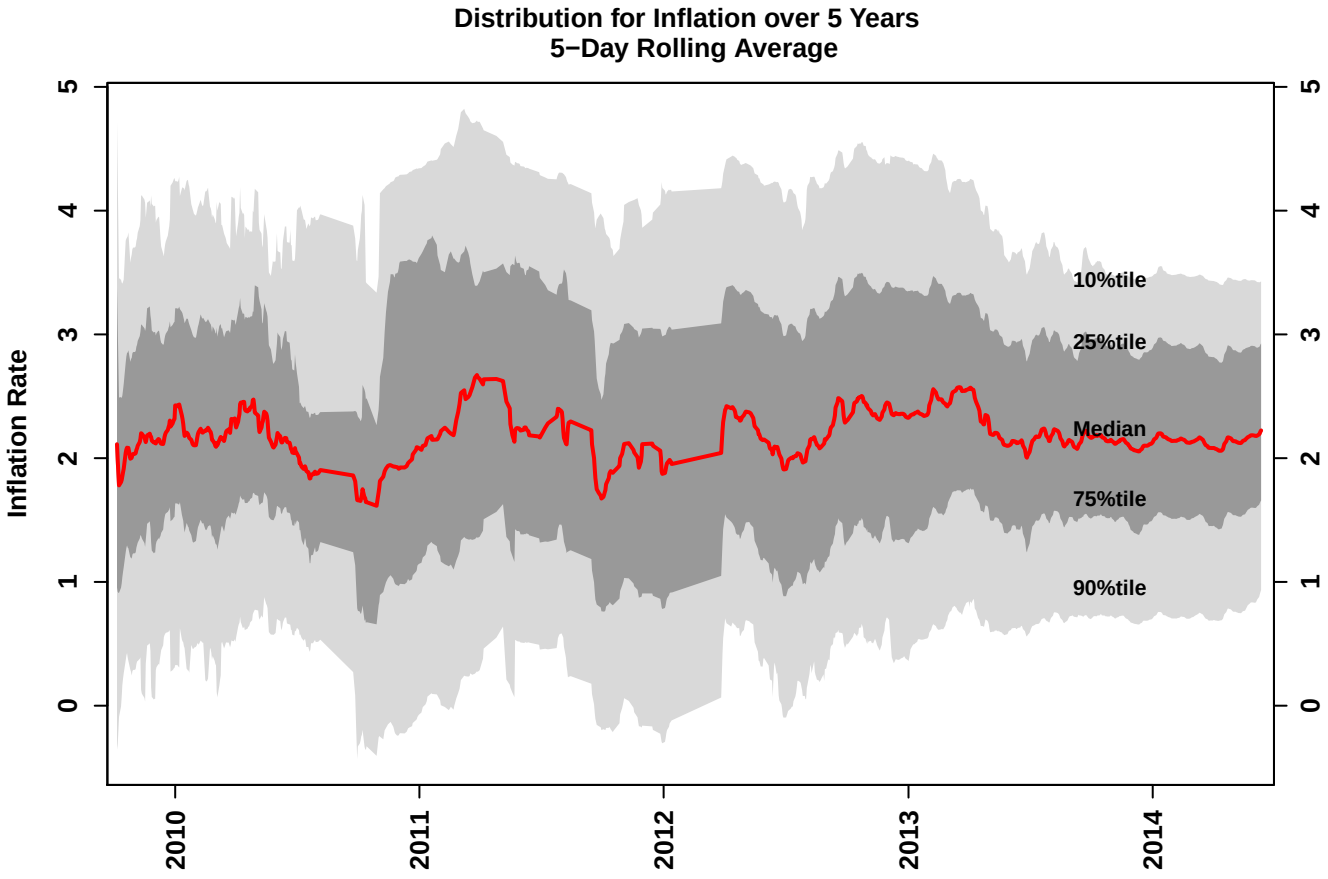
Note: Quantile skew is defined here as [(75th pctile − median) − (median − 25th pctile)] / (75th − 25th pctile)

Market Probability Density Function for Inflation over the Next 2 Years



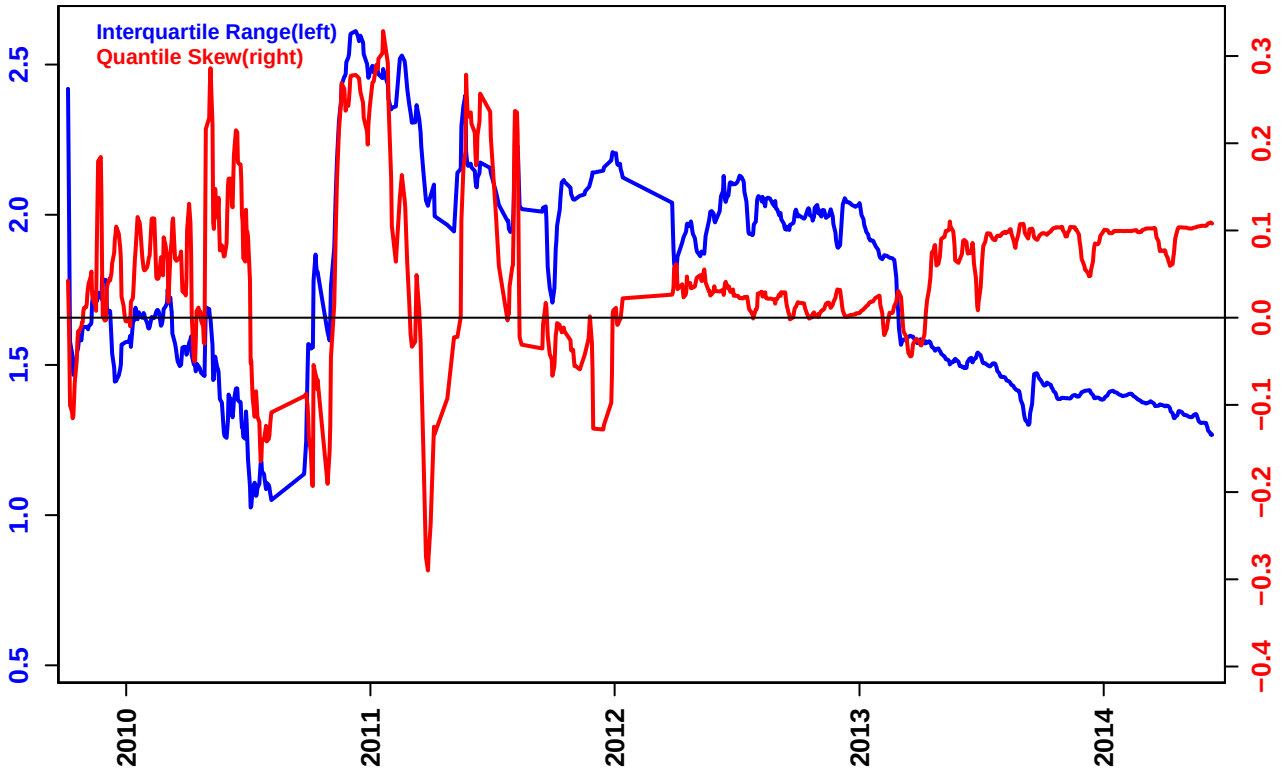
MARKET PROBABILITY DENSITY FUNCTIONS −− Inflation Rate Caps & Floors





MARKET PROBABILITY 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