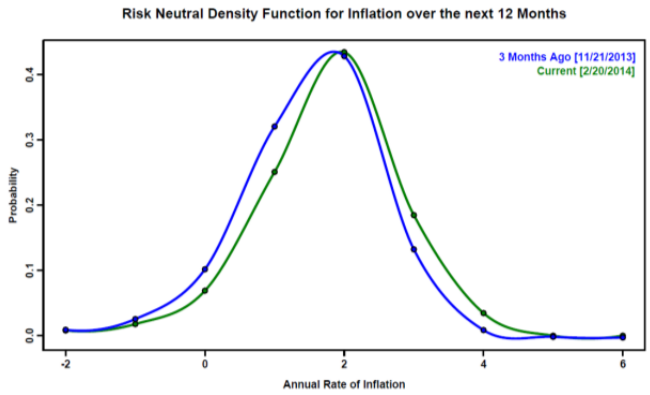
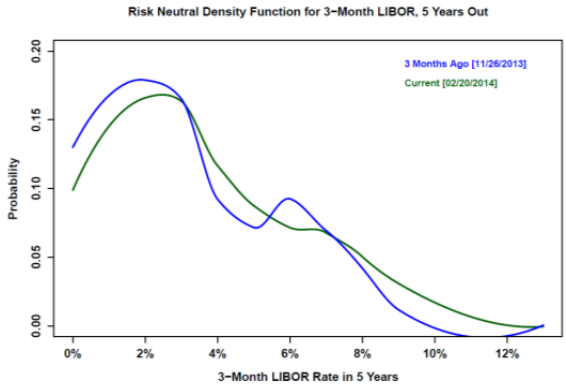
Minneapolis Options Report – February 20th

Banks and insurance company equity prices generally recovered some of the declines posted prior to our last report. The stock performance was relatively weak, however. CCAR banks trailed the S&P 500 by about 300 basis points and insurance companies trailed by about 100 basis points. Nevertheless, tail risks, as measured by RNPD standard deviations, fell in both groups as spot prices rose.

There was little change in RNPD statistics related to future inflation and LIBOR rates. One year inflation expectations derived from caps and floors remain centered near 2%. Short-term LIBOR rate expectations derived in a similar manner continue to indicate upward bias.

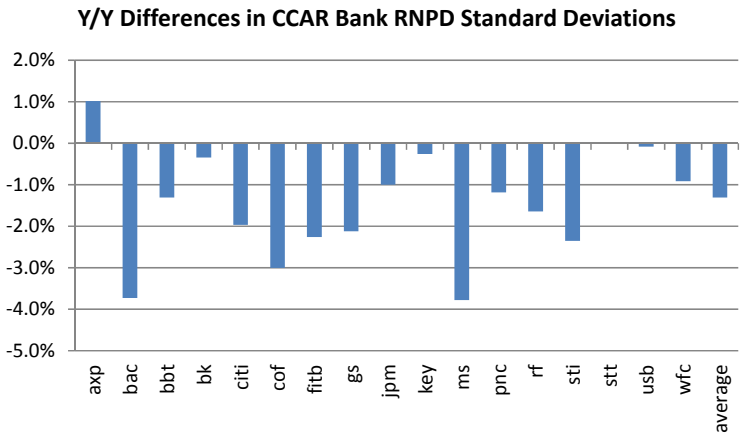




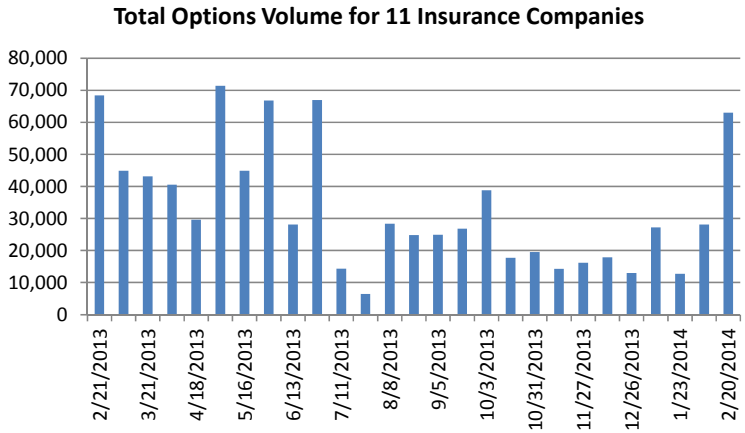
Banks & Insurance Companies
Option trading on bank stocks was light last week but active for insurance company stocks. Options on AIG, MET, and ALL traded well above recent averages. Skews in both groups continue to trend higher while RNPD standard deviations fell in excess of 100 basis points, on average.

Additional Notes:

- Bank RNPD standard deviations are generally lower than 12 months ago continuing the trend of less tail risk in the group.



- Options trading was active for insurance company stocks again last week as noted above. Firms with the most actively traded options (noted above) generally had increasing RNPD skews. (*See detail reports*)

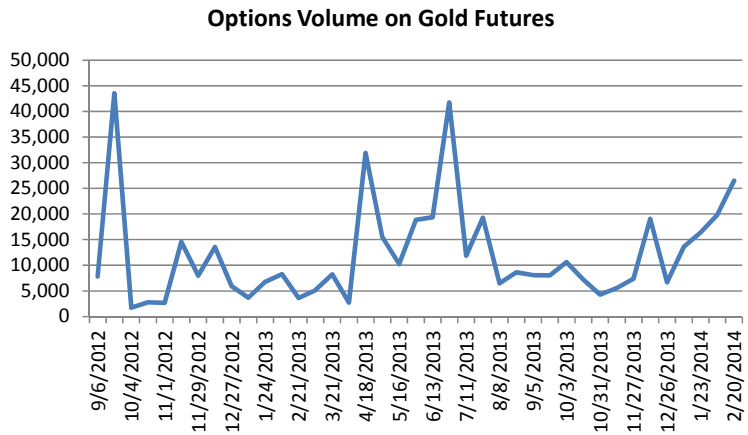


Other Commodity Markets

RNPD standard deviations generally fell and spot prices generally rose across the range of additional commodity markets we follow. Trading activity was mixed. We noted high levels of volume in options on precious metals futures and dollar-pound exchange rate futures.

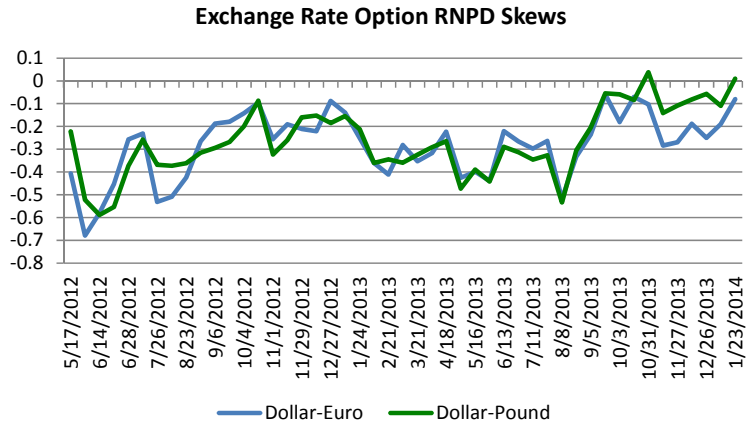
Additional notes:

- Trading was up again in options on gold futures relative to two weeks ago and activity in options on silver futures jumped as well. Trading in options on gold futures has risen each period since the late December report. Spot prices rose 4.7% for gold futures and 8.7% for silver futures. RNPD skews increased. (*See Gold and Silver reports*)



- RNPD standard deviations derived from option on WTI and Brent crude oil futures dropped in excess of 100 basis points as spot prices rose. (*See oil reports*)

- RNPD skews derived from options on dollar-pound and dollar-euro exchange rate futures are at recent highs: both are hovering near zero. (*See exchange rate reports*)

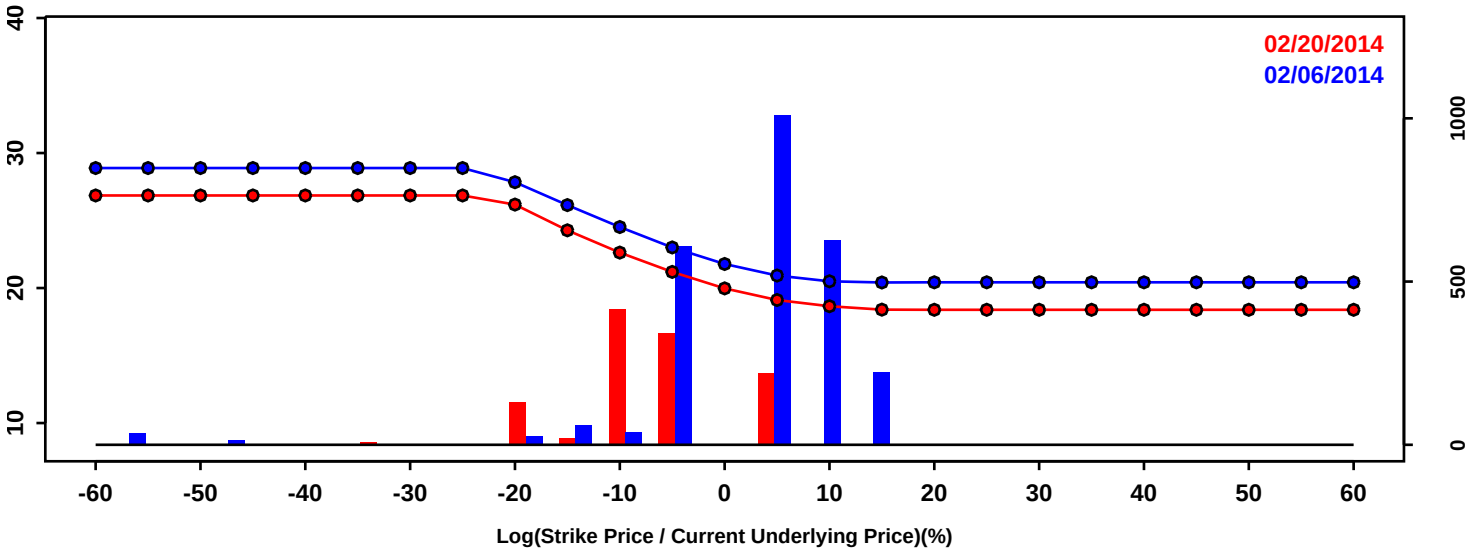


- Options trading was very strong in the dollar-pound futures markets. It was the highest we have recorded. (*See dollar-pound report*)

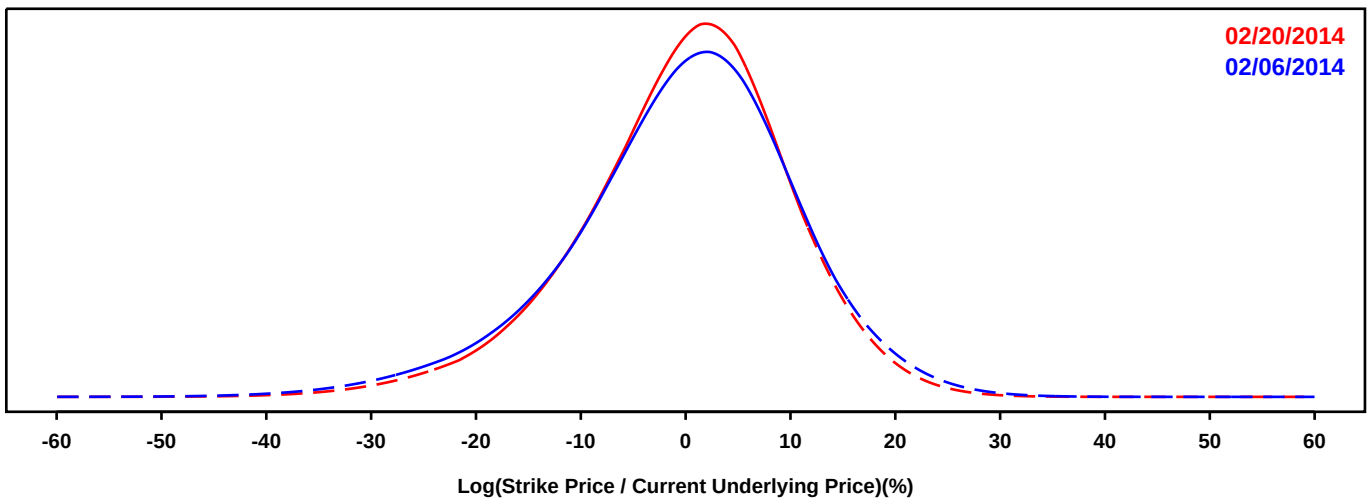
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- AMERICAN EXPRESS

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

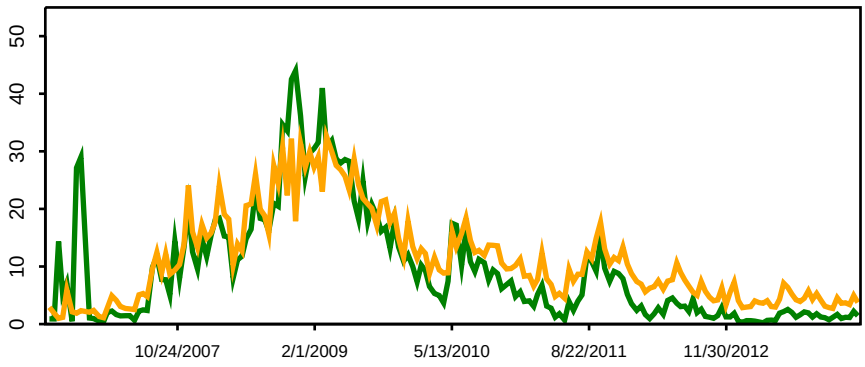
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



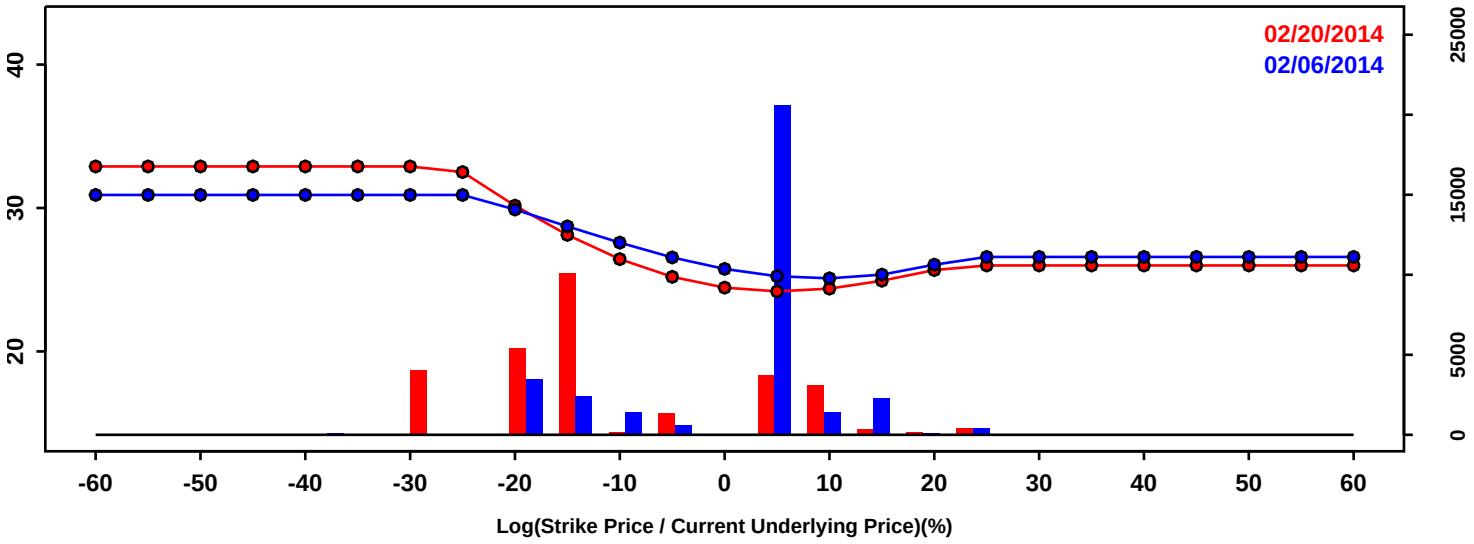
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-14.41%	-13.16%	1.24%
50th Pct	0.60%	0.66%	0.07%
90th Pct	12.66%	11.85%	-0.82%
Mean	-0.24%	-0.10%	0.14%
Std Dev	10.96%	10.08%	-0.88%
Skew	-0.49	-0.48	0.01
Kurtosis	0.78	0.73	-0.05

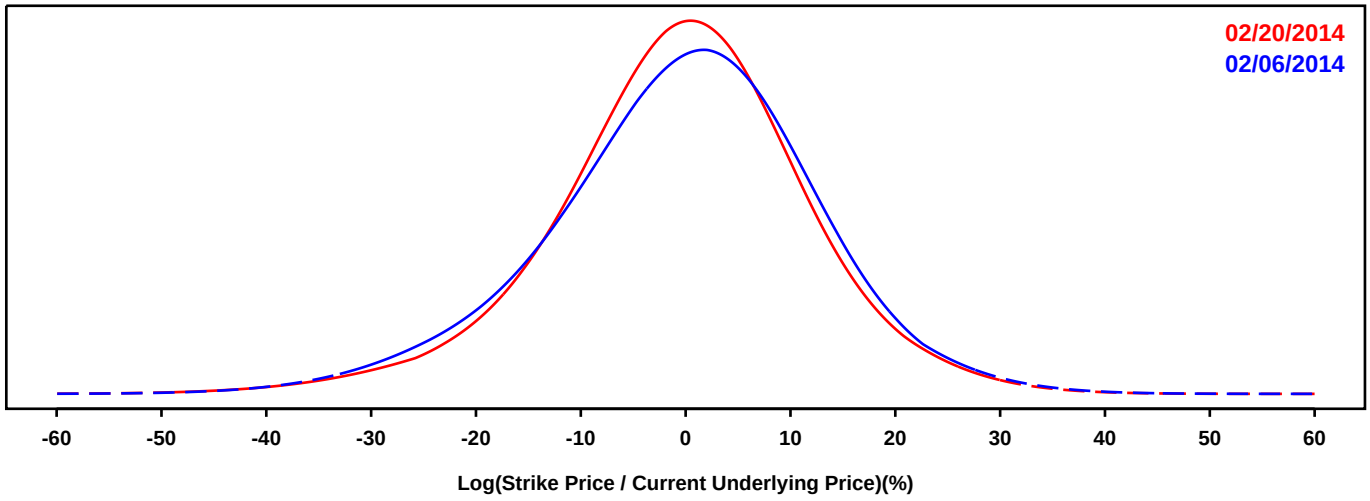
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- BANK OF AMERICA

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

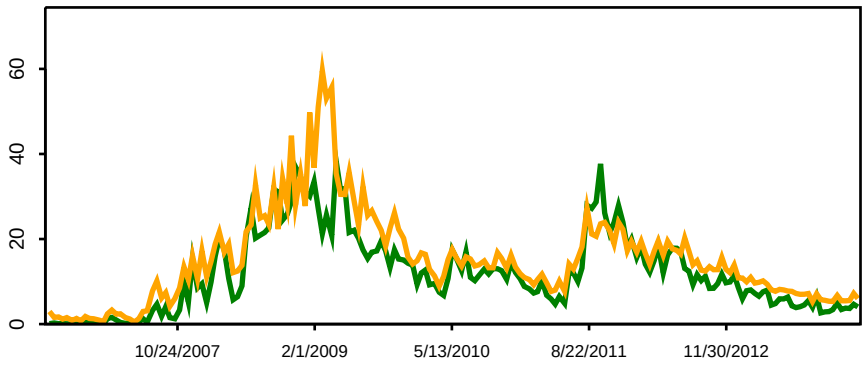
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

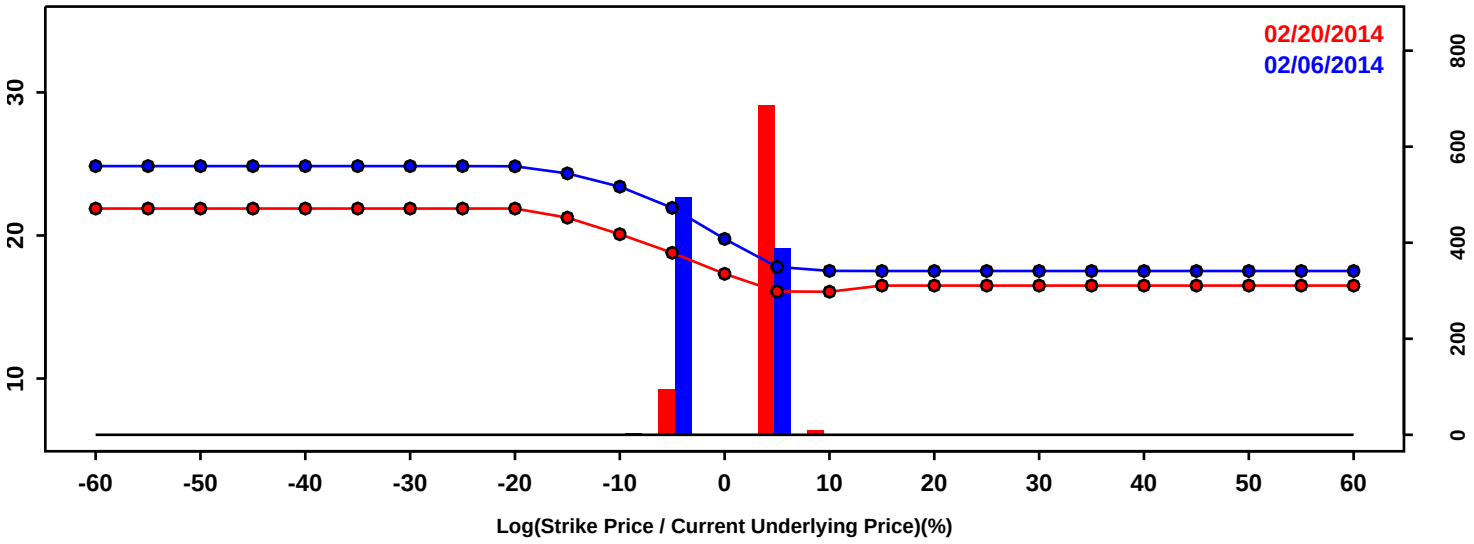
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-17.04%	-15.77%	1.27%
50th Pct	0.35%	-0.09%	-0.44%
90th Pct	15.07%	14.09%	-0.99%
Mean	-0.36%	-0.56%	-0.21%
Std Dev	12.90%	12.25%	-0.66%
Skew	-0.29	-0.31	-0.01
Kurtosis	0.52	0.91	0.38

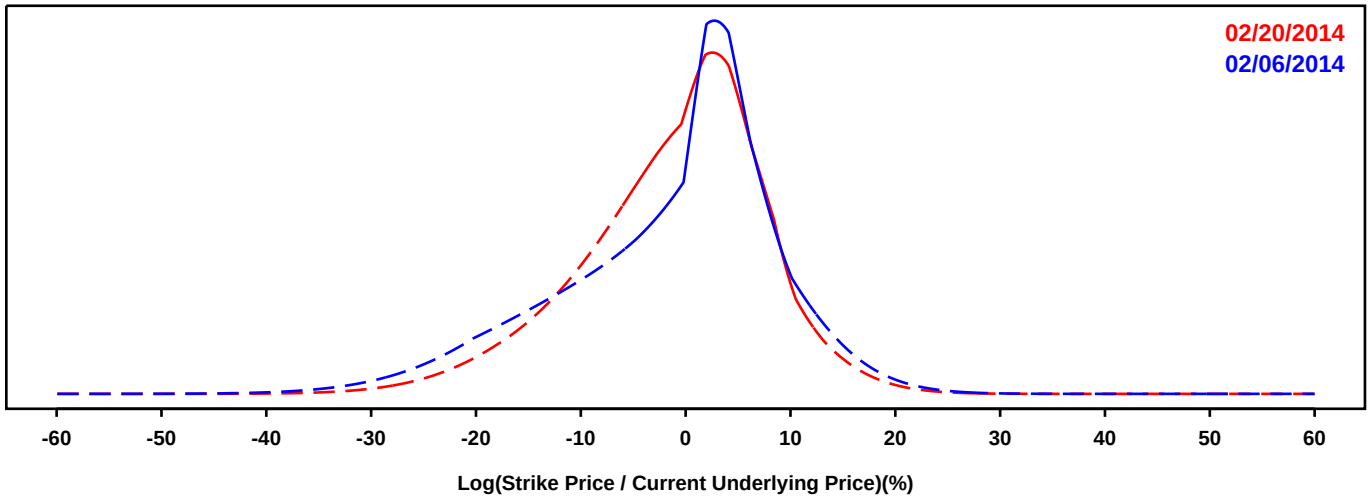
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- BB&T

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

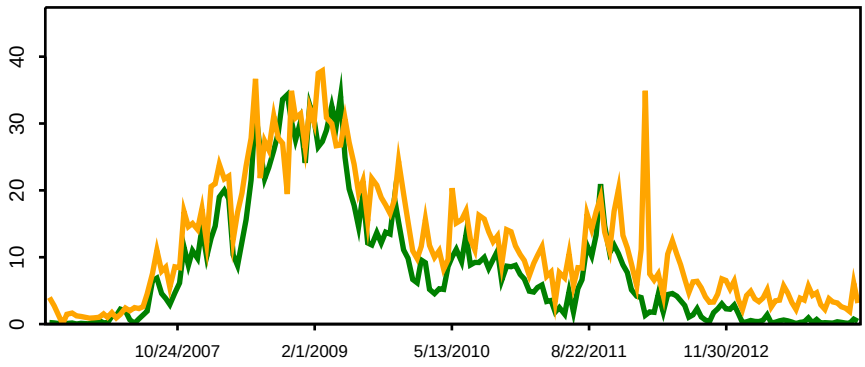
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



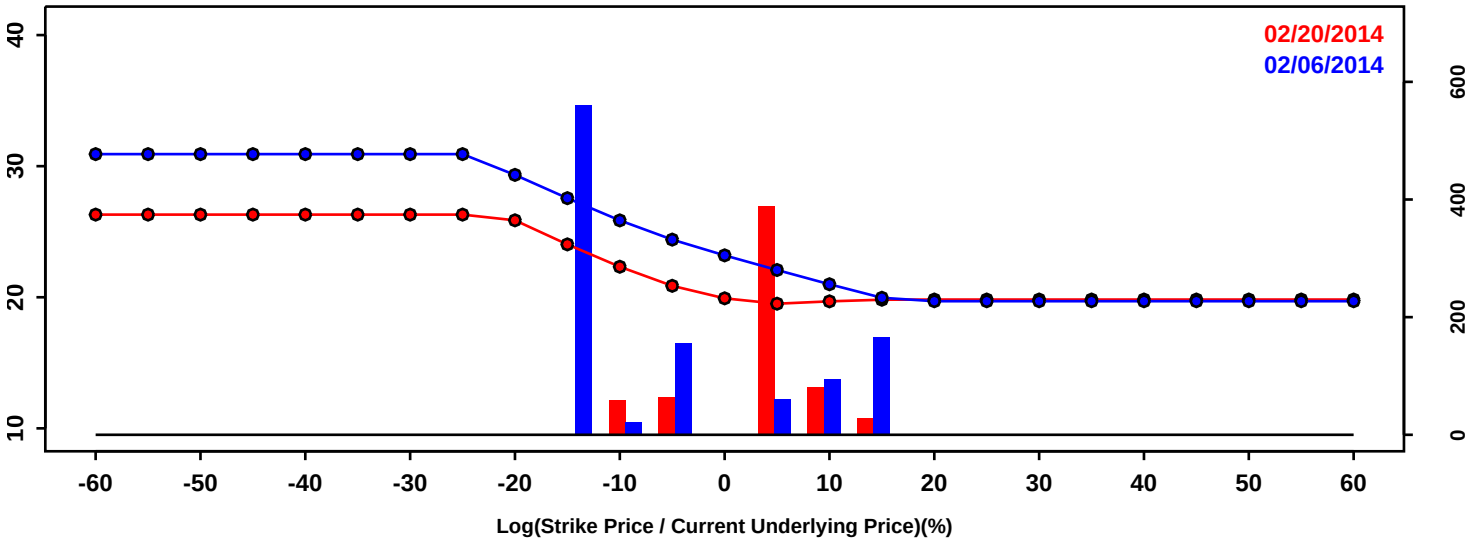
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-16.45%	-13.14%	3.31%
50th Pct	0.98%	0.19%	-0.79%
90th Pct	9.86%	8.80%	-1.07%
Mean	-1.41%	-1.09%	0.32%
Std Dev	10.43%	8.86%	-1.58%
Skew	-0.69	-0.56	0.14
Kurtosis	0.52	0.59	0.08

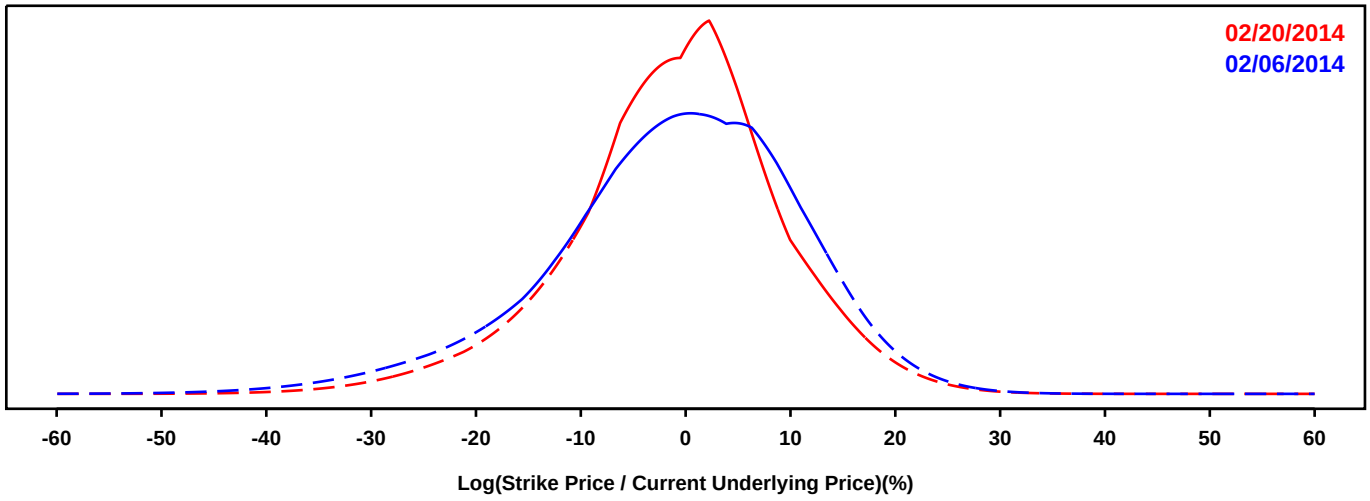
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- BANK OF NEW YORK MELLON

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

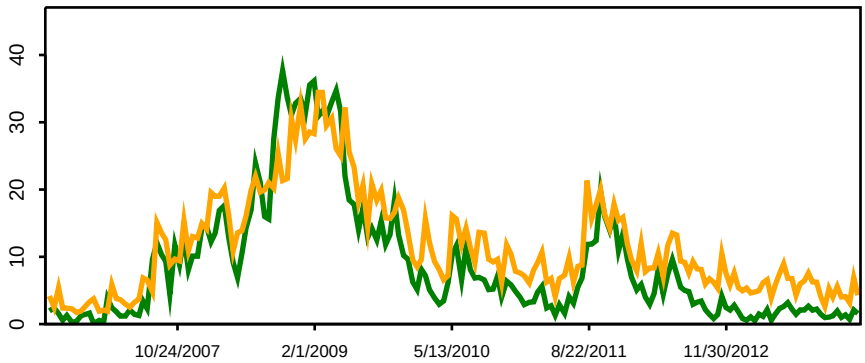
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

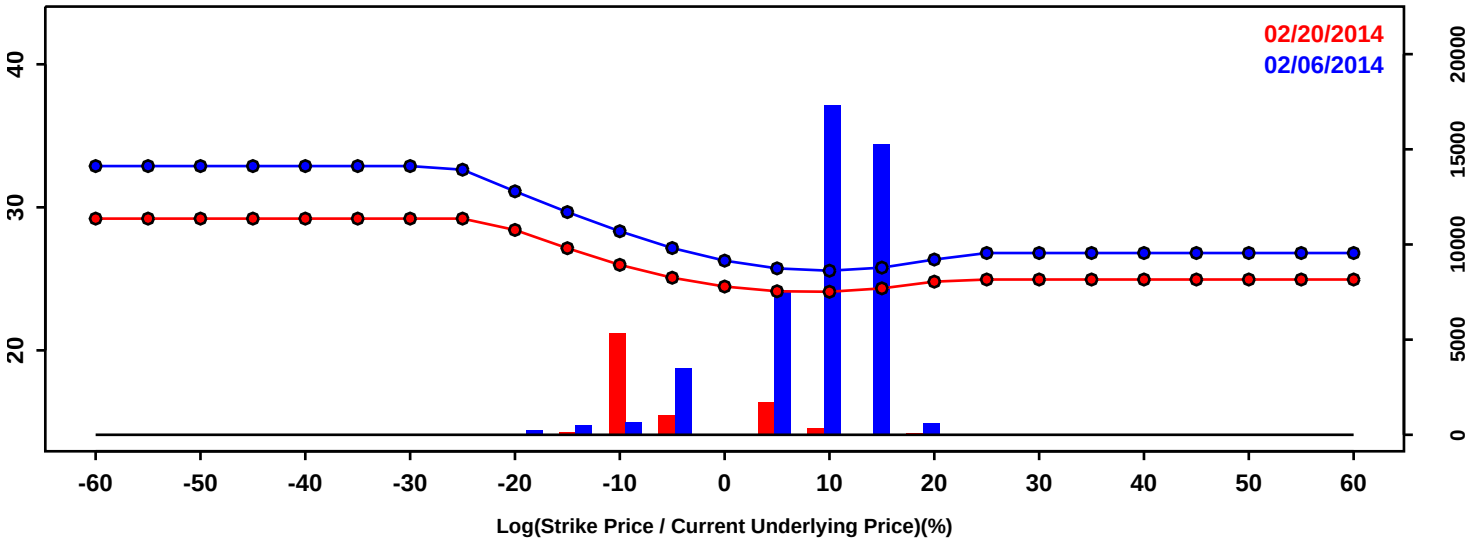
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-16.63%	-13.87%	2.77%
50th Pct	-0.11%	-0.35%	-0.24%
90th Pct	13.01%	11.24%	-1.77%
Mean	-1.10%	-0.98%	0.12%
Std Dev	11.92%	10.16%	-1.76%
Skew	-0.57	-0.38	0.19
Kurtosis	0.68	0.80	0.12

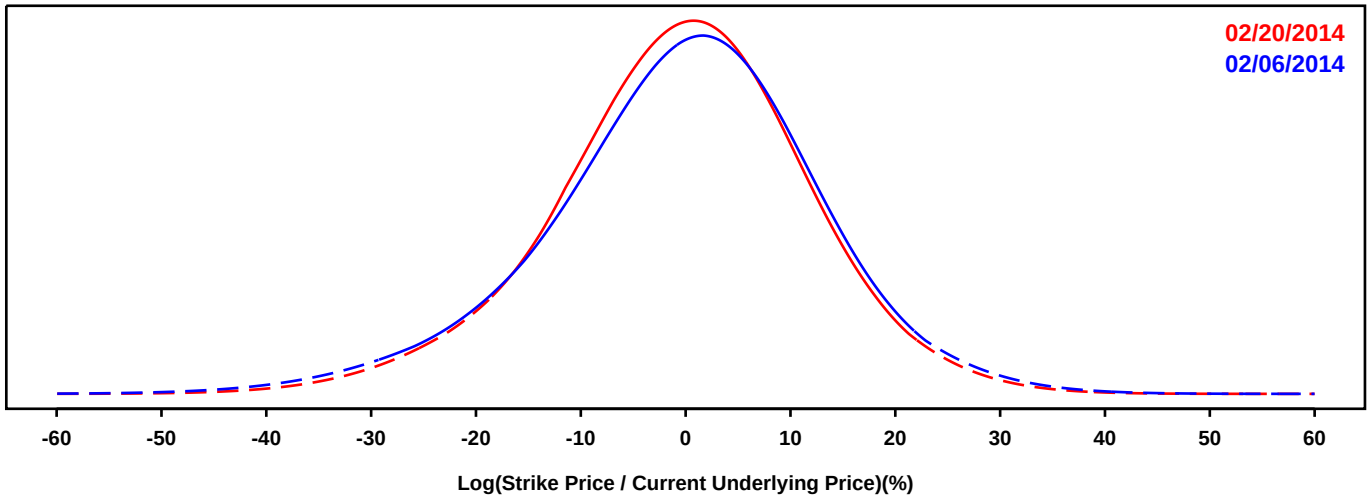
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CITIGROUP

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

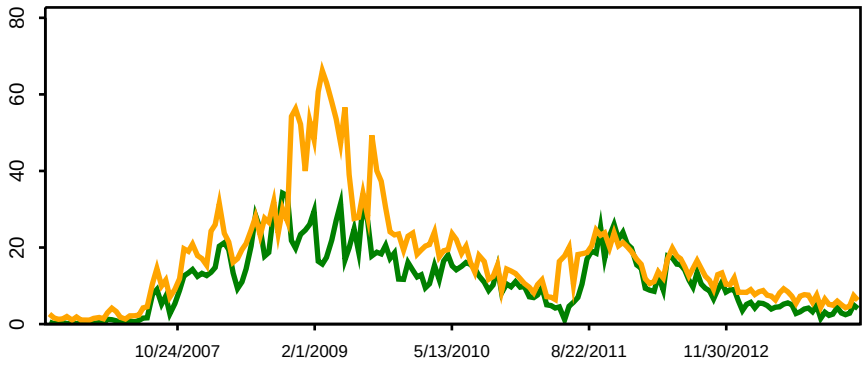
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



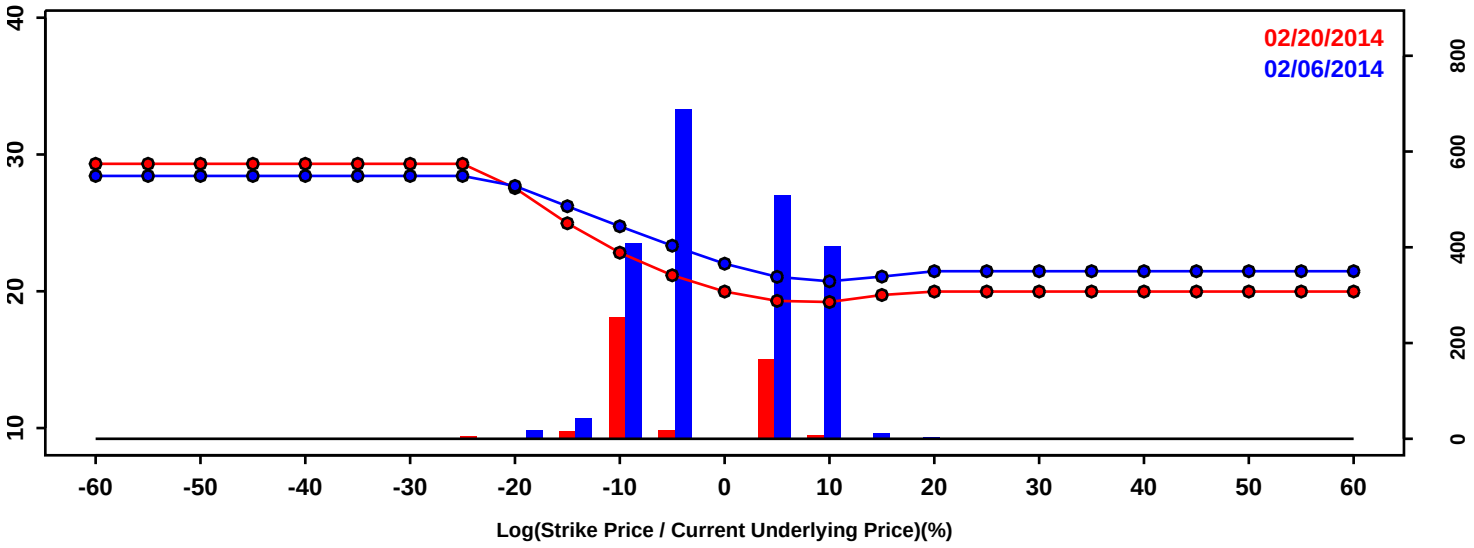
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-17.21%	-16.09%	1.13%
50th Pct	0.40%	-0.04%	-0.44%
90th Pct	15.38%	14.40%	-0.98%
Mean	-0.32%	-0.49%	-0.18%
Std Dev	13.16%	12.25%	-0.91%
Skew	-0.34	-0.24	0.10
Kurtosis	0.65	0.48	-0.17

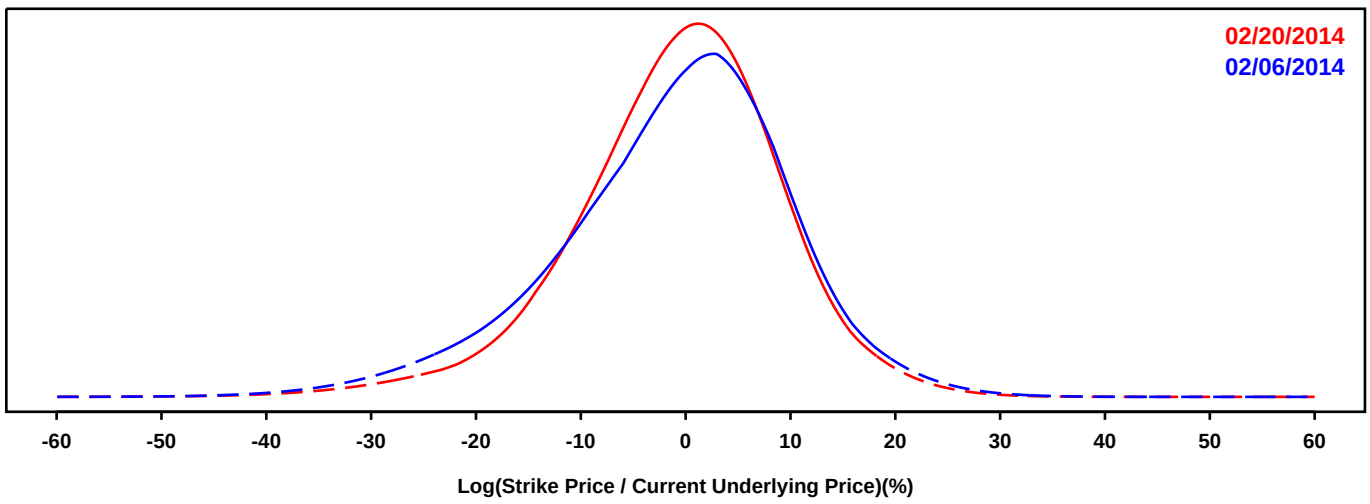
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CAPITAL ONE

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

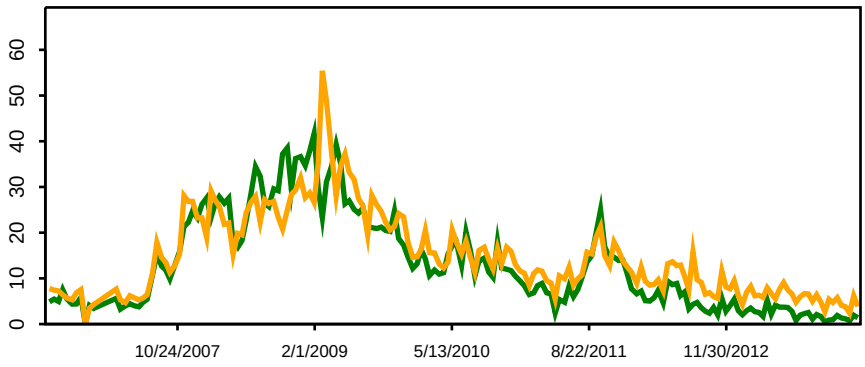
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



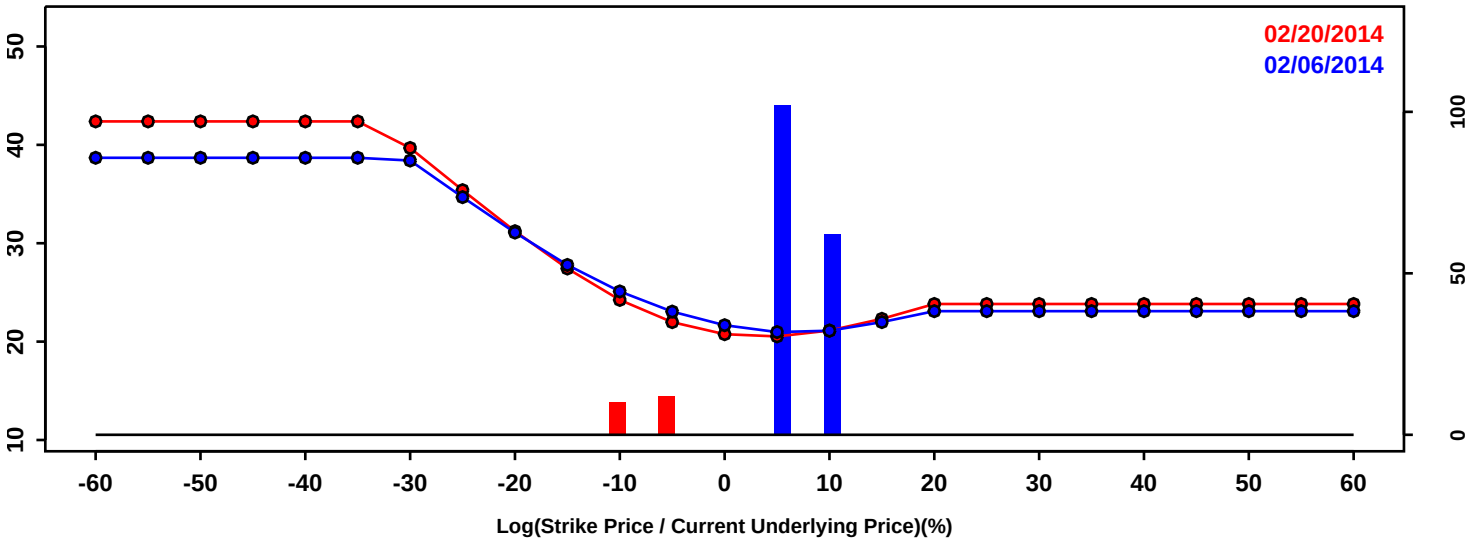
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-16.01%	-13.28%	2.73%
50th Pct	0.04%	-0.04%	-0.08%
90th Pct	11.75%	10.93%	-0.82%
Mean	-1.14%	-0.75%	0.39%
Std Dev	11.24%	10.04%	-1.21%
Skew	-0.51	-0.51	0.00
Kurtosis	0.70	1.16	0.46

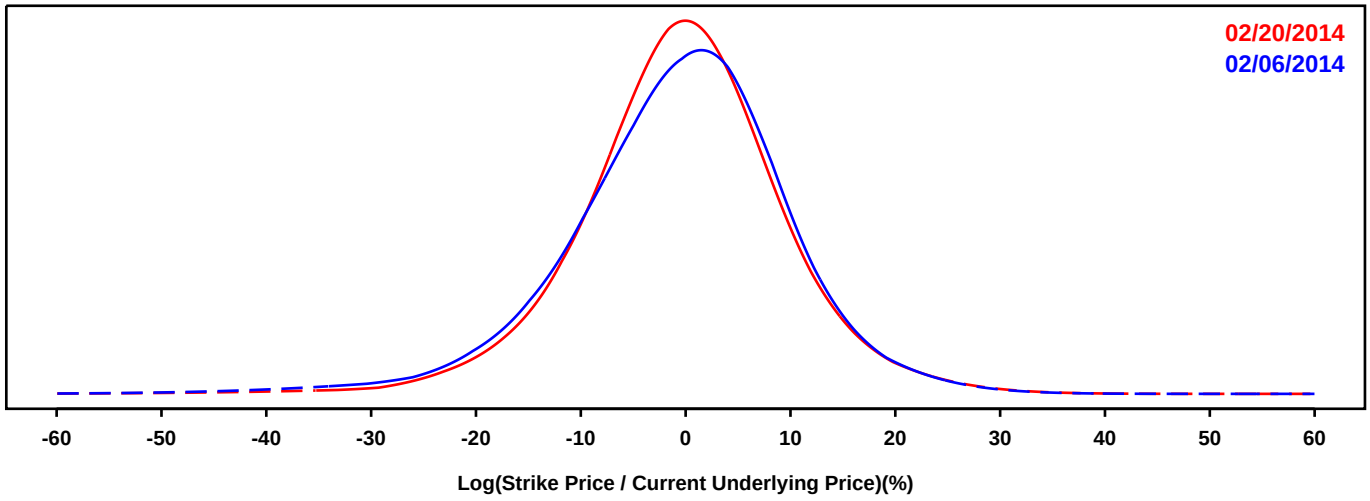
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- FIFTH THIRD

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

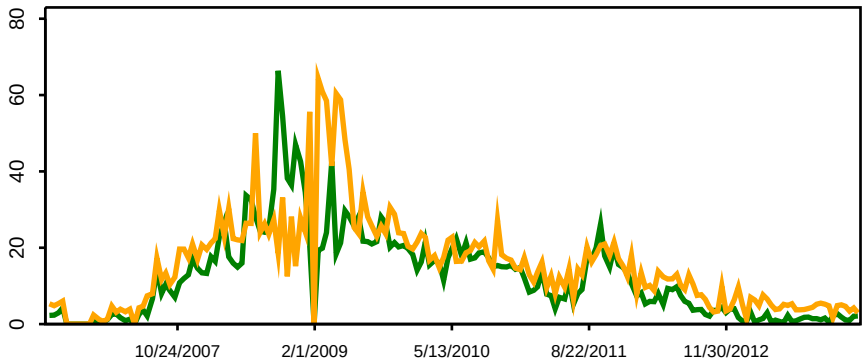
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

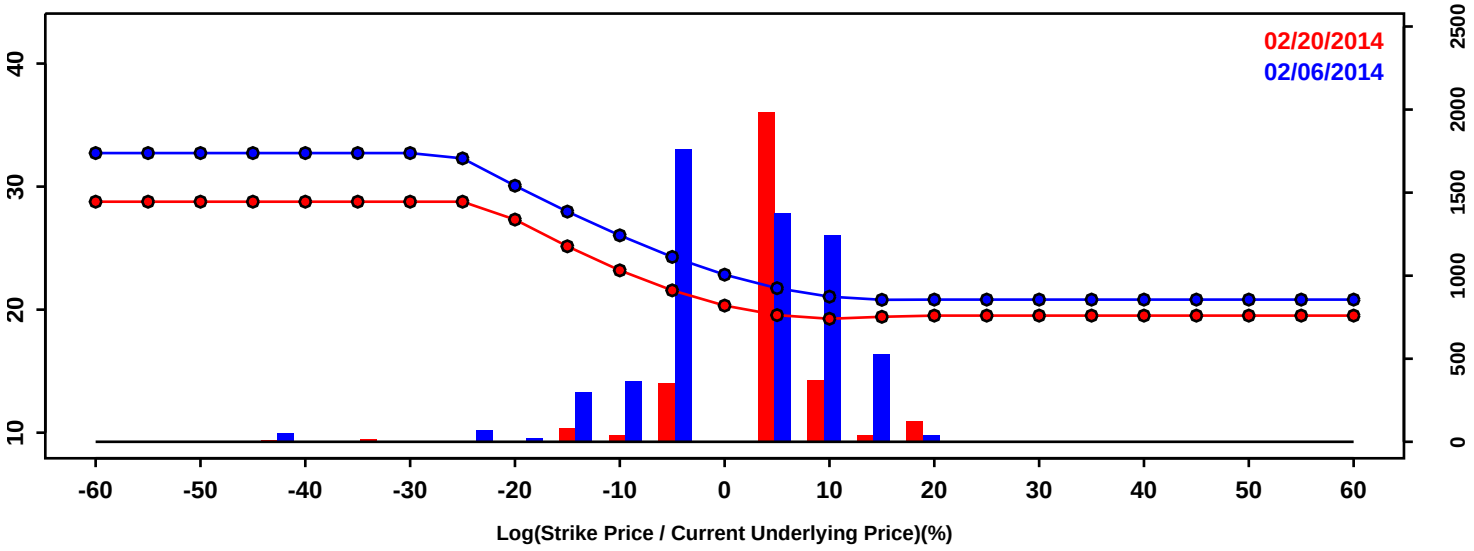
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-13.70%	-12.27%	1.43%
50th Pct	0.00%	-0.18%	-0.18%
90th Pct	11.55%	11.32%	-0.24%
Mean	-0.71%	-0.39%	0.31%
Std Dev	10.75%	9.98%	-0.76%
Skew	-0.62	-0.40	0.22
Kurtosis	2.06	2.25	0.18

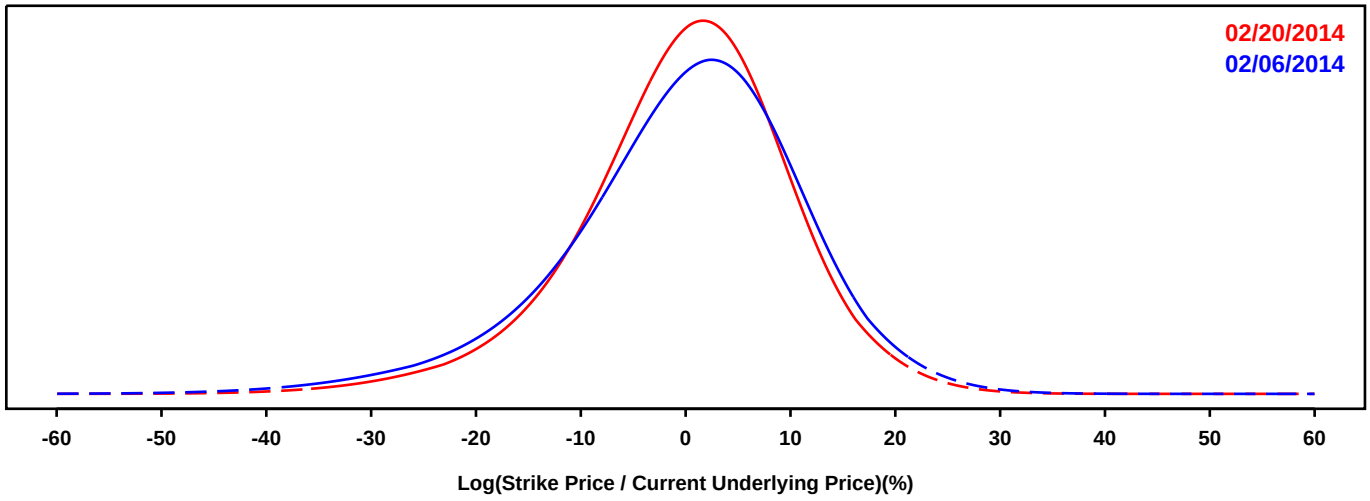
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- GOLDMAN SACHS

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

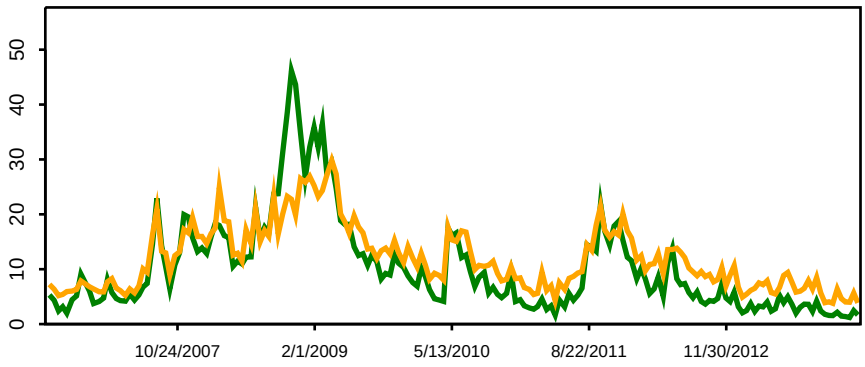
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

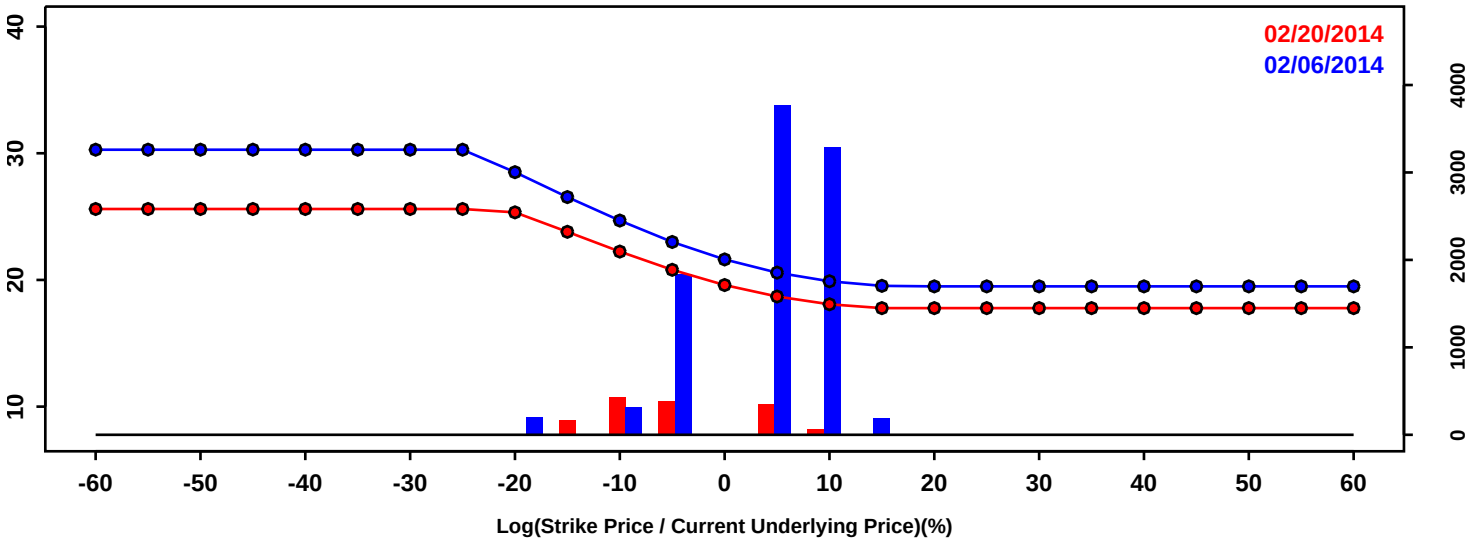
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-15.03%	-13.04%	1.99%
50th Pct	0.84%	0.61%	-0.23%
90th Pct	13.11%	11.85%	-1.26%
Mean	-0.23%	-0.11%	0.12%
Std Dev	11.54%	10.20%	-1.34%
Skew	-0.62	-0.50	0.11
Kurtosis	1.07	0.99	-0.08

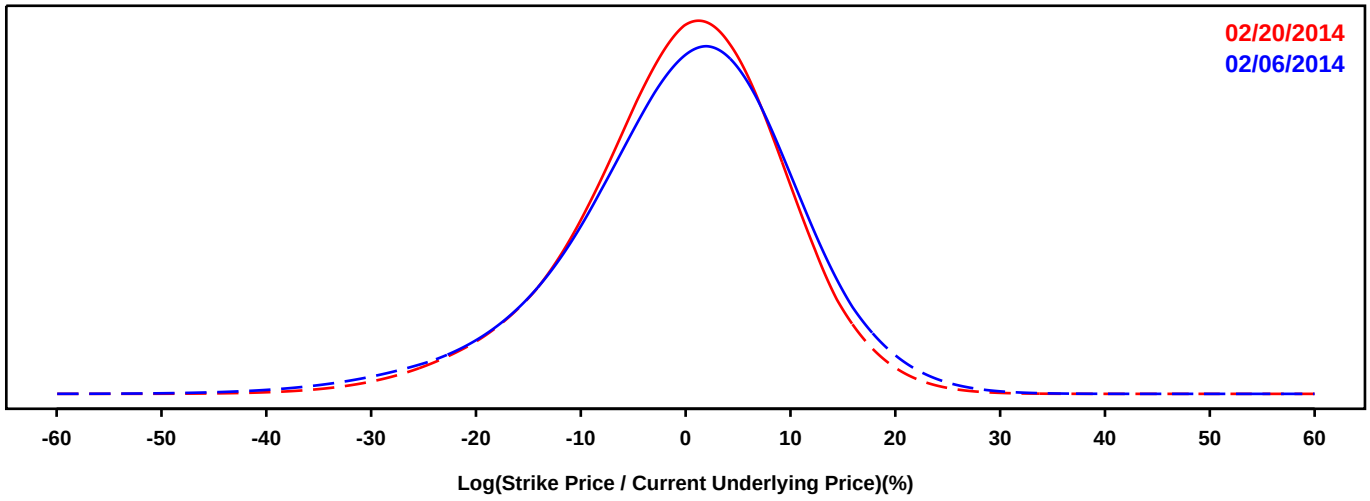
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- JP MORGAN

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

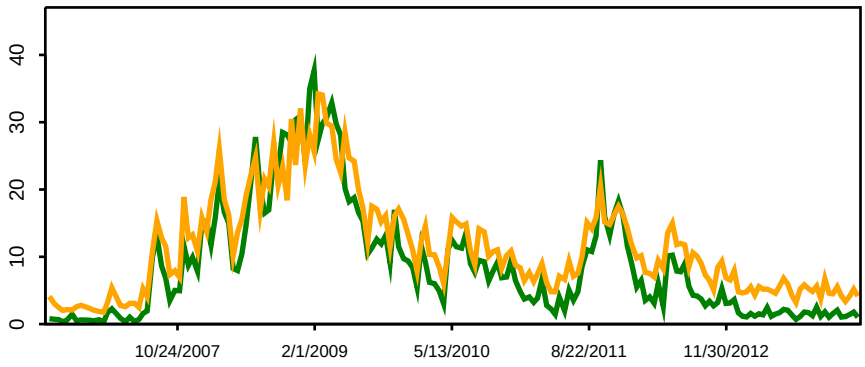
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

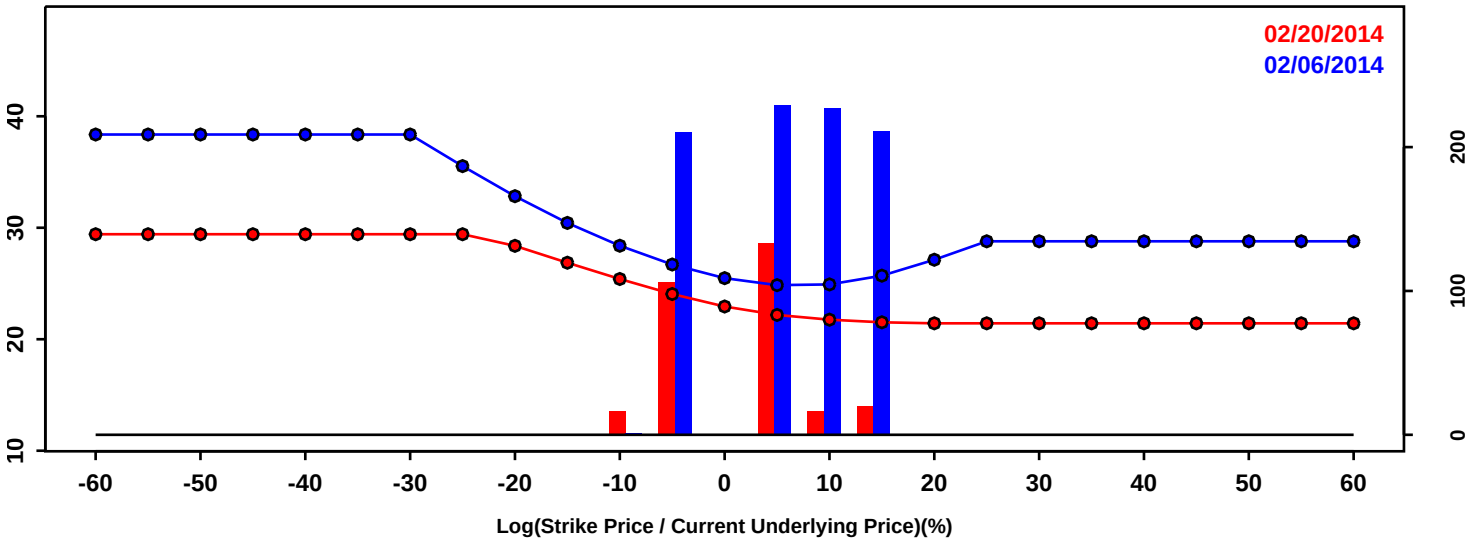
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-14.58%	-13.72%	0.86%
50th Pct	0.50%	0.09%	-0.40%
90th Pct	12.26%	11.07%	-1.19%
Mean	-0.48%	-0.70%	-0.22%
Std Dev	10.95%	9.97%	-0.98%
Skew	-0.59	-0.51	0.09
Kurtosis	0.96	0.66	-0.30

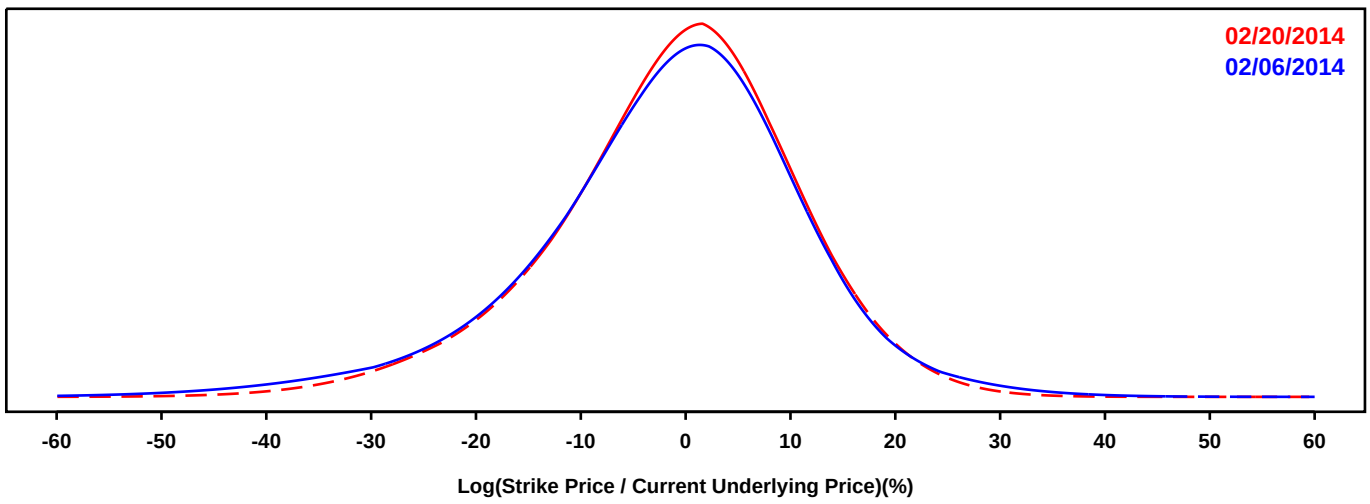
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- KEYCORP

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

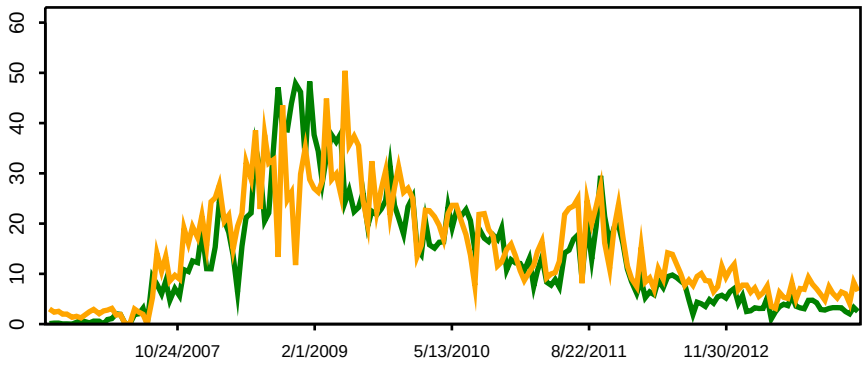
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

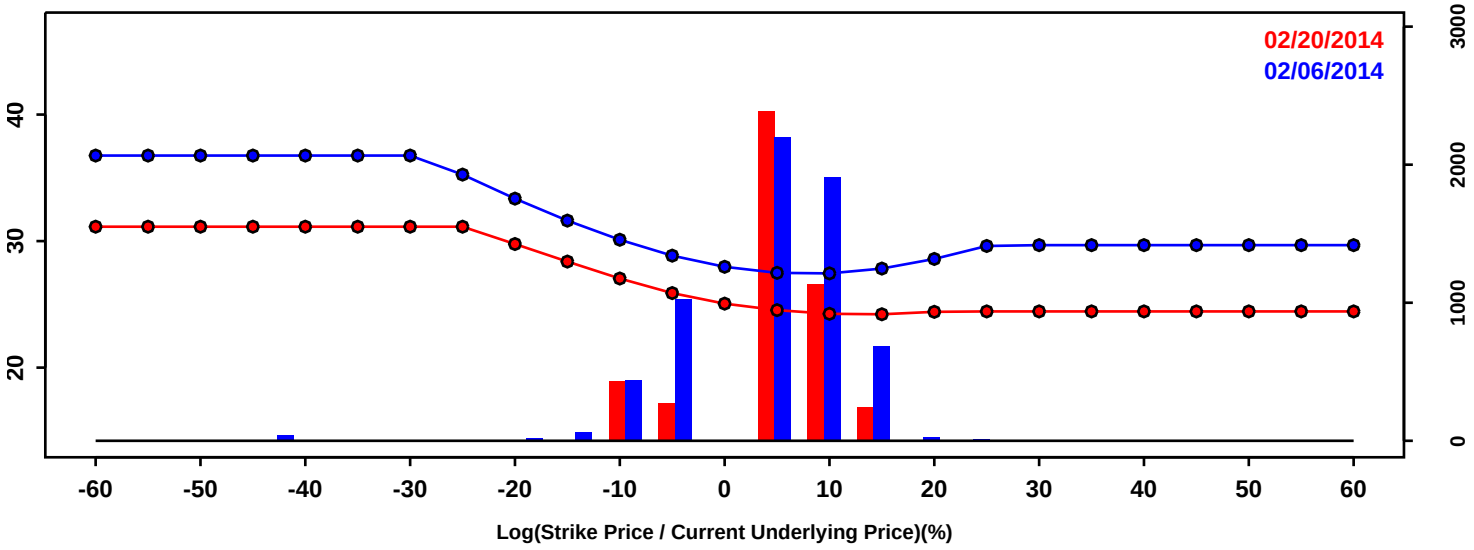
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-18.17%	-16.44%	1.73%
50th Pct	-0.51%	-0.19%	0.32%
90th Pct	13.16%	12.88%	-0.28%
Mean	-1.68%	-1.08%	0.60%
Std Dev	13.15%	11.74%	-1.41%
Skew	-0.59	-0.45	0.14
Kurtosis	1.43	0.61	-0.82

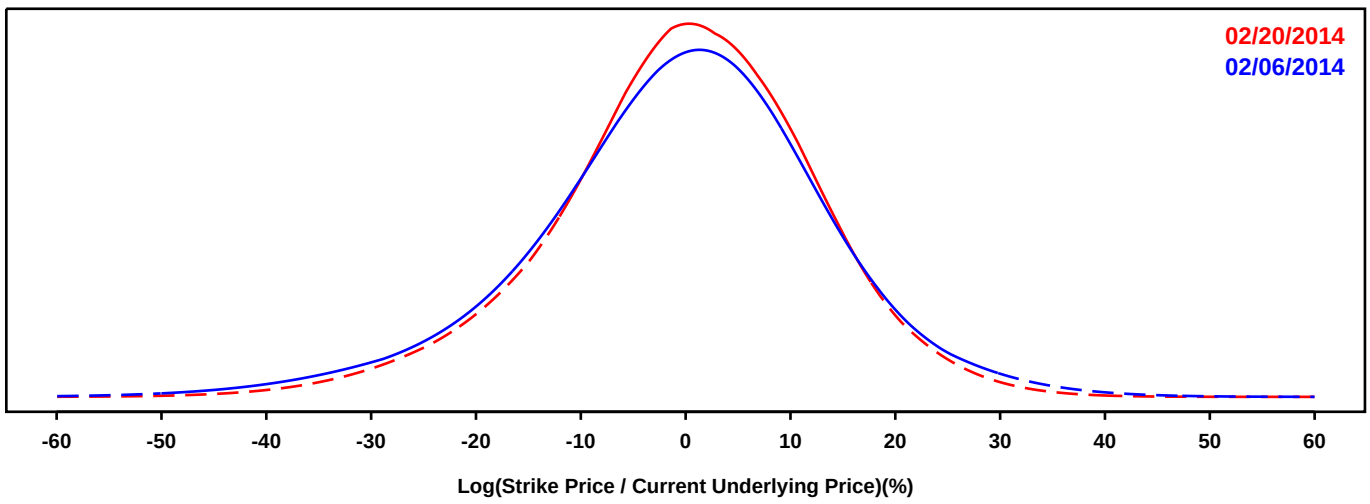
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- MORGAN STANLEY

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

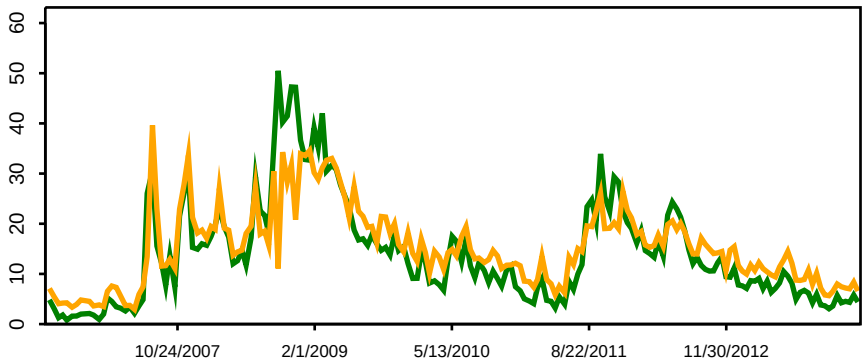
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

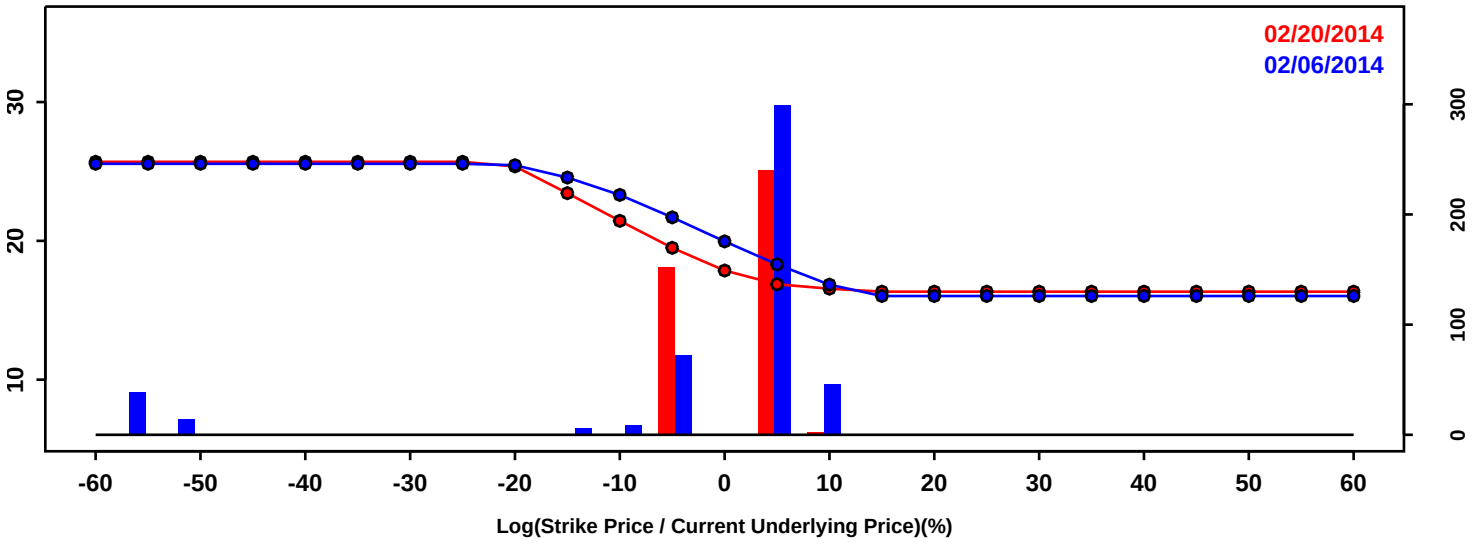
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-18.20%	-16.34%	1.86%
50th Pct	0.20%	0.39%	0.19%
90th Pct	16.02%	14.97%	-1.05%
Mean	-0.52%	-0.16%	0.36%
Std Dev	14.01%	12.57%	-1.44%
Skew	-0.35	-0.34	0.01
Kurtosis	0.86	0.56	-0.30

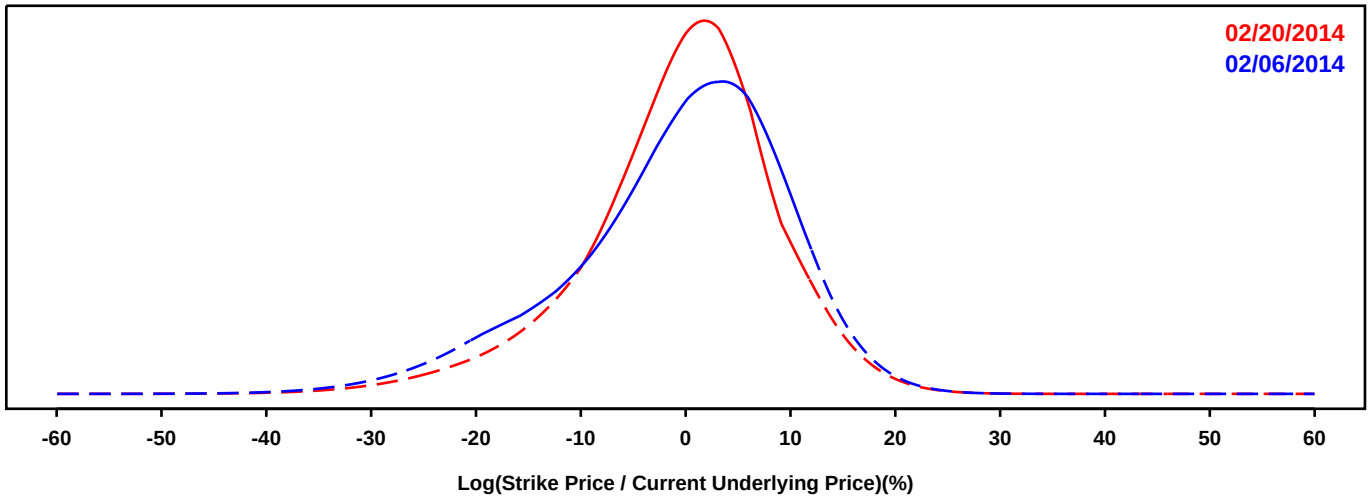
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- PNC FINANCIAL

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

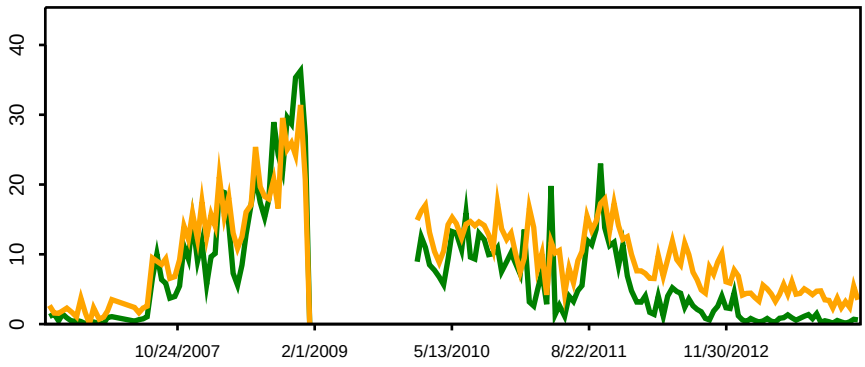
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



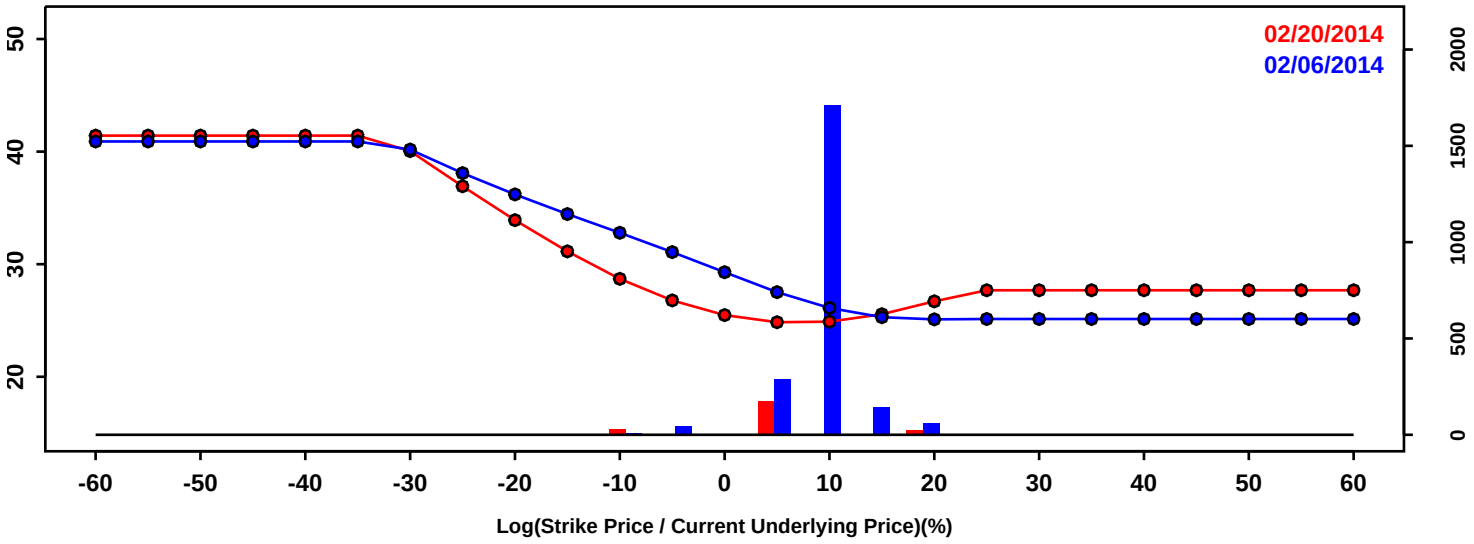
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-15.28%	-12.42%	2.85%
50th Pct	0.76%	0.41%	-0.35%
90th Pct	11.14%	10.09%	-1.06%
Mean	-0.70%	-0.52%	0.18%
Std Dev	10.40%	9.19%	-1.21%
Skew	-0.69	-0.65	0.04
Kurtosis	0.56	1.15	0.59

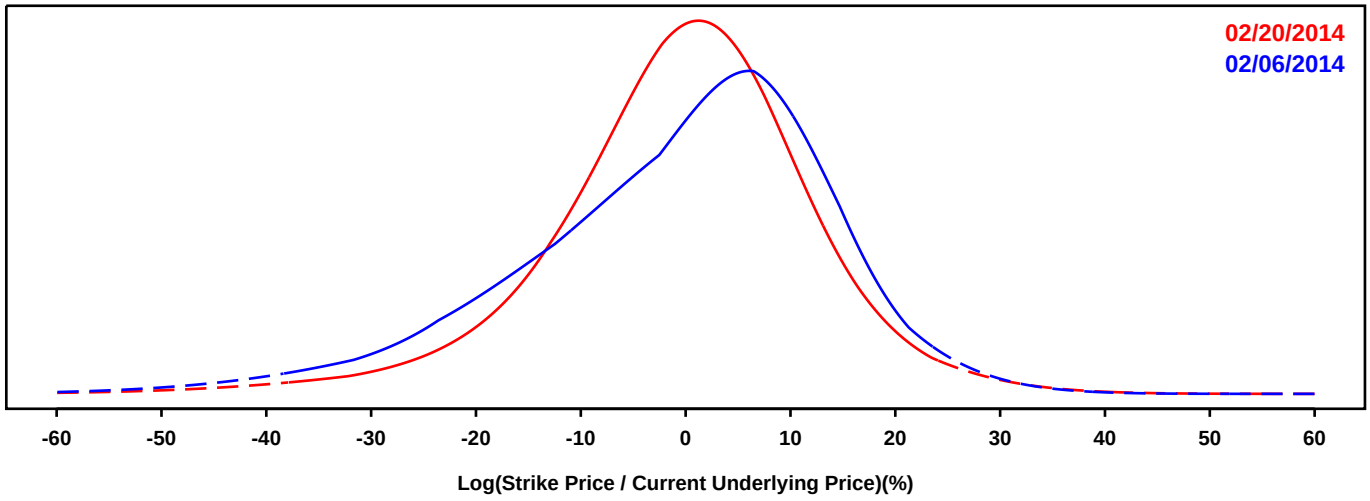
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- REGIONS FINANCIAL

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

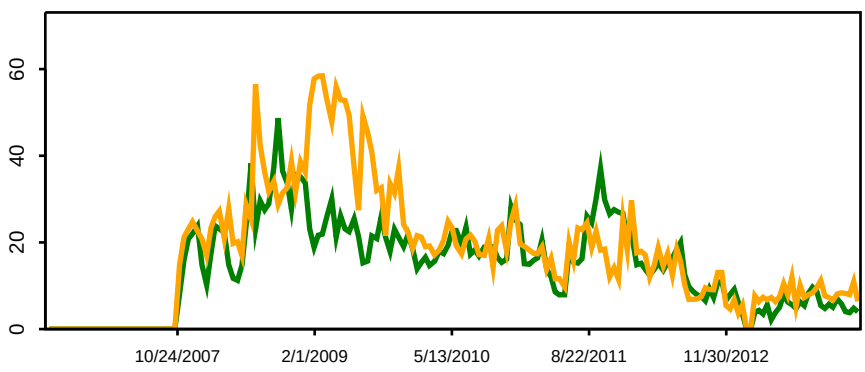
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

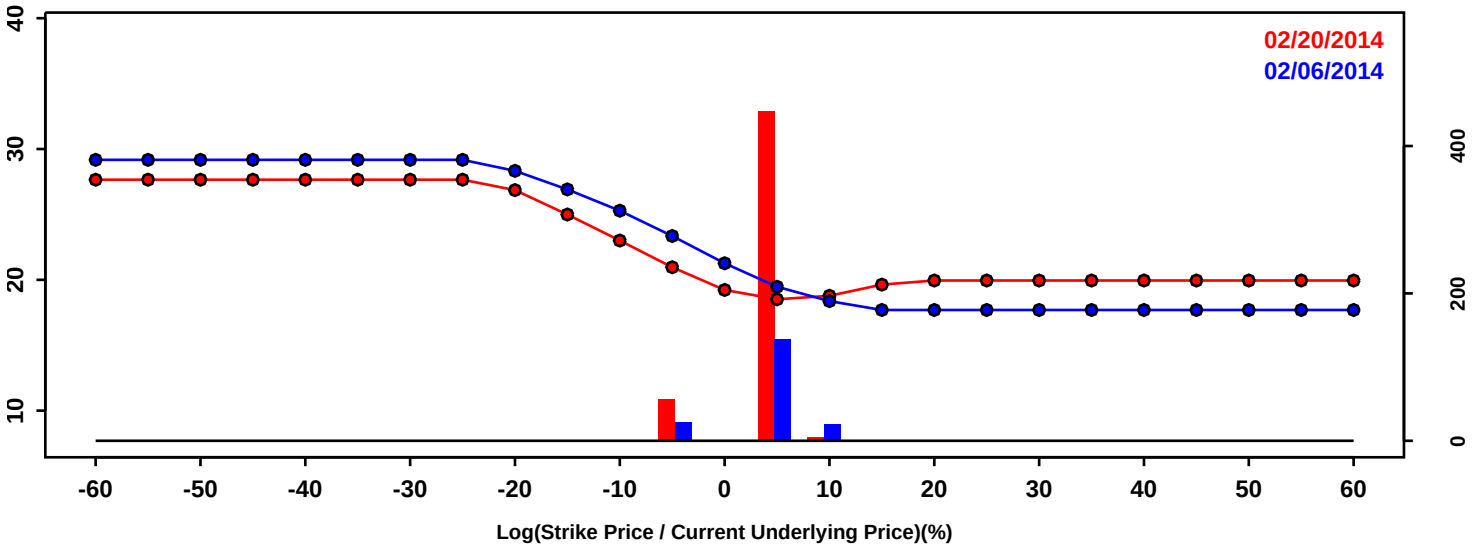
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-21.01%	-15.82%	5.19%
50th Pct	1.34%	0.32%	-1.02%
90th Pct	15.72%	14.09%	-1.63%
Mean	-0.93%	-0.48%	0.45%
Std Dev	14.96%	12.74%	-2.22%
Skew	-0.72	-0.58	0.14
Kurtosis	0.91	1.82	0.91

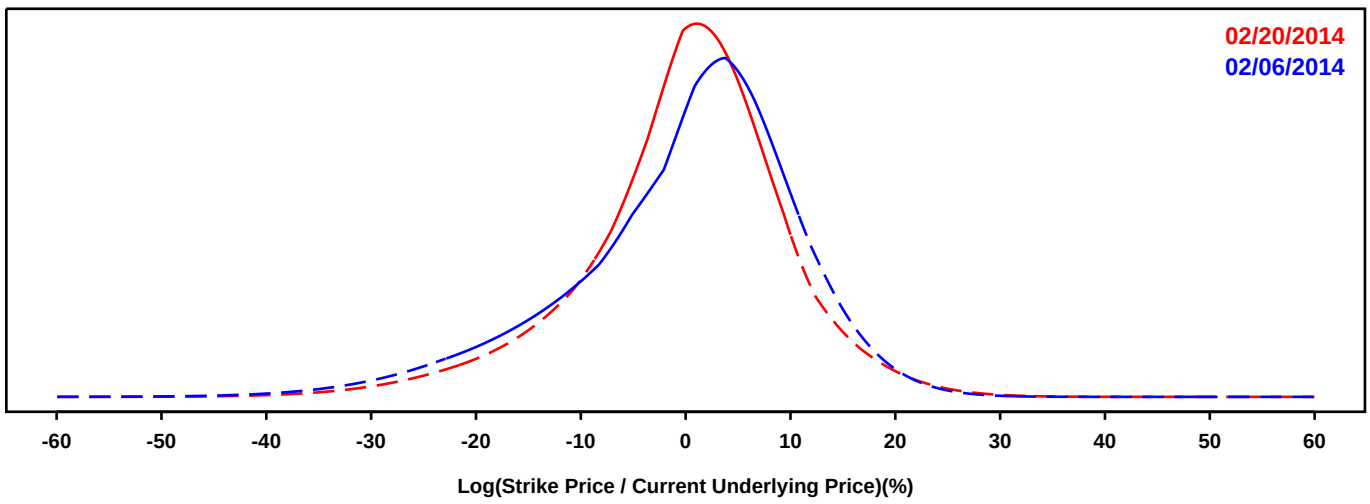
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- SUNTRUST

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

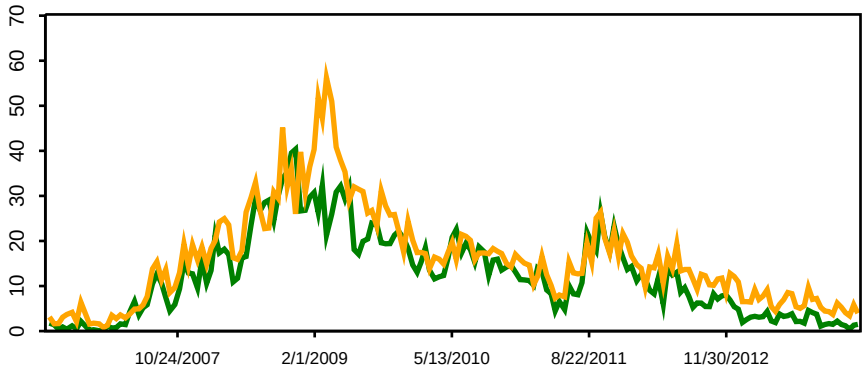
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

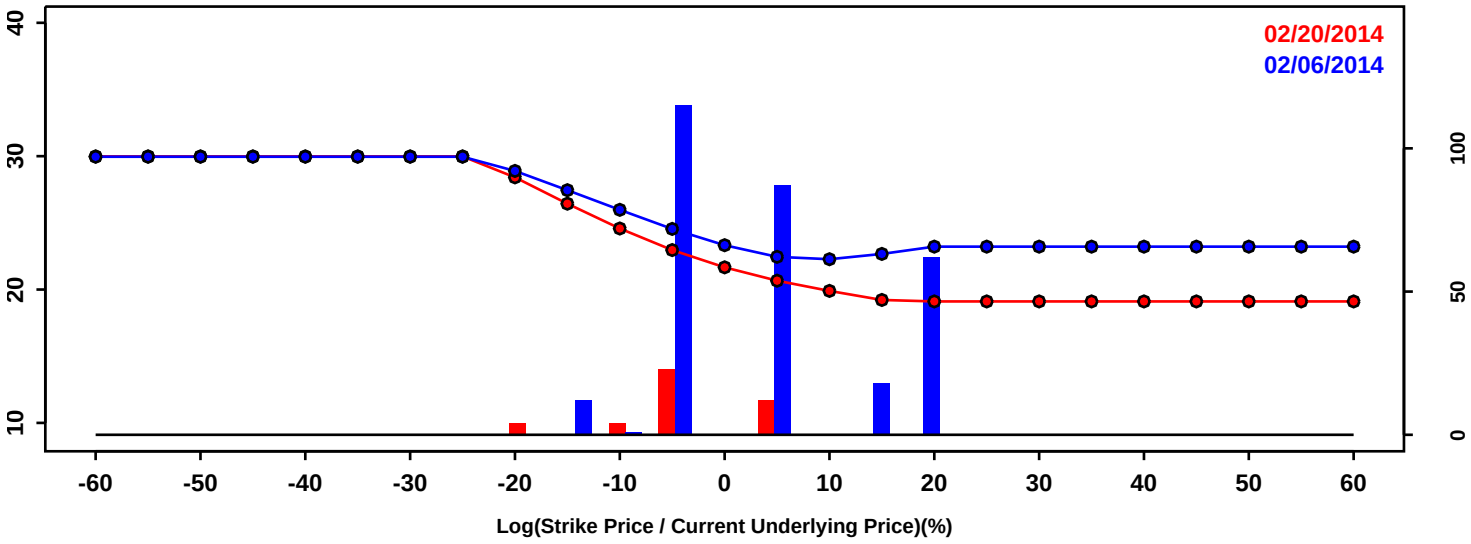
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-15.20%	-12.67%	2.53%
50th Pct	1.58%	0.77%	-0.81%
90th Pct	12.00%	10.89%	-1.11%
Mean	-0.13%	-0.10%	0.02%
Std Dev	10.95%	9.80%	-1.15%
Skew	-0.79	-0.60	0.19
Kurtosis	0.99	1.36	0.37

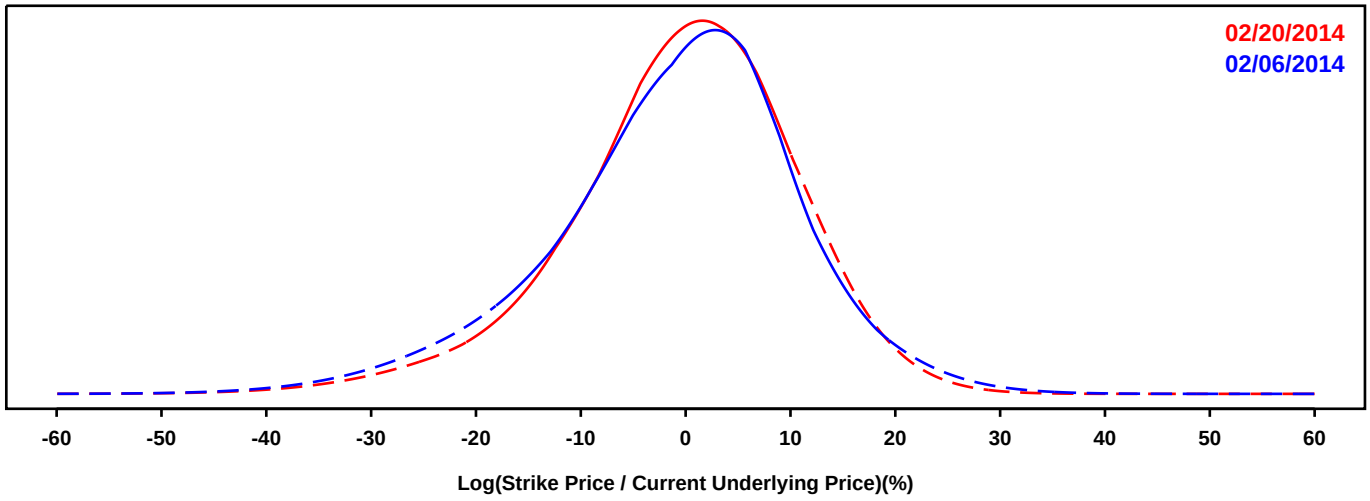
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- STATE STREET

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

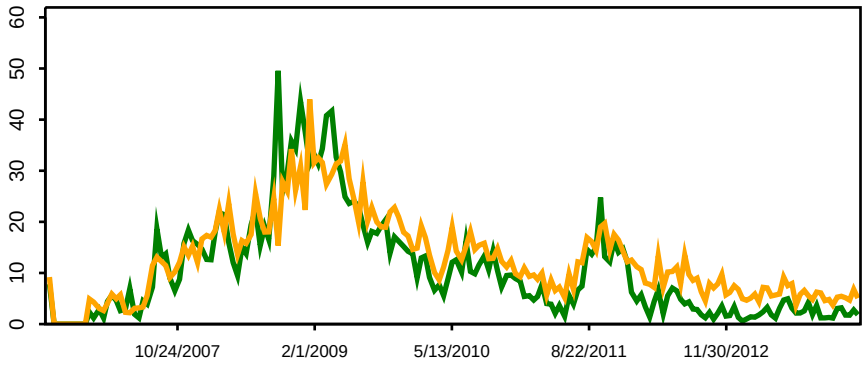
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



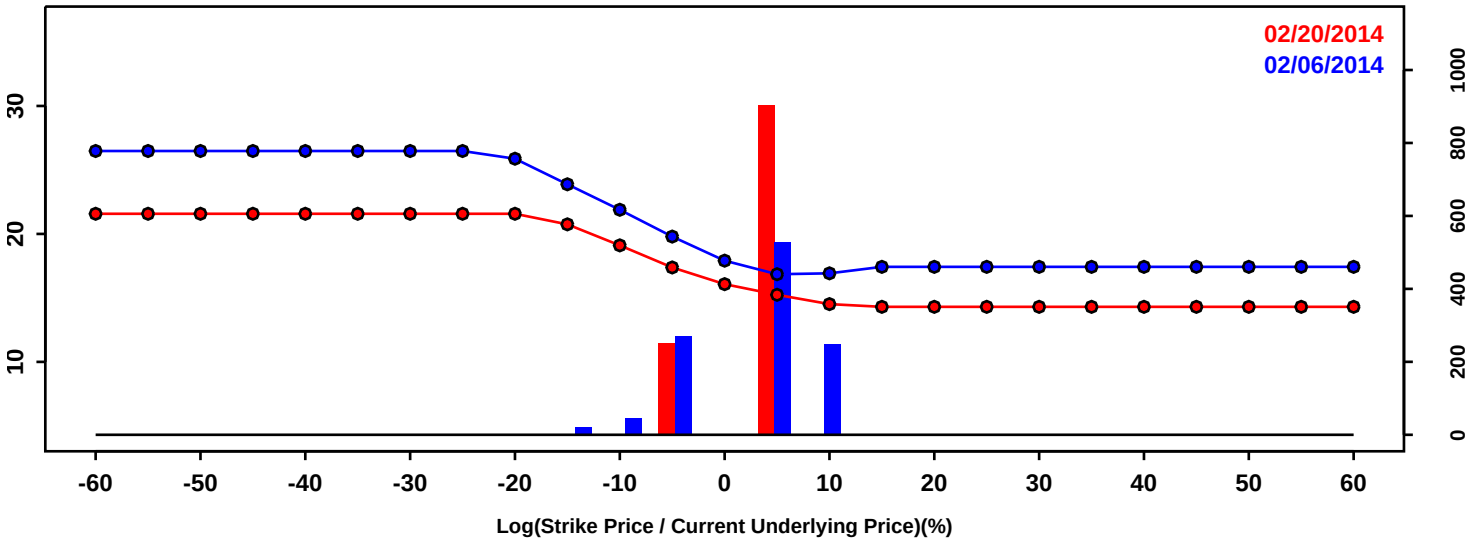
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-16.58%	-14.45%	2.13%
50th Pct	0.17%	0.46%	0.29%
90th Pct	12.71%	12.61%	-0.10%
Mean	-0.95%	-0.39%	0.56%
Std Dev	11.85%	10.99%	-0.87%
Skew	-0.48	-0.56	-0.09
Kurtosis	0.74	0.87	0.13

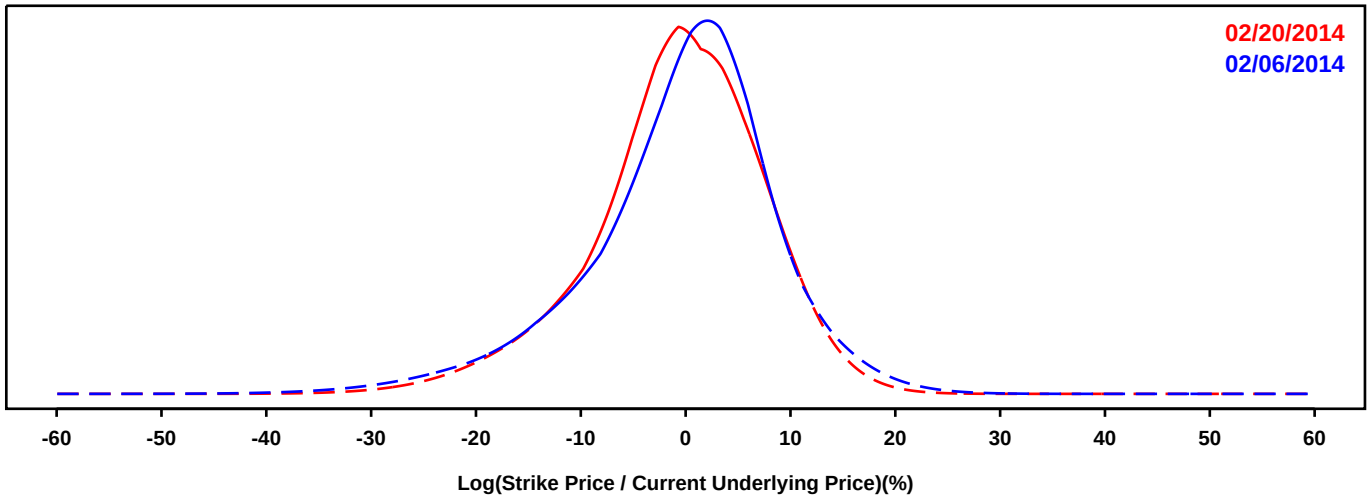
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- US BANCORP

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

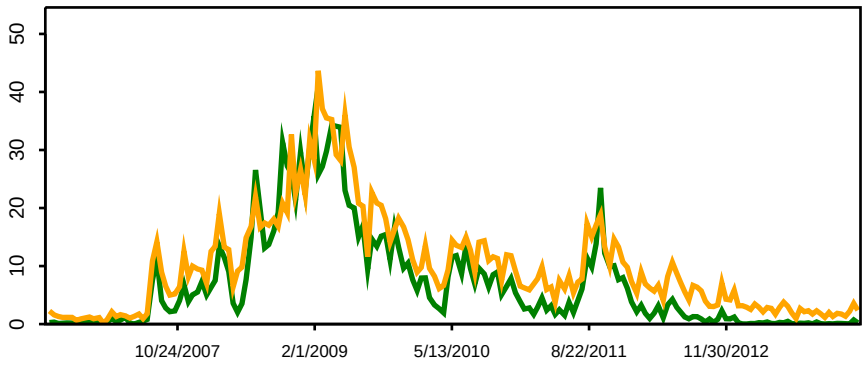
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



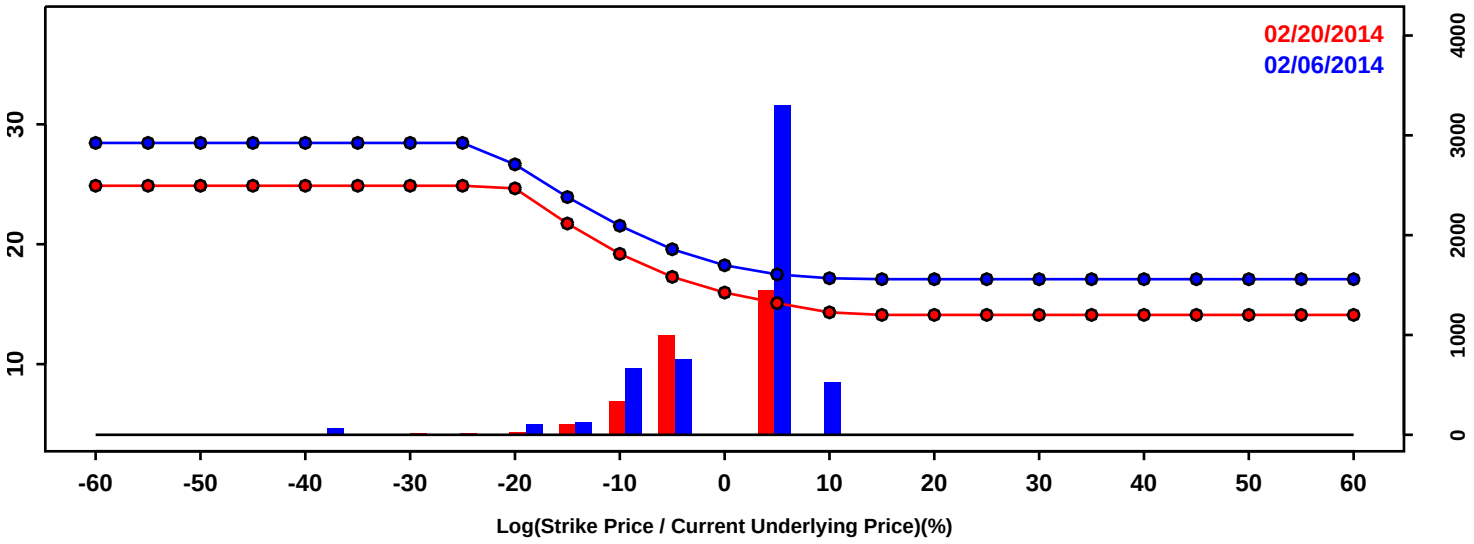
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-12.50%	-11.59%	0.91%
50th Pct	0.65%	-0.15%	-0.80%
90th Pct	9.74%	9.08%	-0.67%
Mean	-0.44%	-0.74%	-0.29%
Std Dev	9.19%	8.28%	-0.90%
Skew	-0.71	-0.55	0.16
Kurtosis	1.38	0.77	-0.61

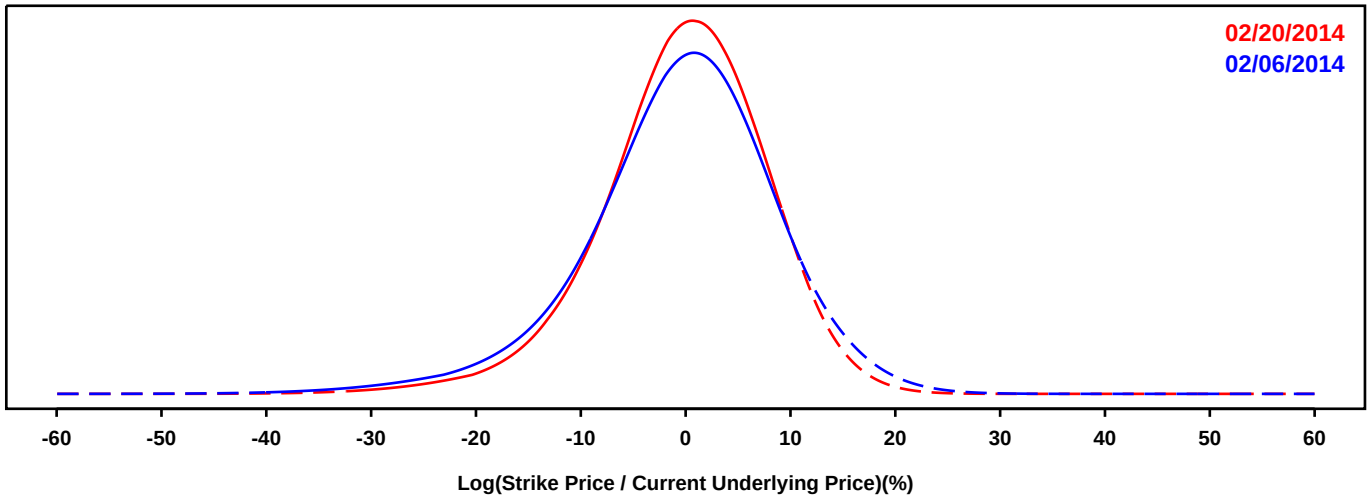
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- WELLS FARGO

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

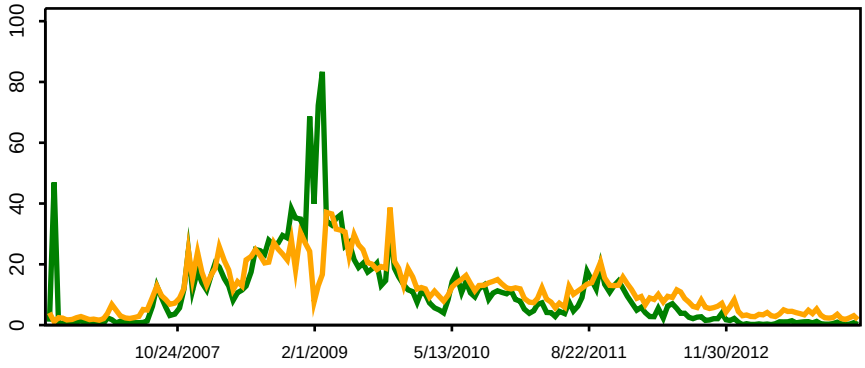
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

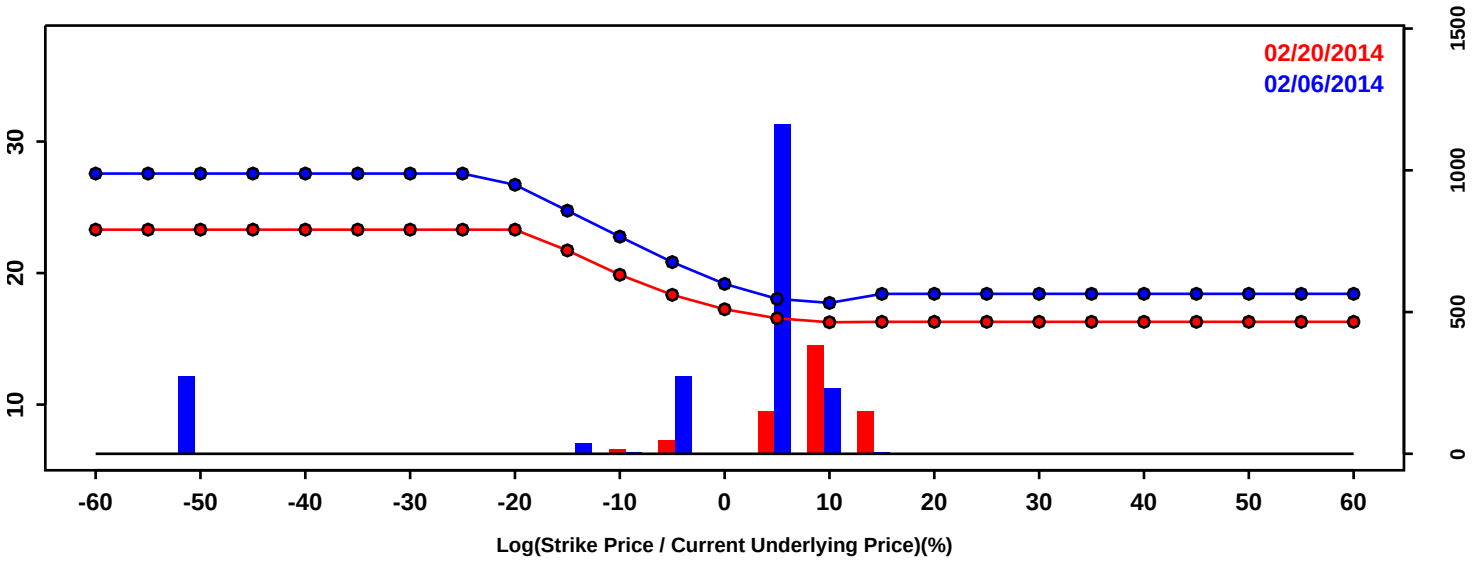
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-11.89%	-10.31%	1.58%
50th Pct	0.15%	0.28%	0.13%
90th Pct	10.38%	9.36%	-1.02%
Mean	-0.45%	-0.21%	0.24%
Std Dev	9.24%	8.03%	-1.21%
Skew	-0.59	-0.57	0.03
Kurtosis	1.34	1.13	-0.21

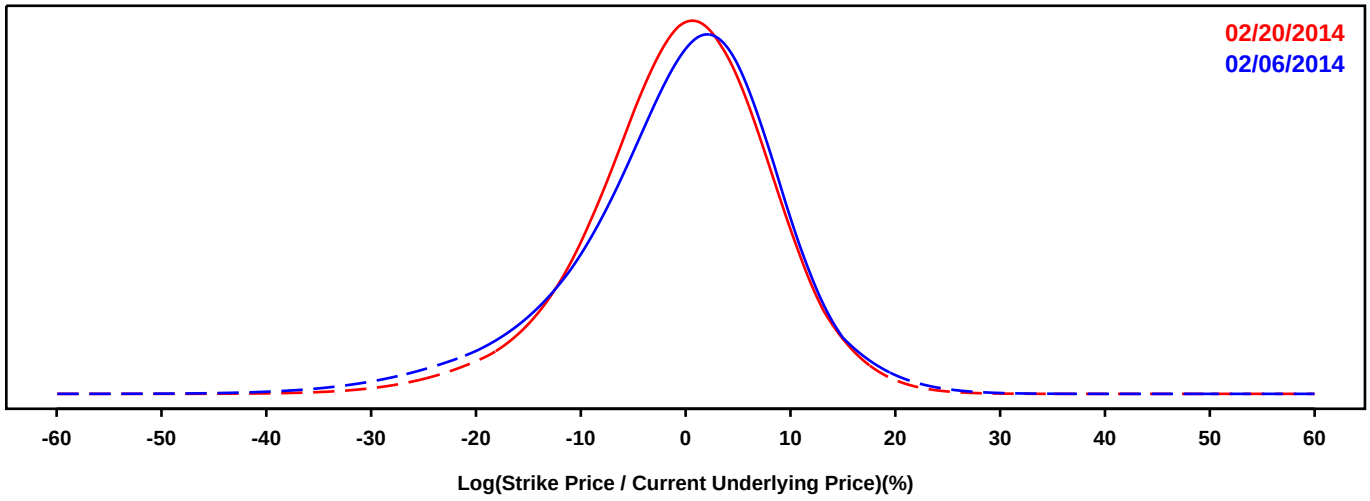
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- AFLAC

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

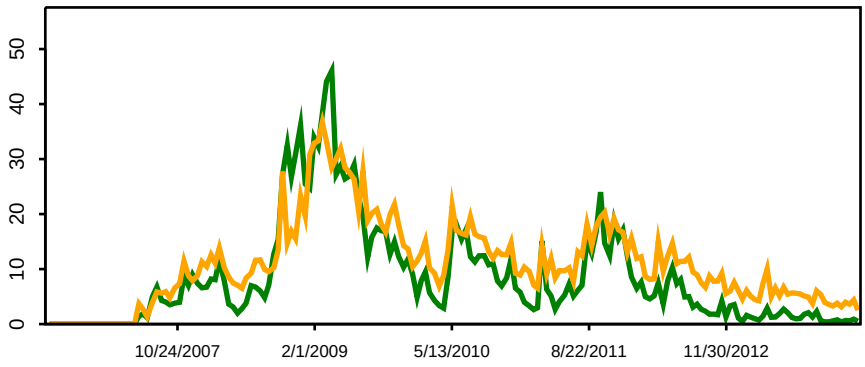
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

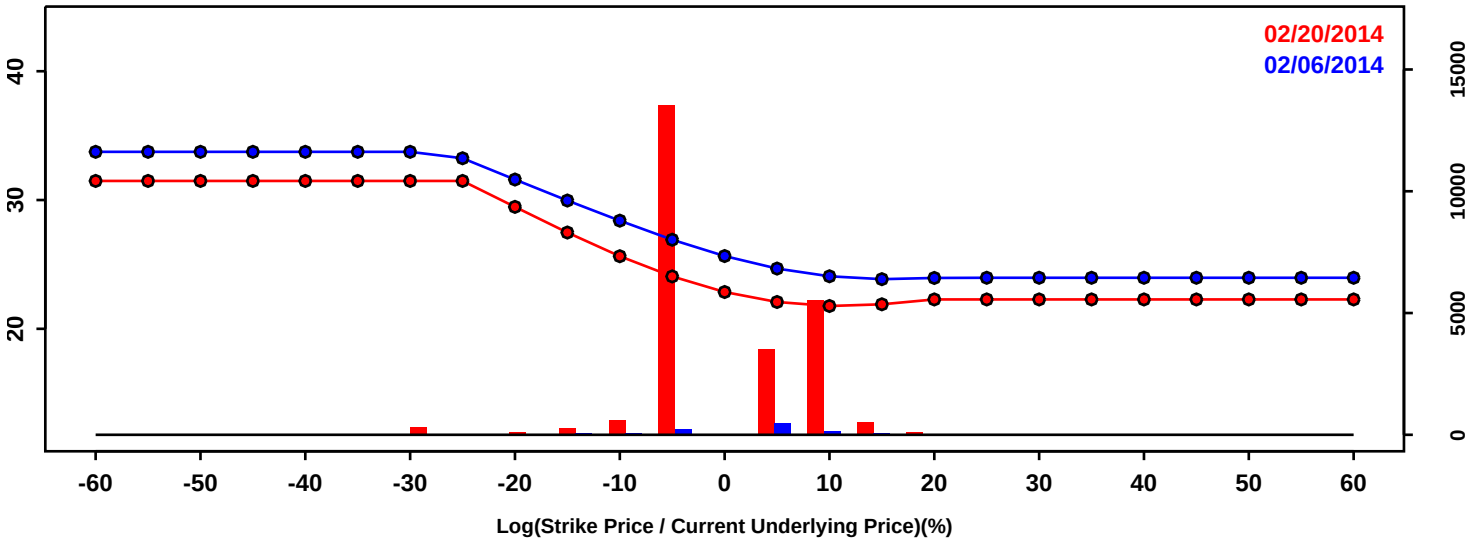
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-13.55%	-11.65%	1.90%
50th Pct	0.38%	-0.04%	-0.42%
90th Pct	10.24%	9.76%	-0.48%
Mean	-0.75%	-0.56%	0.18%
Std Dev	9.82%	8.70%	-1.13%
Skew	-0.70	-0.46	0.24
Kurtosis	1.20	0.78	-0.42

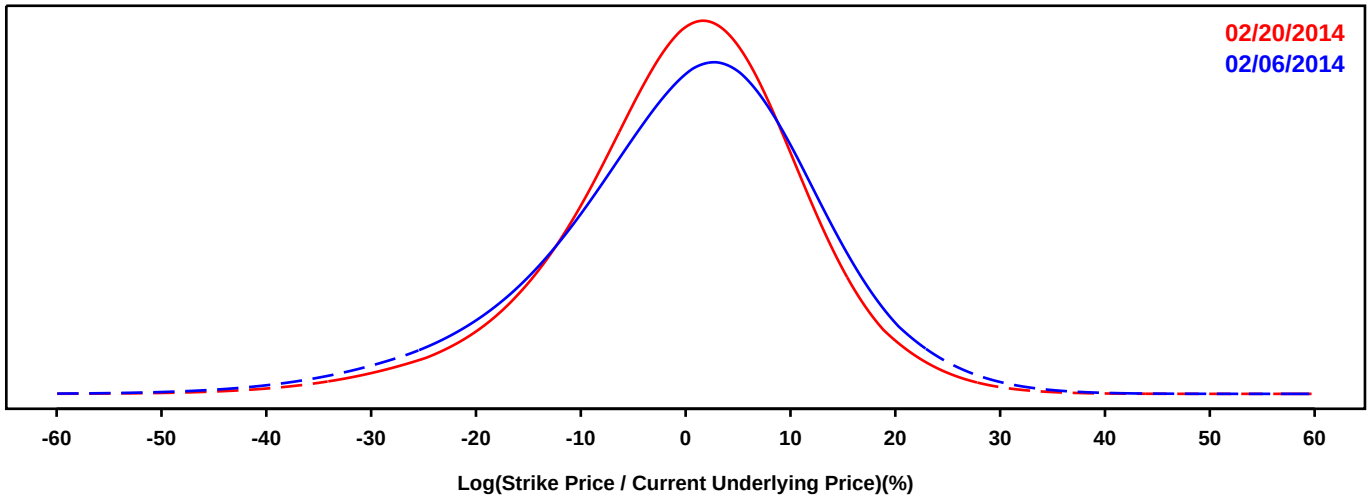
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- AIG

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

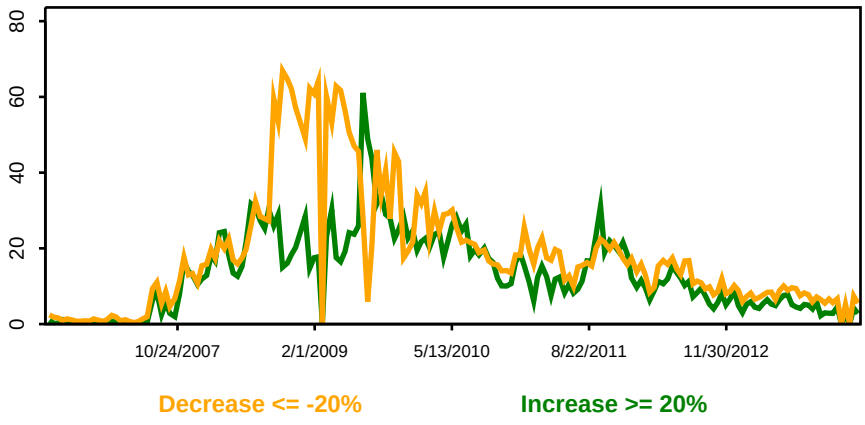
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



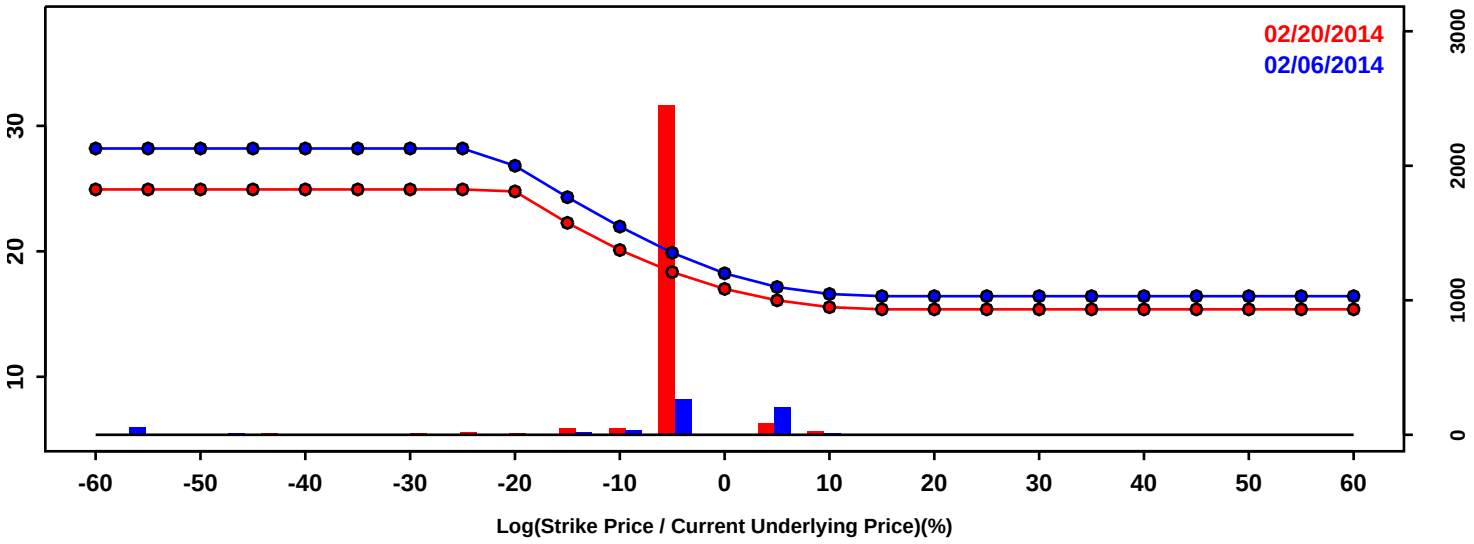
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-17.10%	-14.97%	2.12%
50th Pct	0.89%	0.50%	-0.39%
90th Pct	14.90%	13.17%	-1.73%
Mean	-0.22%	-0.31%	-0.09%
Std Dev	12.93%	11.52%	-1.41%
Skew	-0.51	-0.50	0.01
Kurtosis	0.76	0.94	0.18

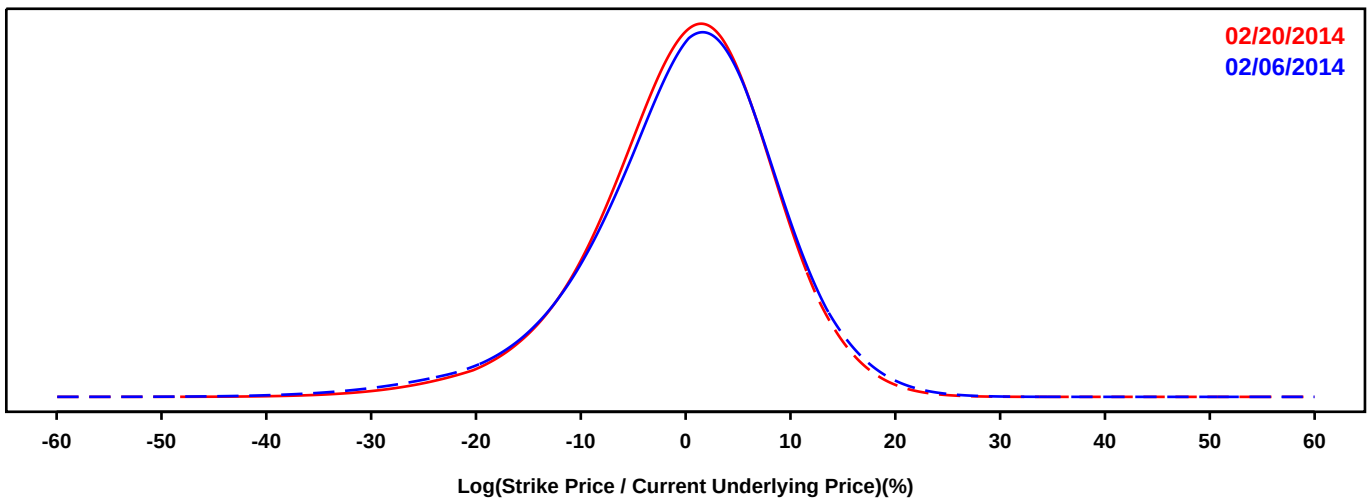
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- ALLSTATE

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

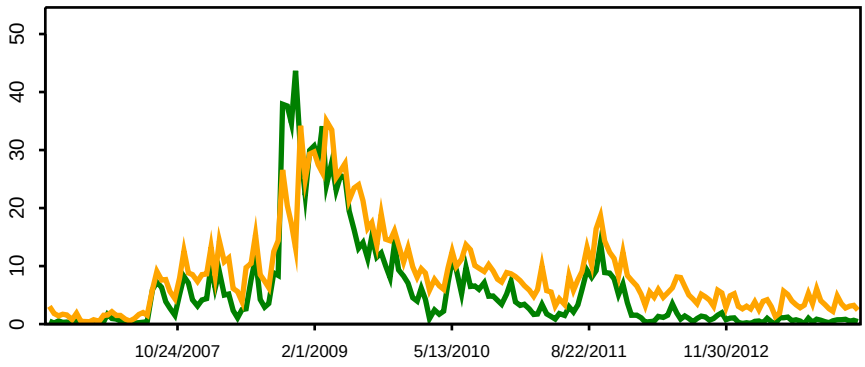
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

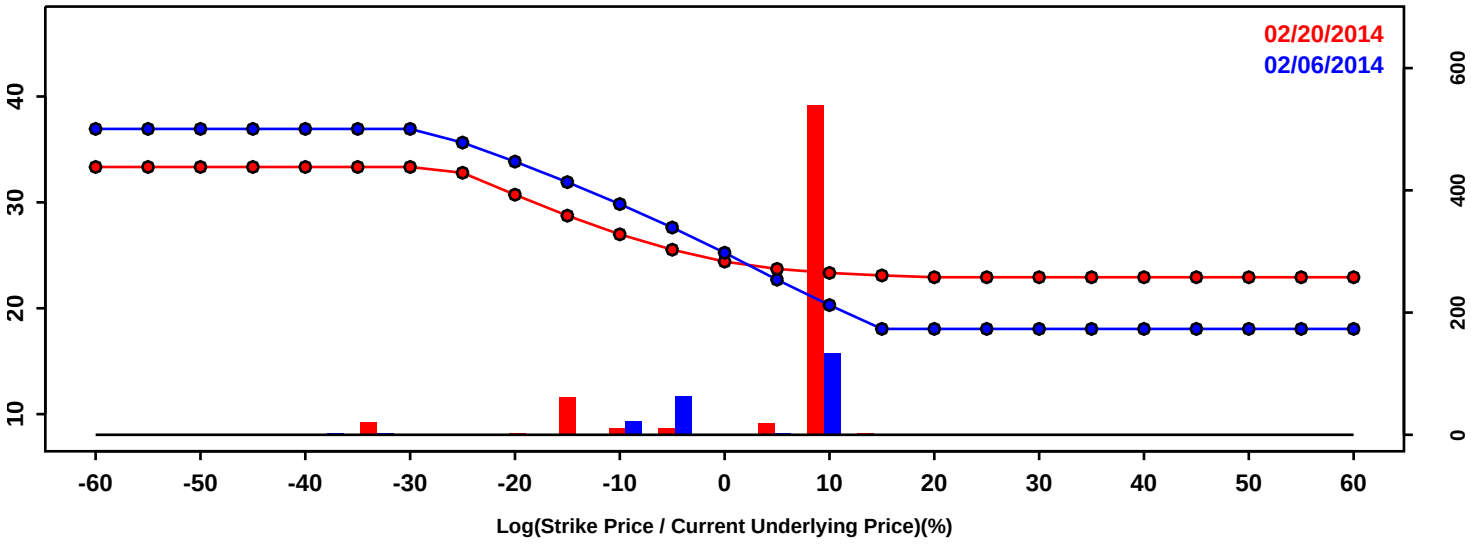
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-11.83%	-11.15%	0.68%
50th Pct	0.60%	0.44%	-0.15%
90th Pct	10.38%	9.92%	-0.45%
Mean	-0.22%	-0.20%	0.02%
Std Dev	9.22%	8.61%	-0.61%
Skew	-0.70	-0.57	0.13
Kurtosis	1.42	1.02	-0.40

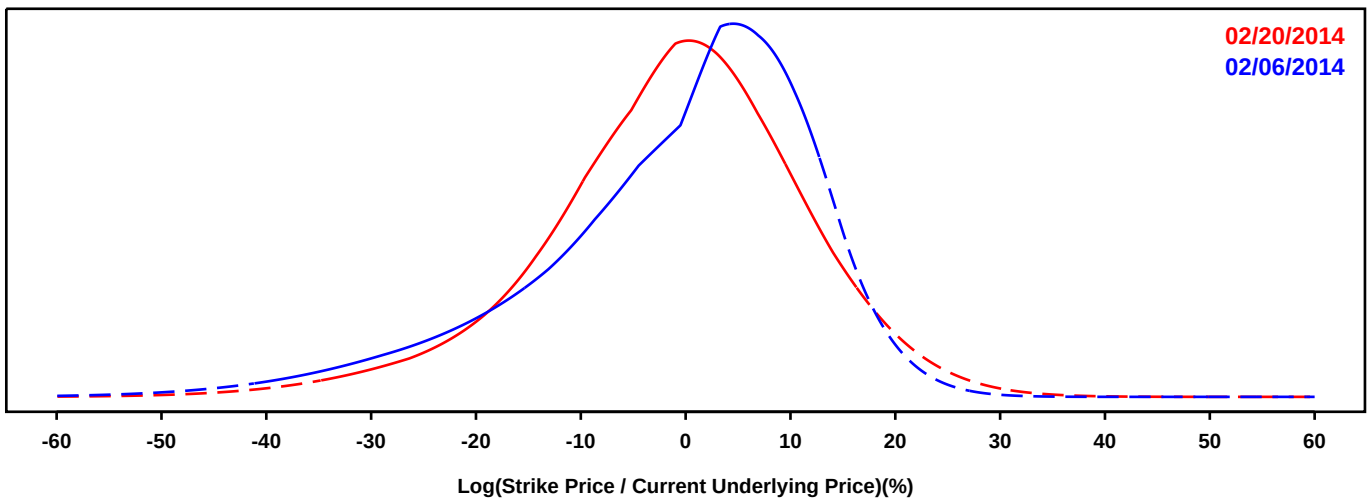
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- AMERIPRISE

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

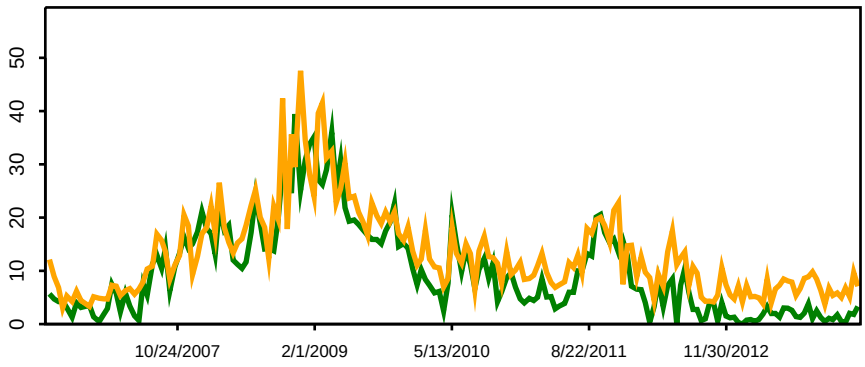
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

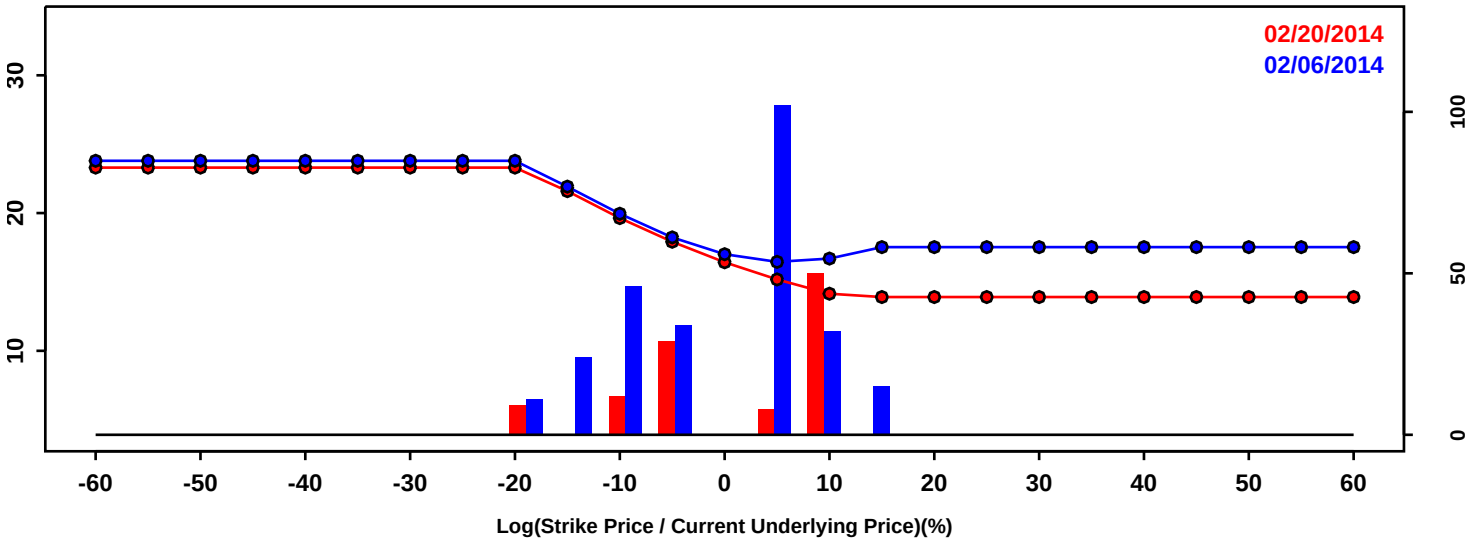
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-19.64%	-16.86%	2.78%
50th Pct	1.74%	-0.31%	-2.04%
90th Pct	13.47%	13.71%	0.23%
Mean	-0.97%	-1.12%	-0.15%
Std Dev	13.46%	12.44%	-1.02%
Skew	-0.98	-0.48	0.50
Kurtosis	1.19	0.86	-0.33

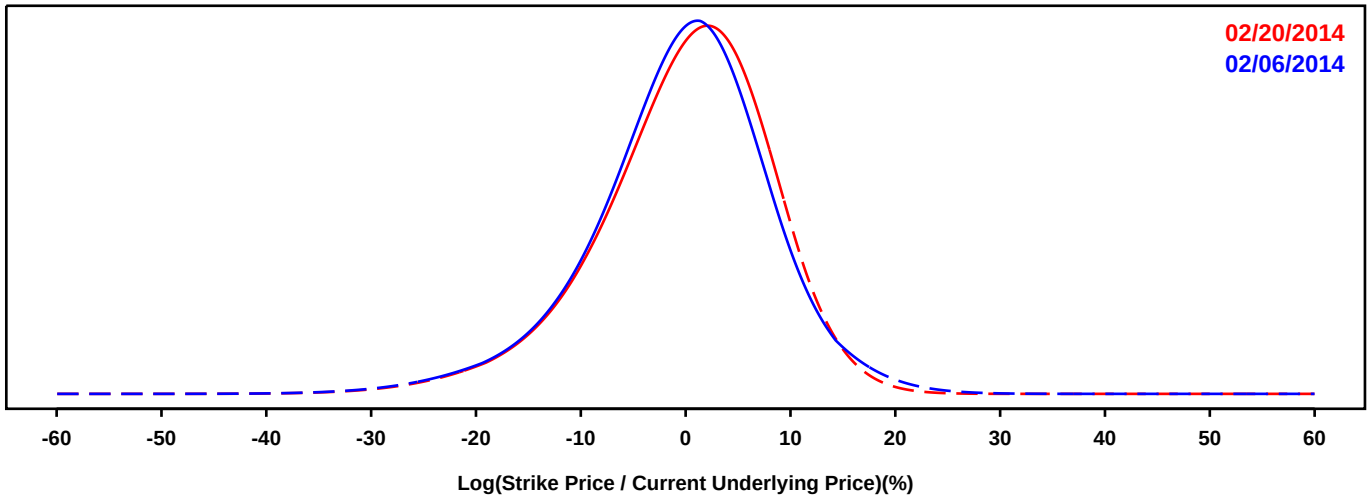
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CHUBB

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

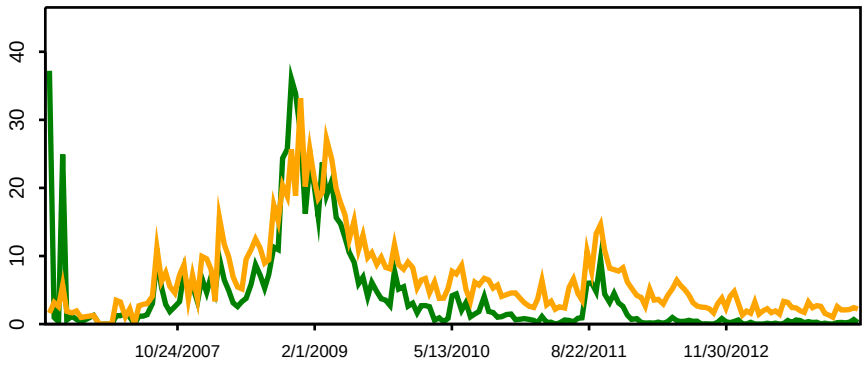
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

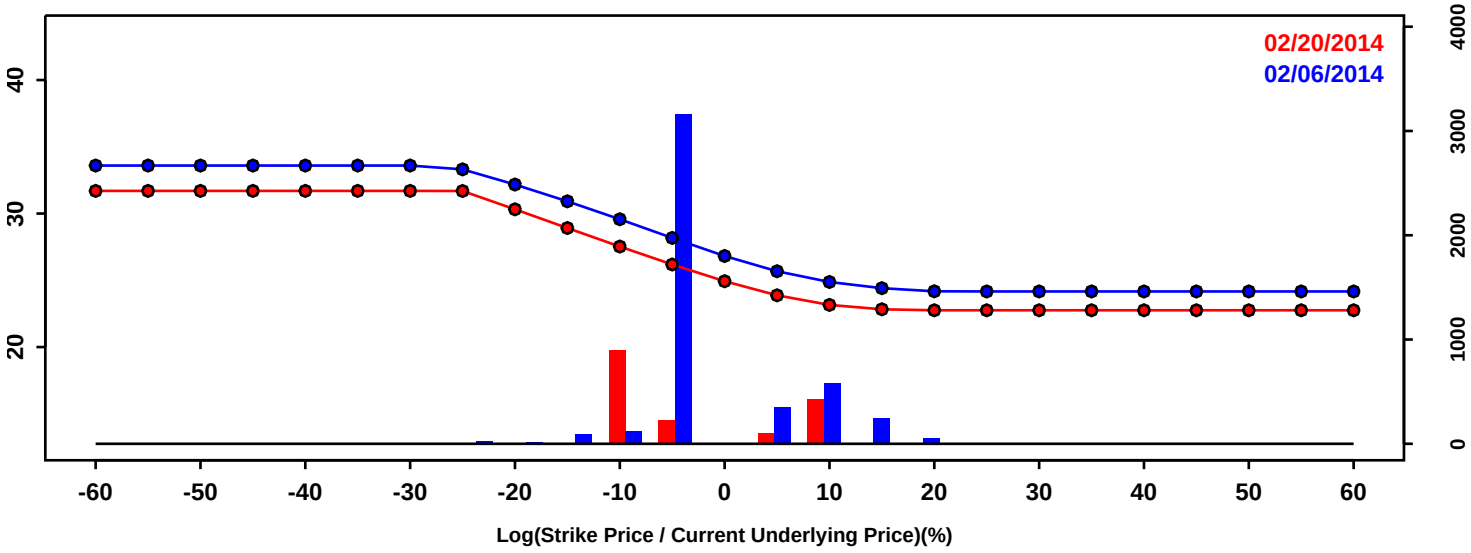
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-11.23%	-10.97%	0.26%
50th Pct	0.15%	0.66%	0.51%
90th Pct	9.52%	9.57%	0.05%
Mean	-0.43%	-0.14%	0.29%
Std Dev	8.56%	8.32%	-0.24%
Skew	-0.47	-0.64	-0.17
Kurtosis	1.04	0.91	-0.13

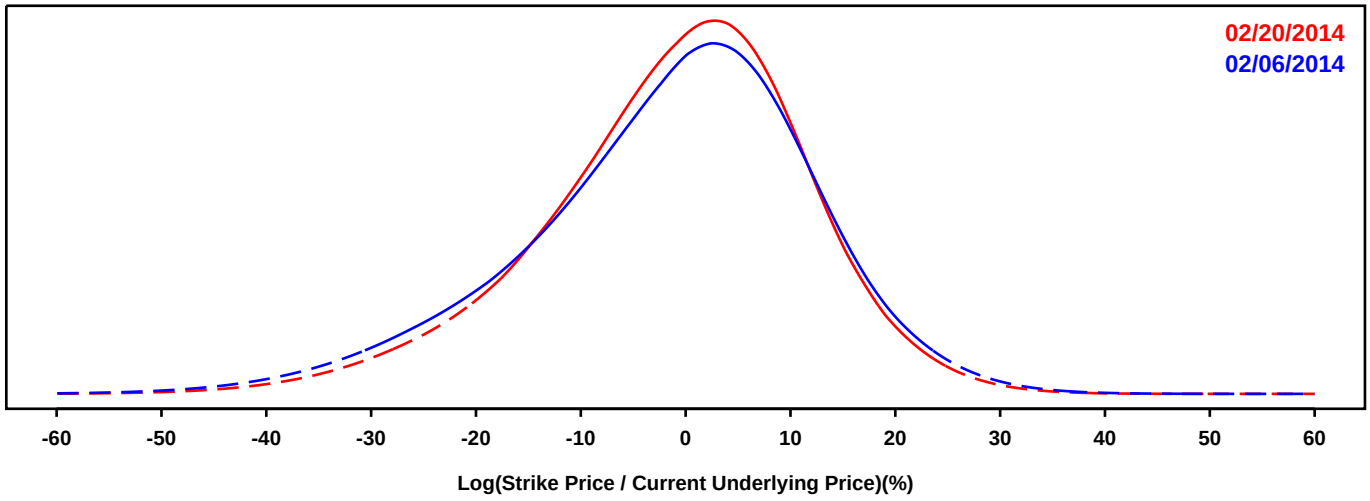
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- HARTFORD FINANCIAL

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

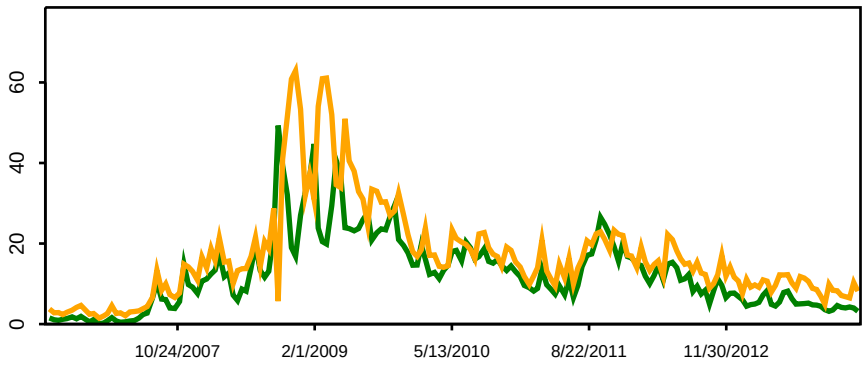
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

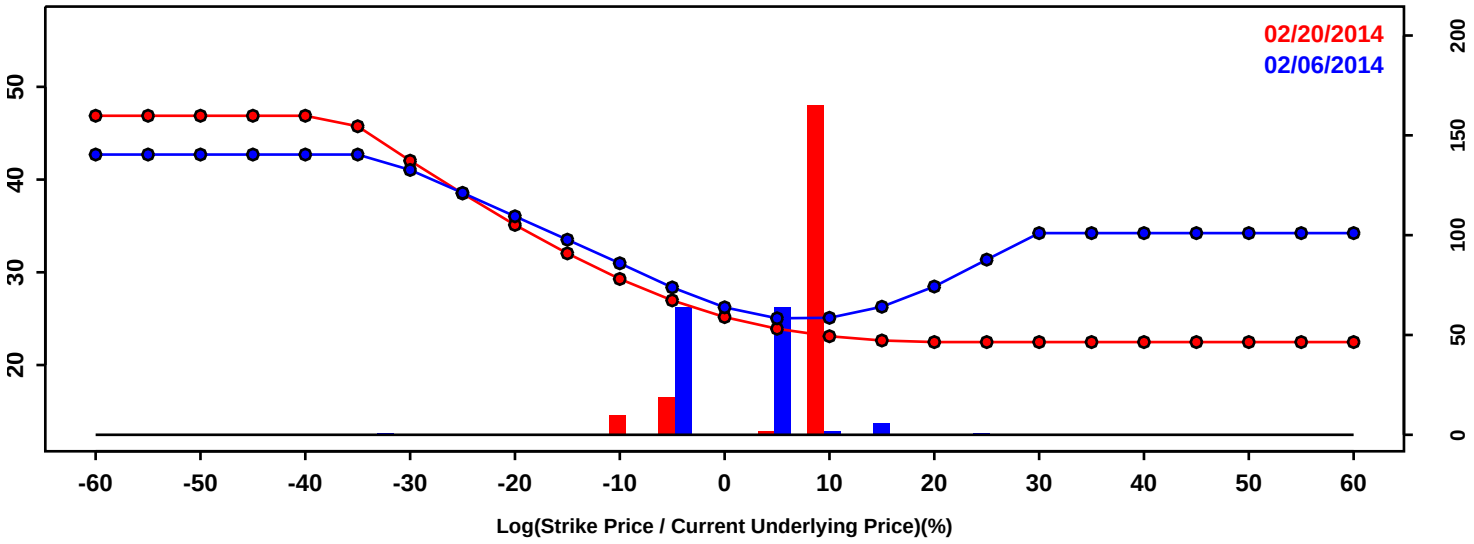
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-20.34%	-18.14%	2.20%
50th Pct	-0.04%	0.08%	0.11%
90th Pct	14.55%	13.71%	-0.84%
Mean	-1.56%	-1.17%	0.39%
Std Dev	13.86%	12.75%	-1.11%
Skew	-0.53	-0.51	0.02
Kurtosis	0.50	0.57	0.07

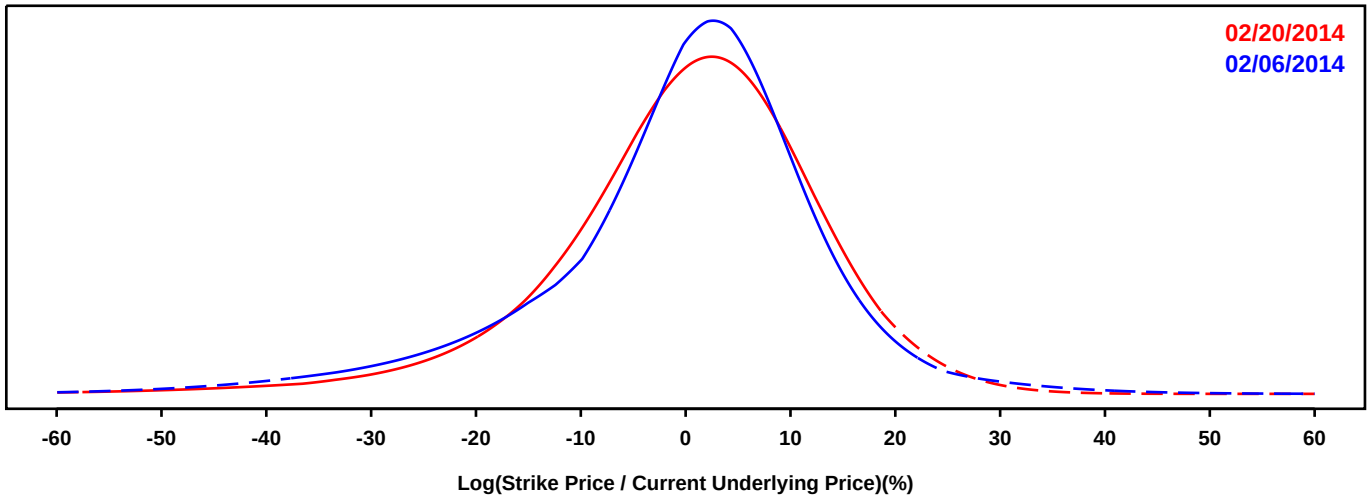
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- LINCOLN NATIONAL

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

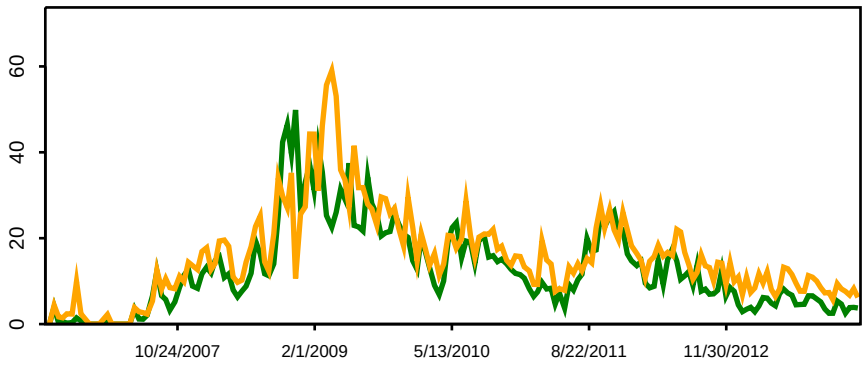
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



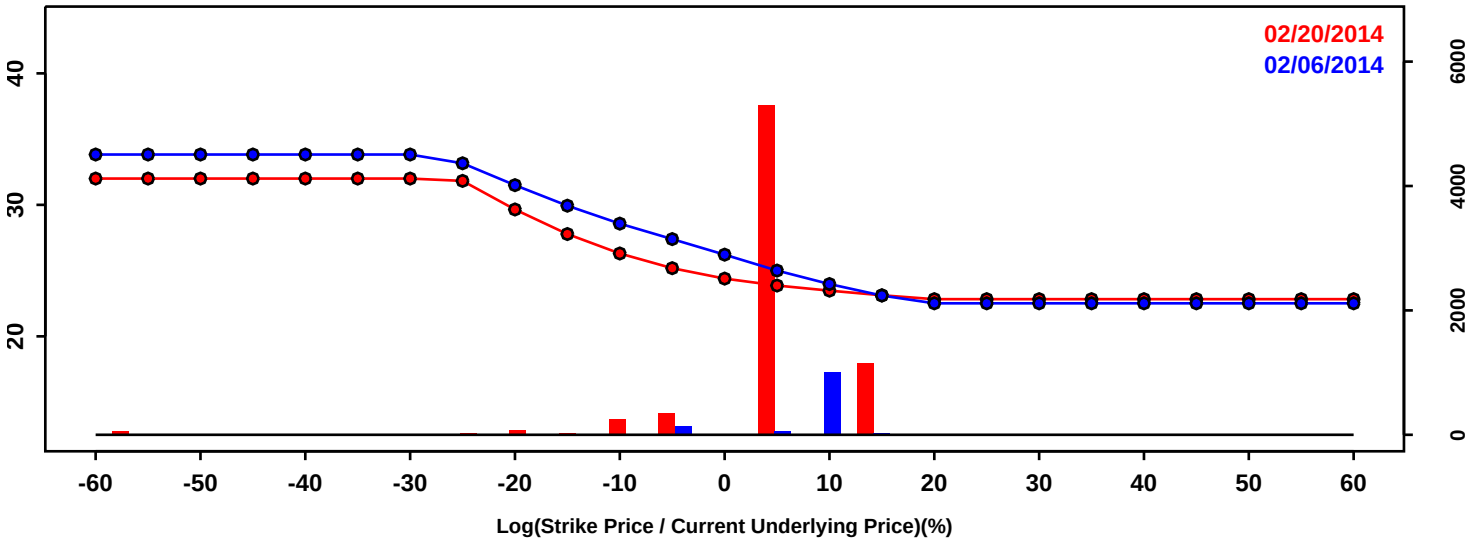
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-17.62%	-15.33%	2.29%
50th Pct	1.29%	1.27%	-0.02%
90th Pct	13.94%	14.63%	0.69%
Mean	-0.35%	0.16%	0.51%
Std Dev	13.63%	12.74%	-0.89%
Skew	-0.80	-0.87	-0.07
Kurtosis	2.28	2.34	0.07

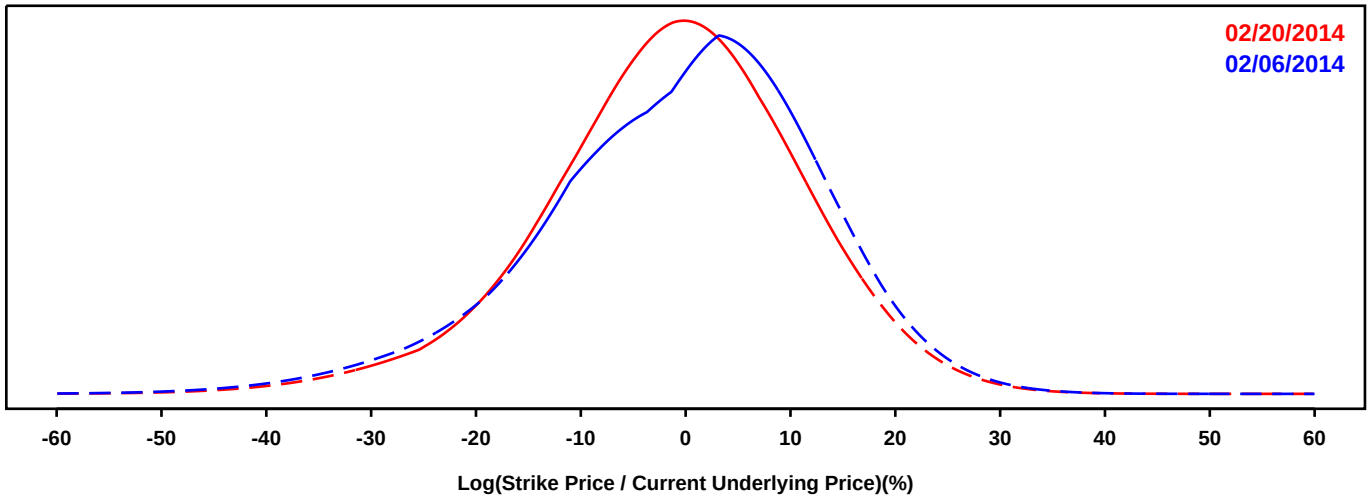
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- METLIFE

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

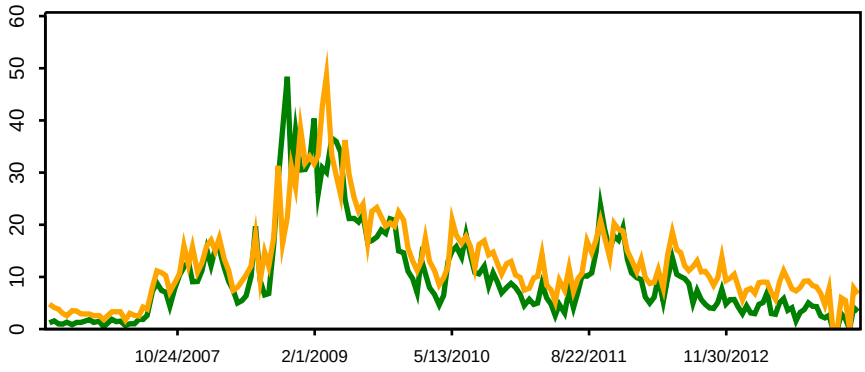
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



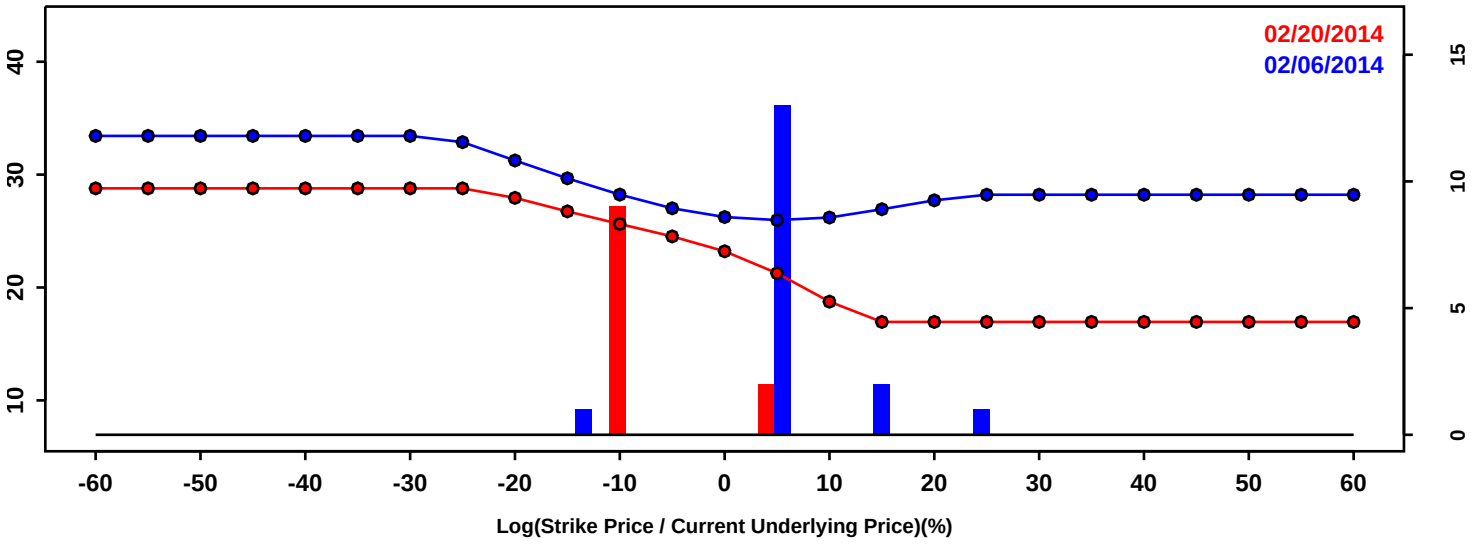
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-17.68%	-16.82%	0.86%
50th Pct	0.79%	-0.70%	-1.49%
90th Pct	15.16%	13.87%	-1.29%
Mean	-0.49%	-1.22%	-0.73%
Std Dev	13.21%	12.34%	-0.87%
Skew	-0.51	-0.36	0.14
Kurtosis	0.54	0.61	0.07

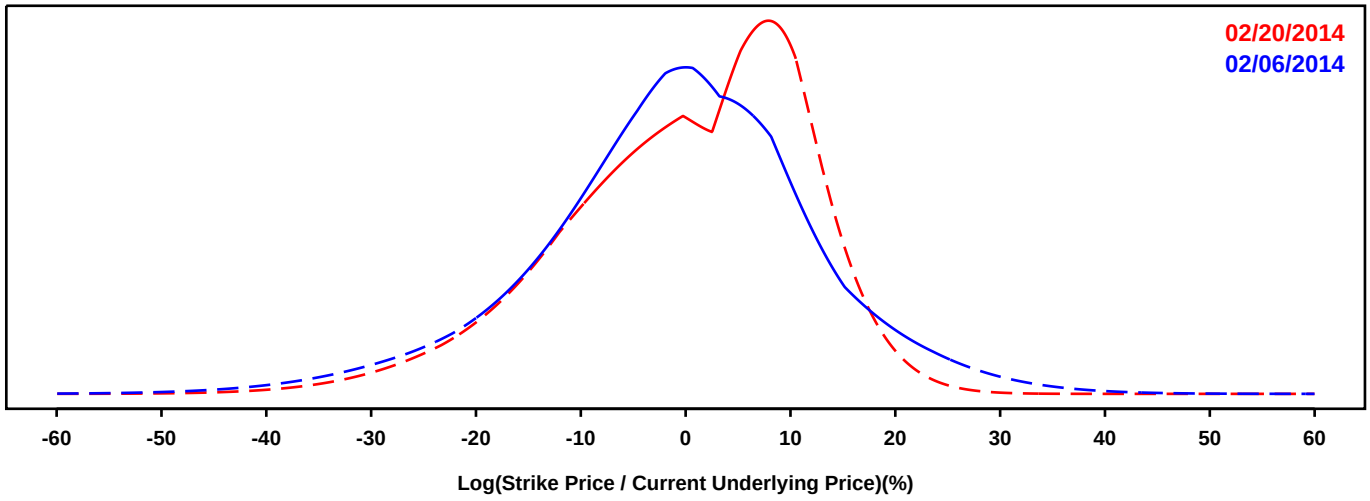
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- PRINCIPAL FINANCIAL

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

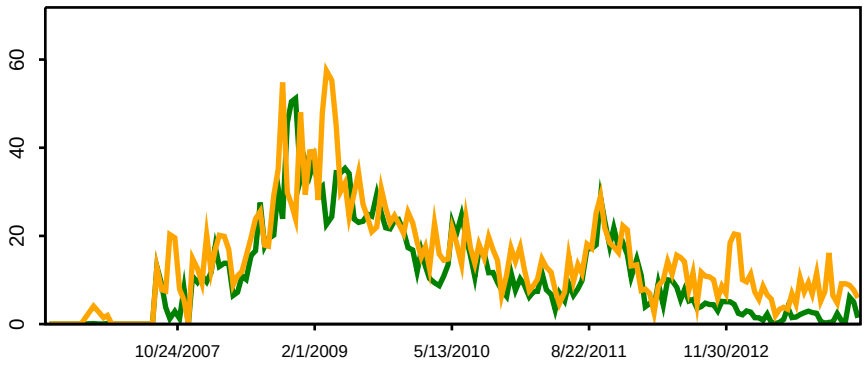
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

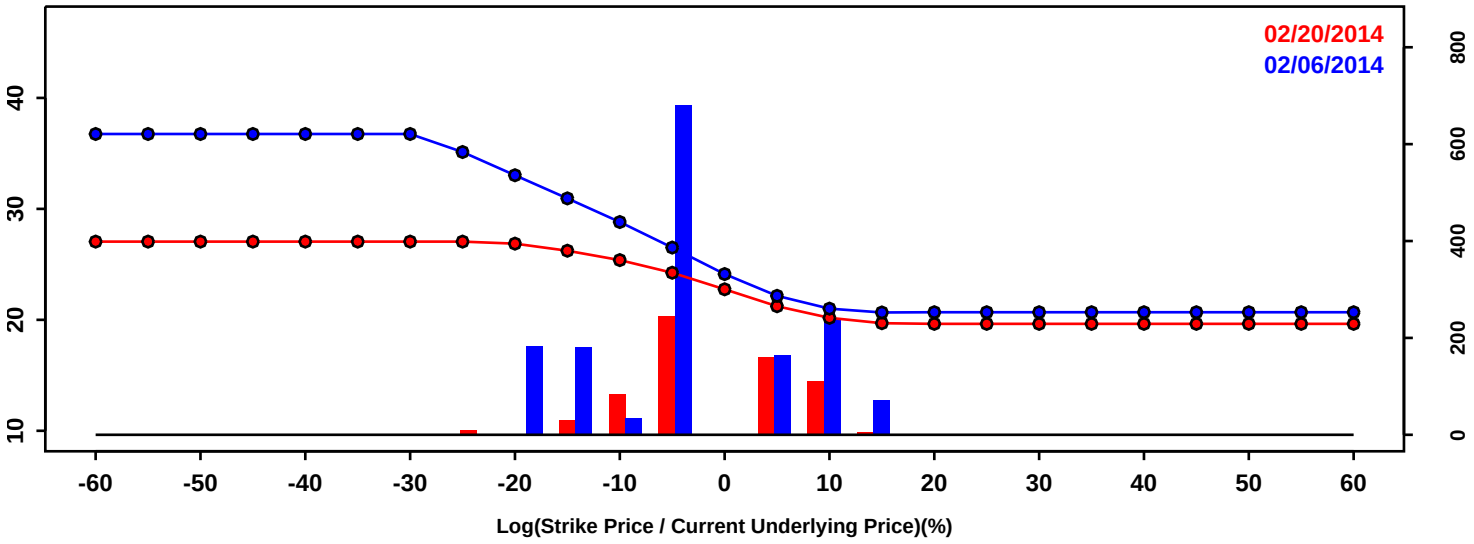
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-17.56%	-15.84%	1.73%
50th Pct	-0.35%	1.65%	2.00%
90th Pct	14.68%	13.15%	-1.54%
Mean	-0.89%	-0.02%	0.87%
Std Dev	13.20%	11.61%	-1.59%
Skew	-0.28	-0.64	-0.36
Kurtosis	0.83	0.31	-0.52

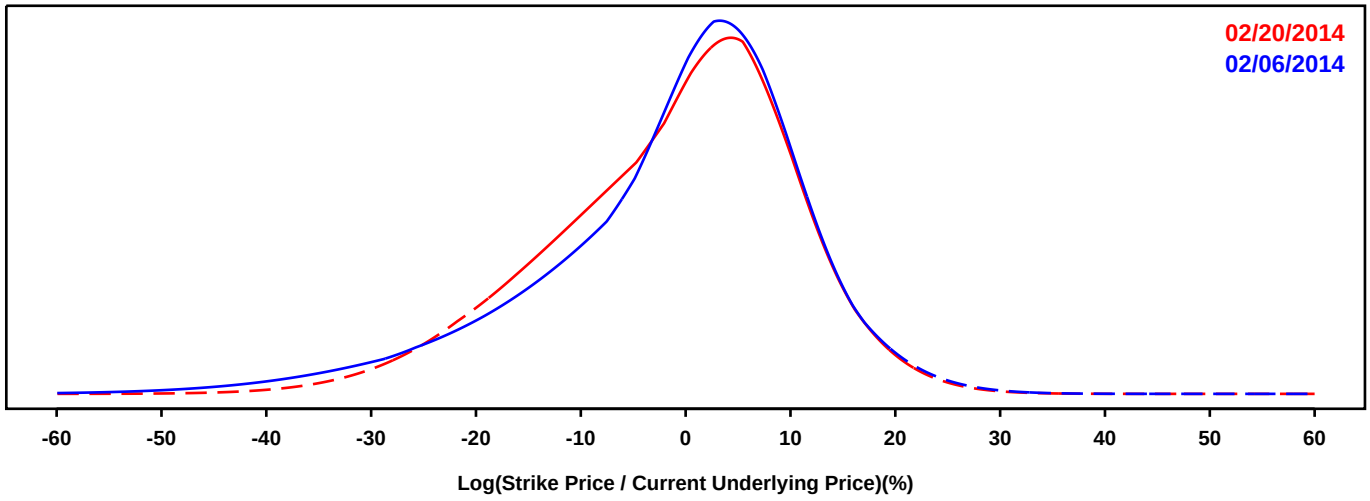
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- PRUDENTIAL

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

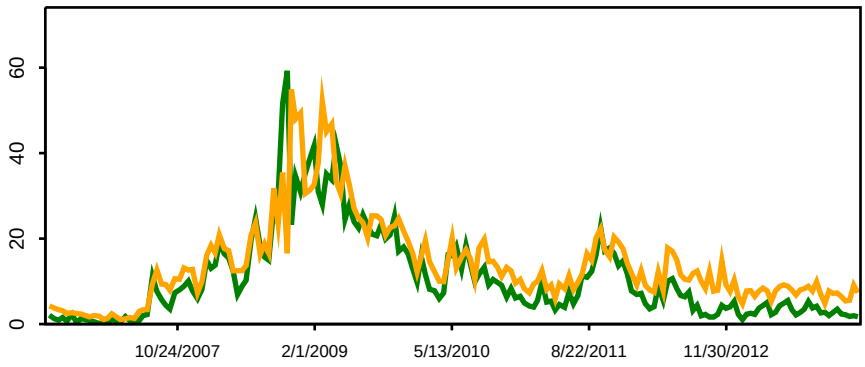
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

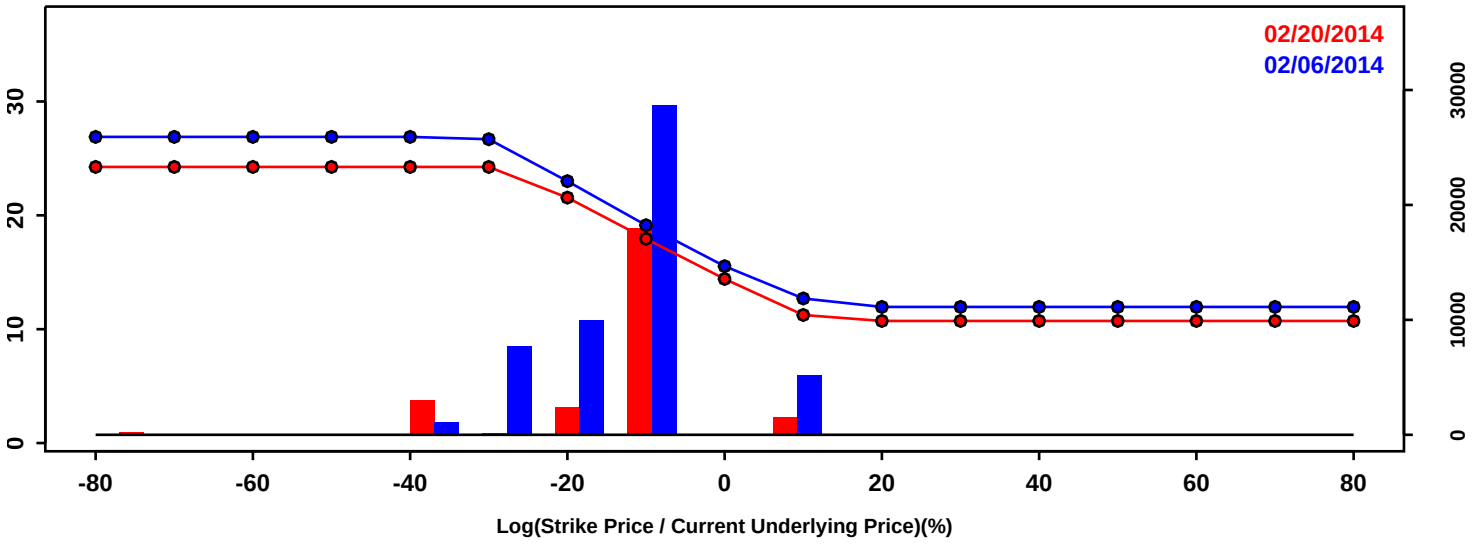
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-18.95%	-17.57%	1.38%
50th Pct	0.95%	0.42%	-0.52%
90th Pct	12.32%	12.11%	-0.21%
Mean	-1.38%	-1.28%	0.10%
Std Dev	12.88%	11.70%	-1.18%
Skew	-0.94	-0.53	0.41
Kurtosis	1.41	0.25	-1.16

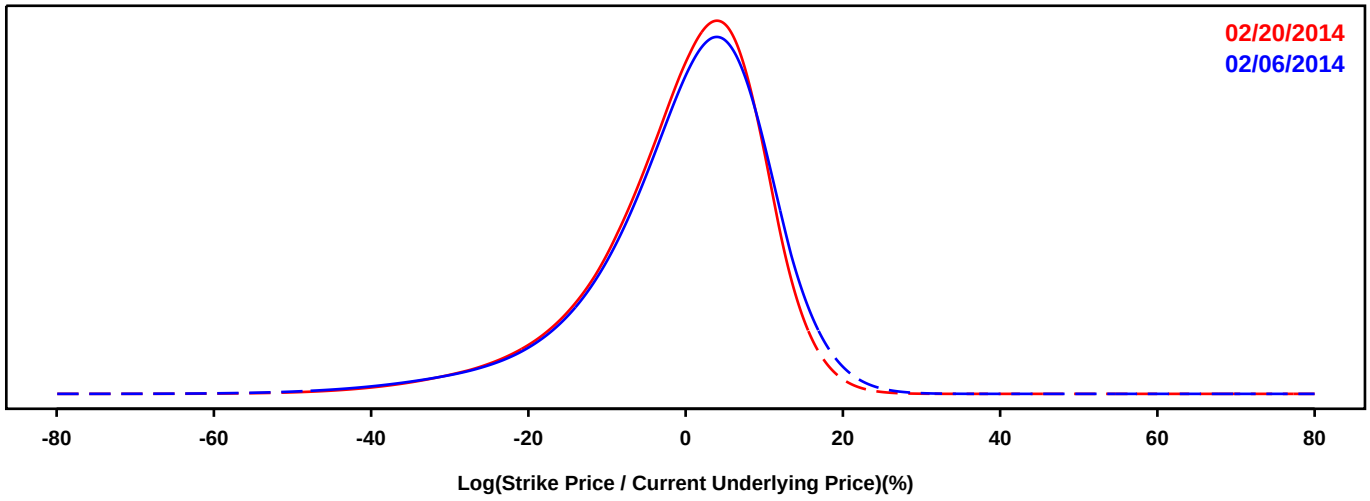
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- S&P 500

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

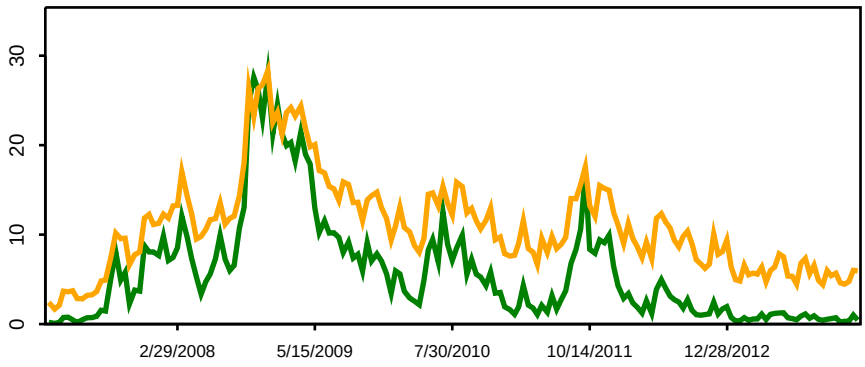
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

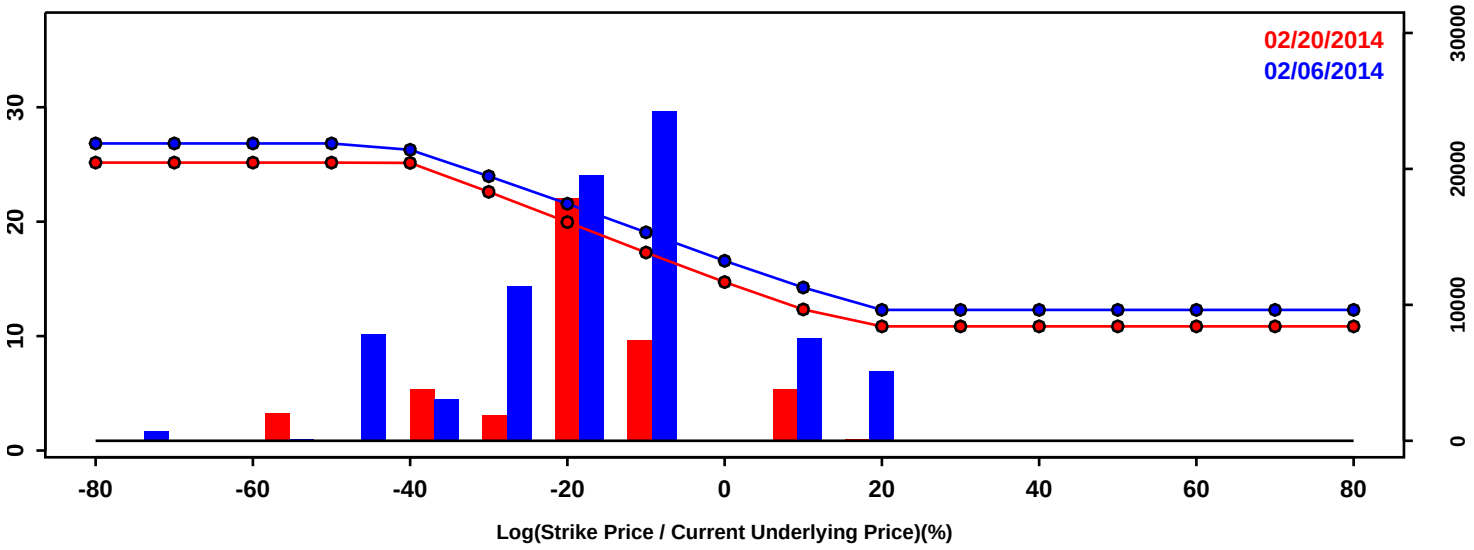
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-14.80%	-14.89%	-0.08%
50th Pct	1.49%	1.07%	-0.42%
90th Pct	11.92%	10.74%	-1.17%
Mean	-0.28%	-0.78%	-0.50%
Std Dev	11.40%	10.82%	-0.58%
Skew	-1.13	-1.12	0.02
Kurtosis	2.34	2.03	-0.31

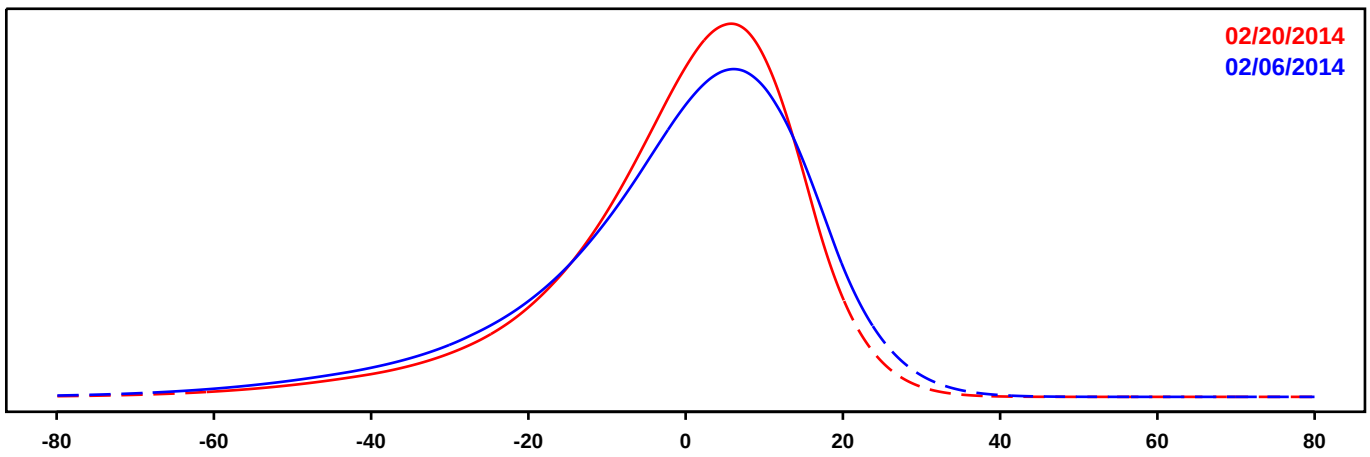
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- S&P 500

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%

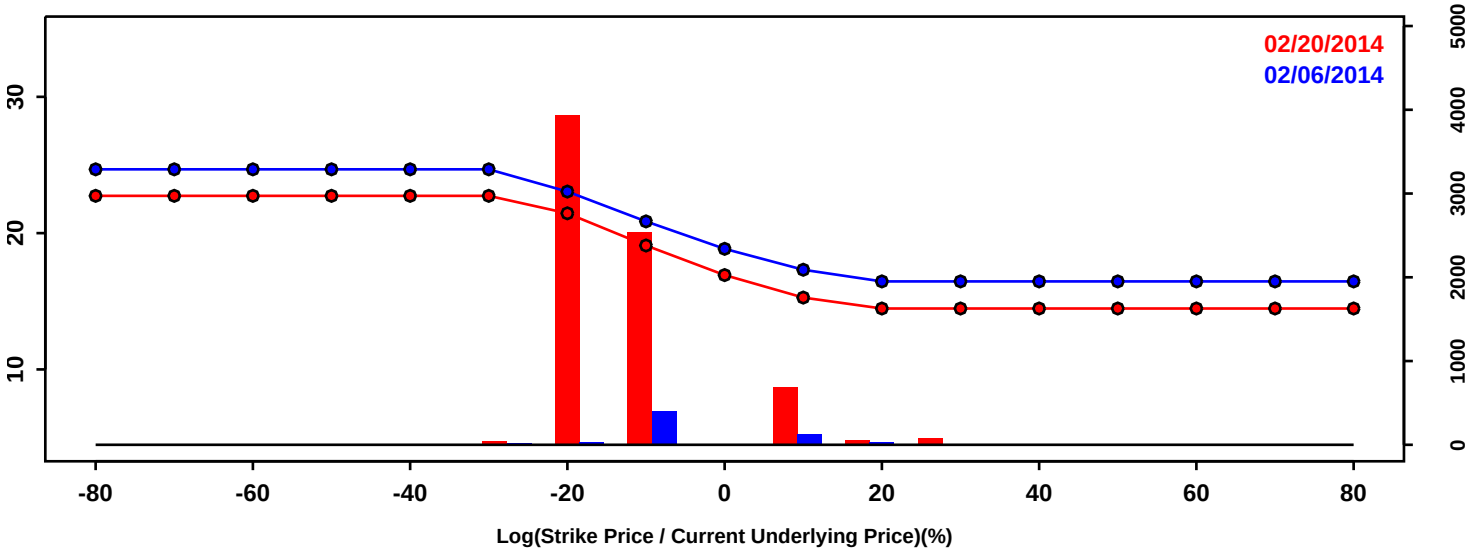
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-24.85%	-21.36%	3.49%
50th Pct	1.66%	1.66%	-0.01%
90th Pct	17.34%	15.38%	-1.96%
Mean	-1.45%	-1.09%	0.35%
Std Dev	17.62%	15.58%	-2.03%
Skew	-1.09	-1.16	-0.08
Kurtosis	1.82	2.20	0.39

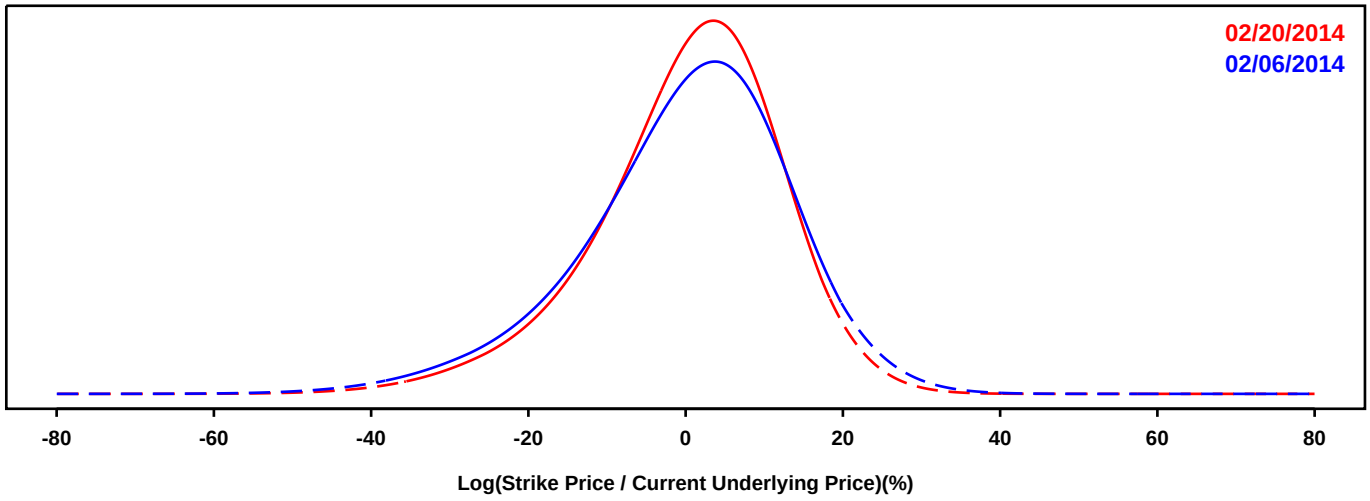
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CRUDE OIL FUTURES (WTI)

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%

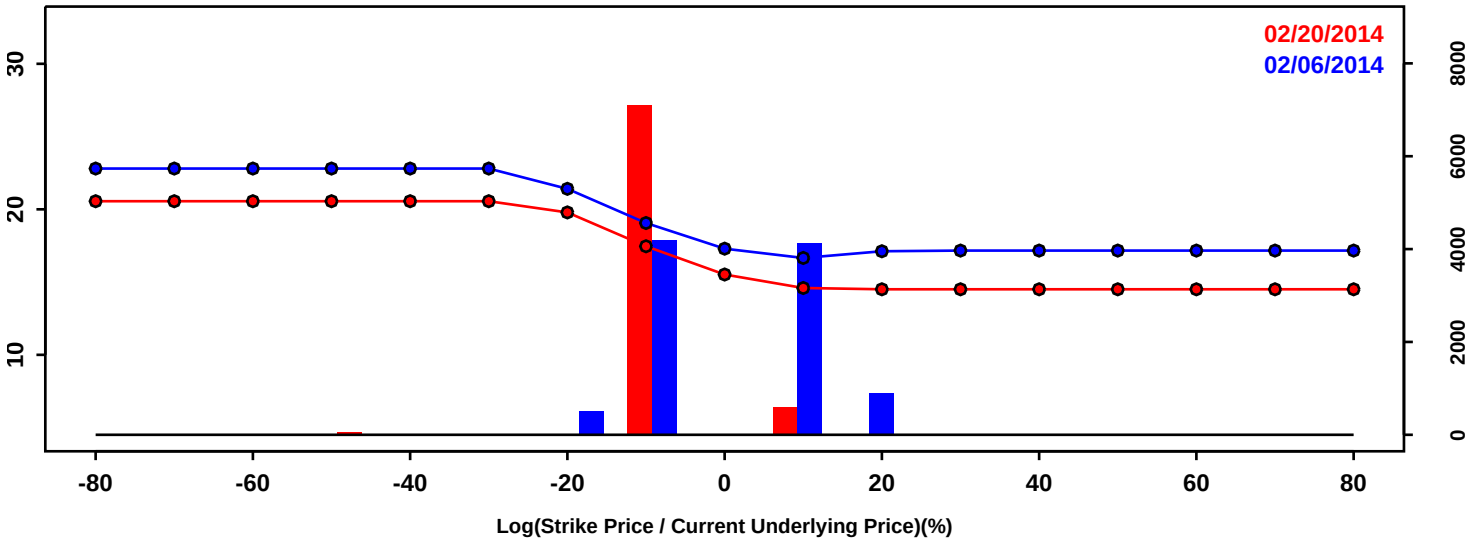
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-17.68%	-15.65%	2.03%
50th Pct	1.36%	1.49%	0.13%
90th Pct	15.73%	14.24%	-1.49%
Mean	0.04%	0.25%	0.21%
Std Dev	13.44%	12.05%	-1.39%
Skew	-0.56	-0.61	-0.05
Kurtosis	0.69	0.79	0.10

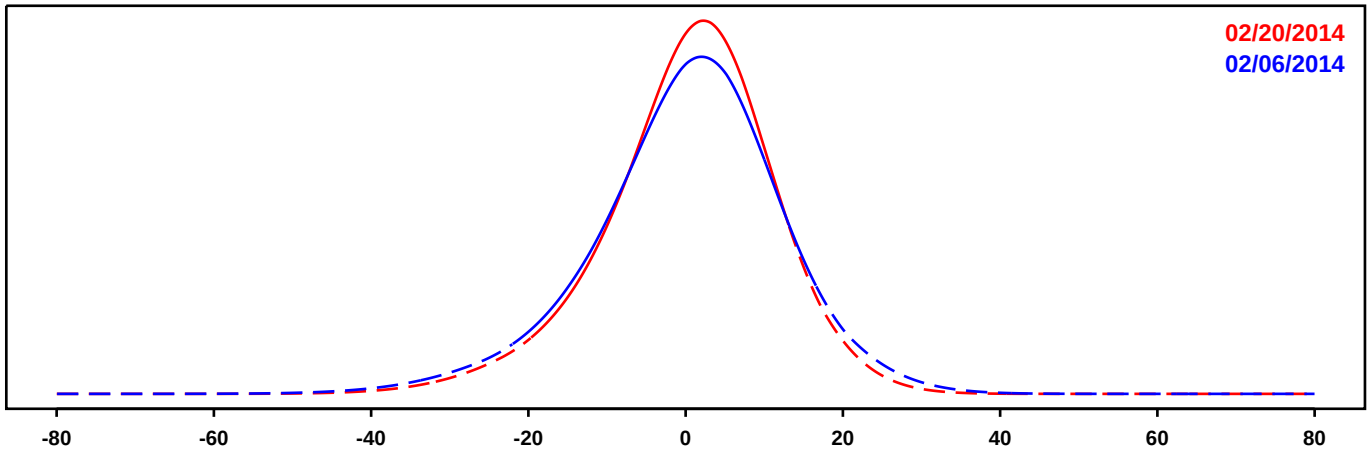
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CRUDE OIL FUTURES (Brent)

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

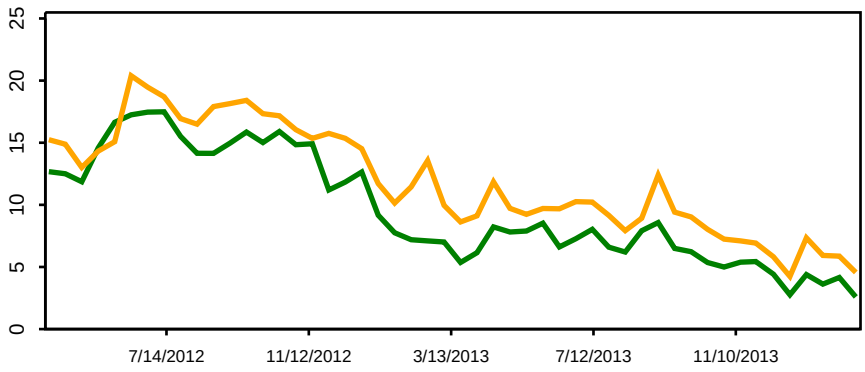
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

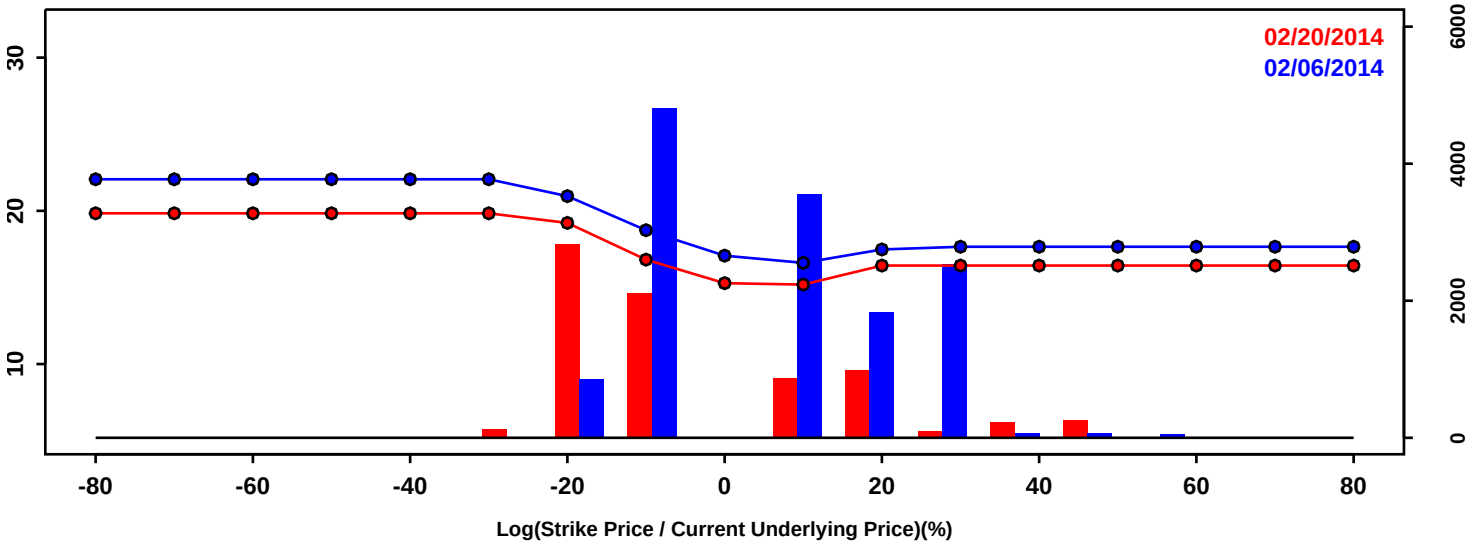
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-15.35%	-13.81%	1.53%
50th Pct	0.98%	1.12%	0.15%
90th Pct	14.63%	13.31%	-1.32%
Mean	0.20%	0.37%	0.17%
Std Dev	12.21%	10.97%	-1.24%
Skew	-0.41	-0.48	-0.07
Kurtosis	0.82	0.78	-0.03

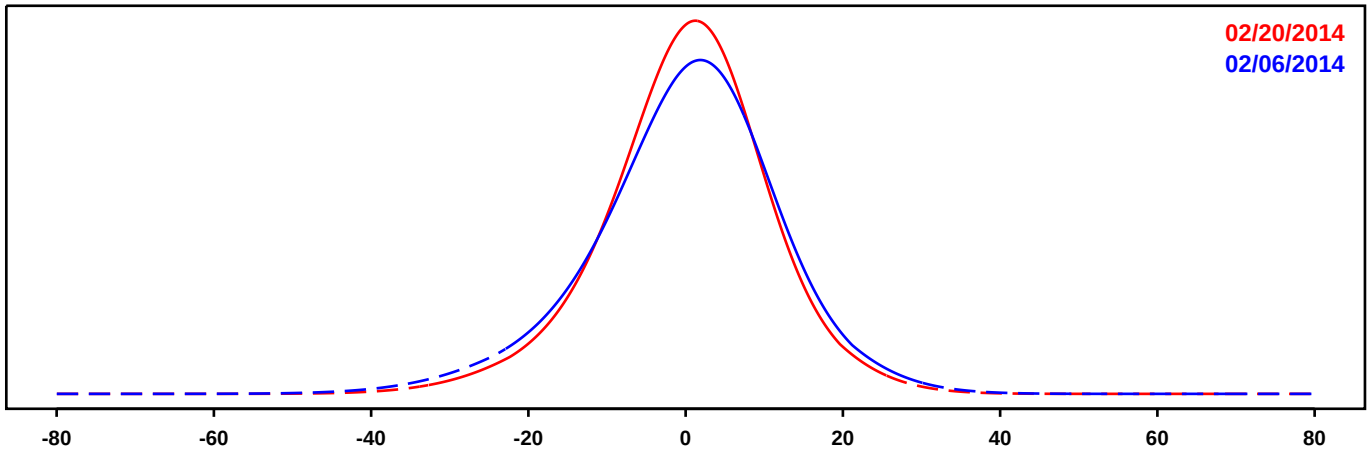
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- GOLD FUTURES

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

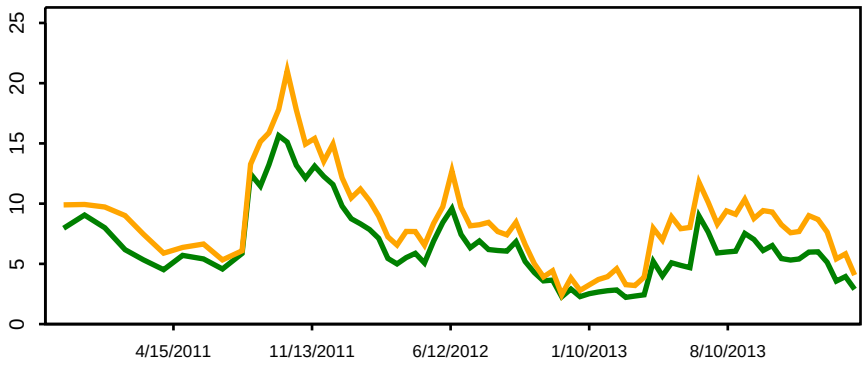
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

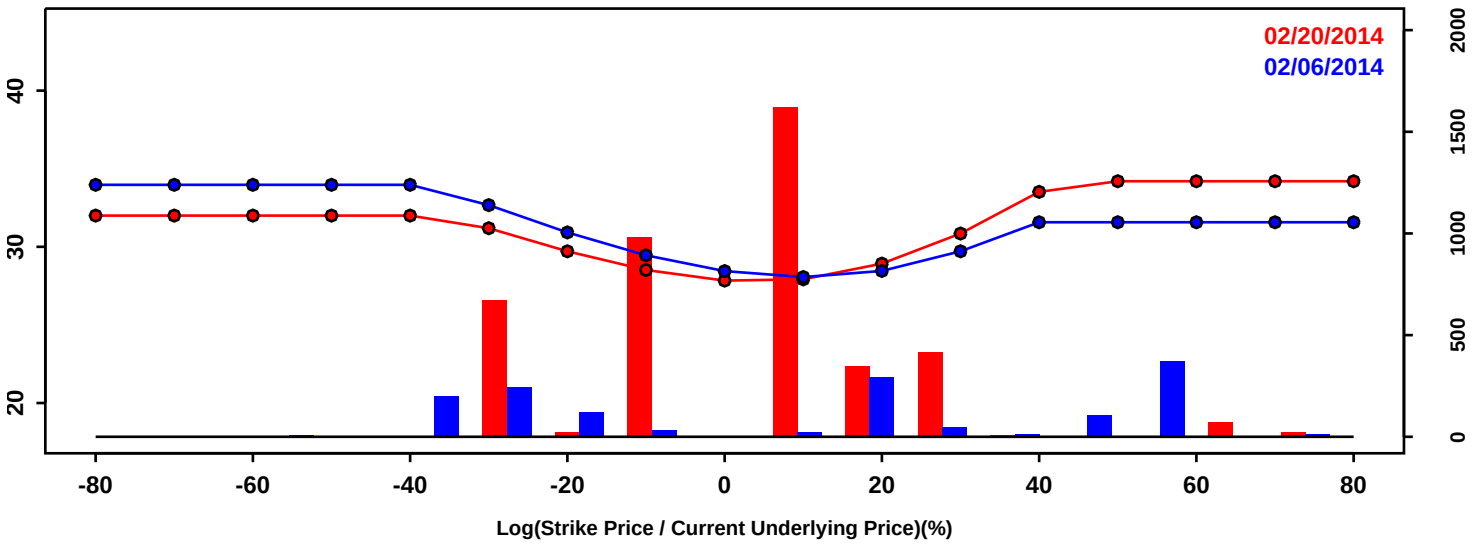
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-15.36%	-13.37%	1.99%
50th Pct	0.74%	0.55%	-0.19%
90th Pct	14.27%	12.90%	-1.37%
Mean	0.04%	0.11%	0.07%
Std Dev	12.08%	10.77%	-1.31%
Skew	-0.37	-0.29	0.08
Kurtosis	0.79	0.83	0.04

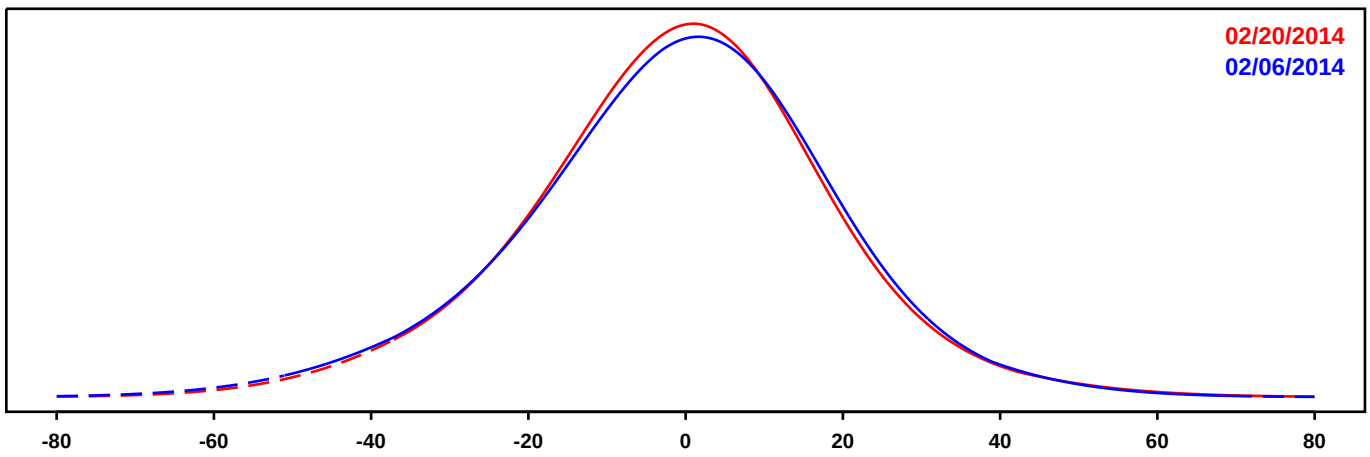
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- SILVER FUTURES

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

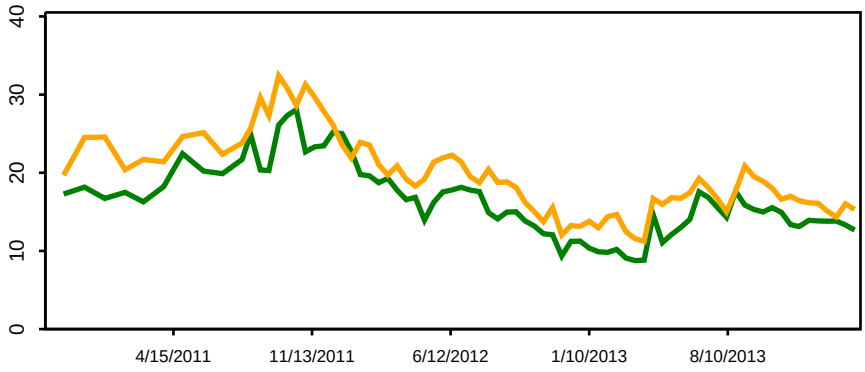
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

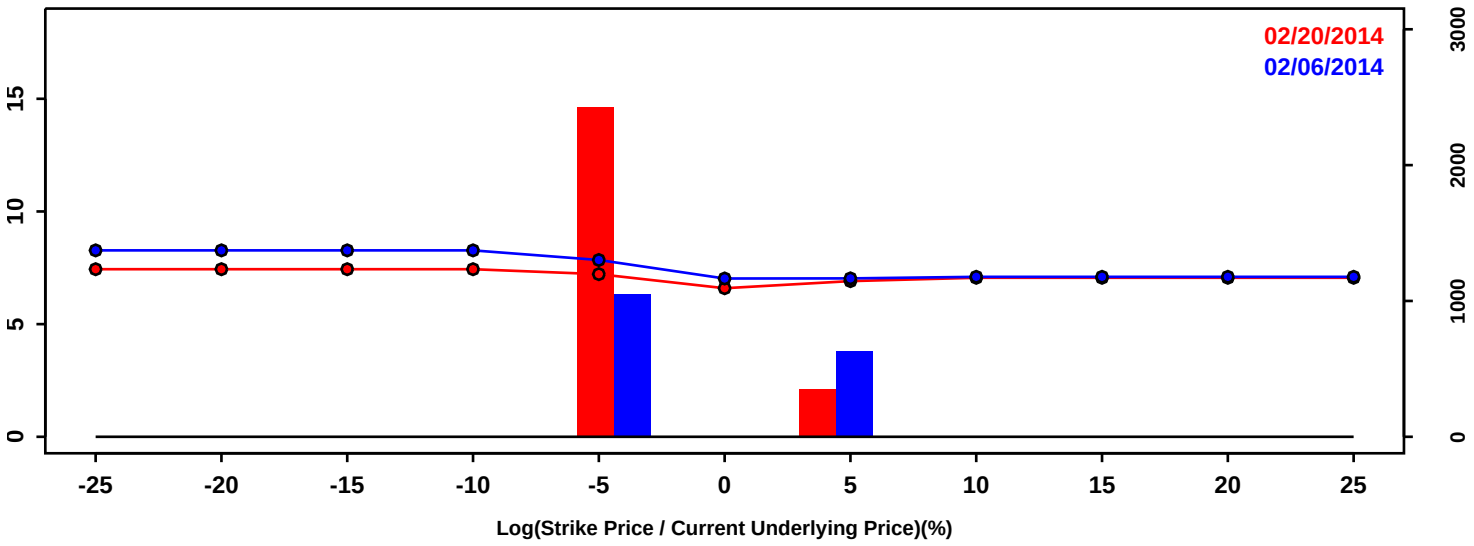
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-26.73%	-25.70%	1.03%
50th Pct	-0.05%	-0.32%	-0.27%
90th Pct	23.18%	22.68%	-0.50%
Mean	-0.93%	-0.86%	0.07%
Std Dev	20.15%	19.64%	-0.51%
Skew	-0.23	-0.08	0.14
Kurtosis	0.59	0.67	0.08

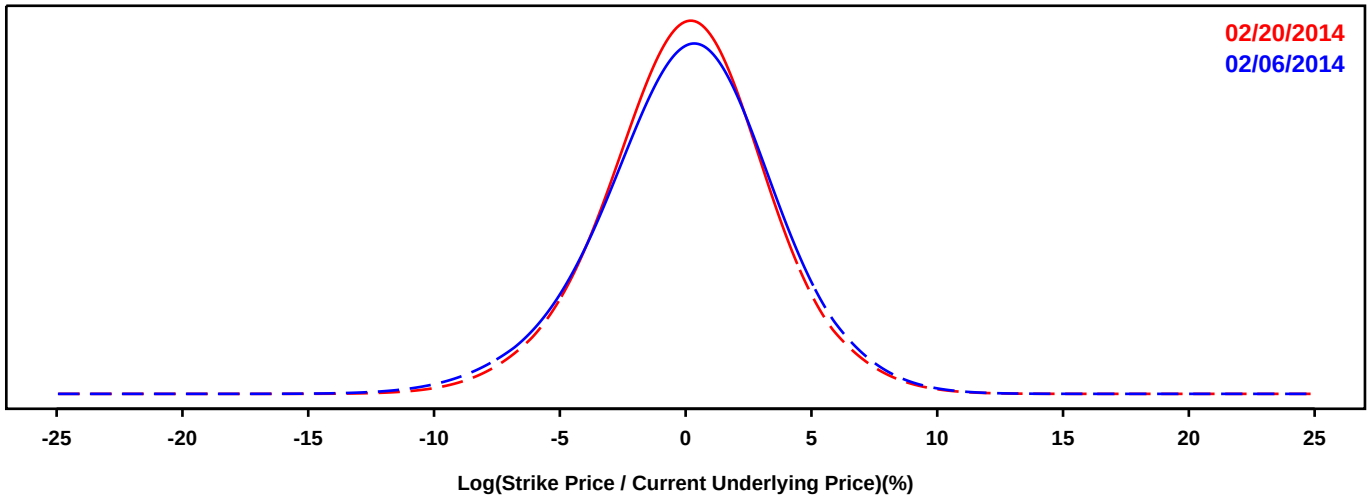
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- DOLLAR-EURO EXCHANGE RATE FUTURES

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

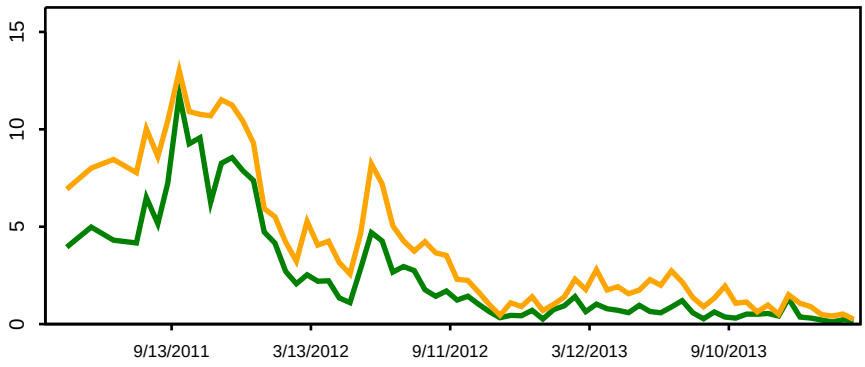
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



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

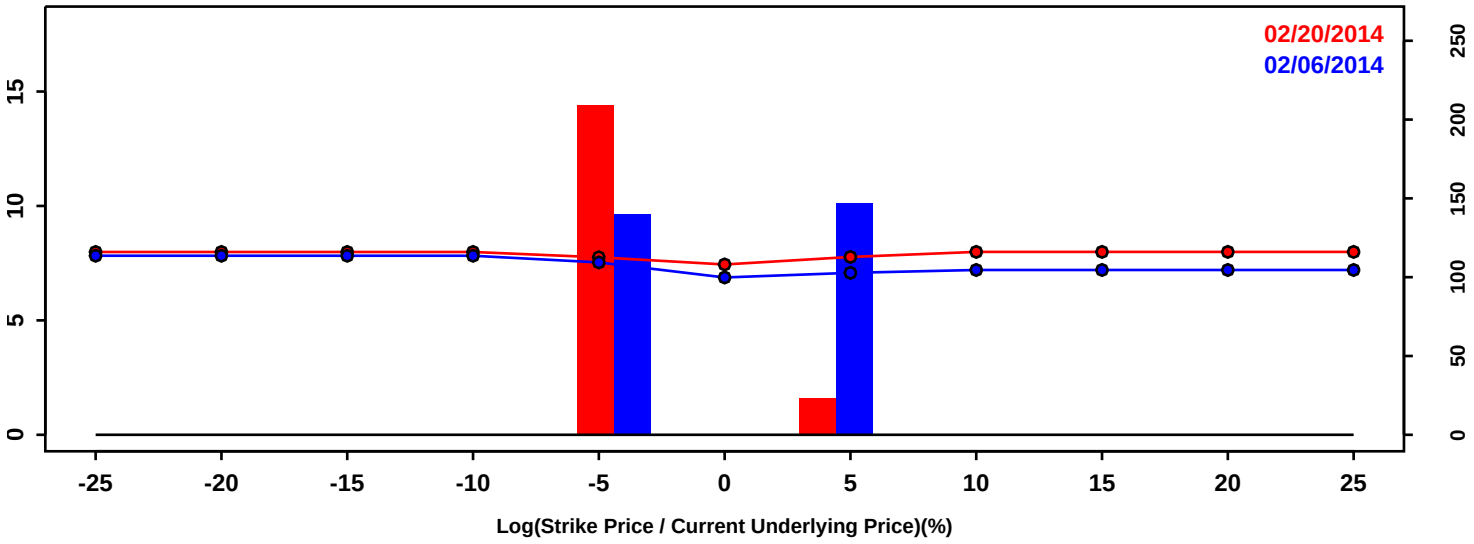
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-4.40%	-4.15%	0.25%
50th Pct	0.15%	0.11%	-0.05%
90th Pct	4.37%	4.08%	-0.28%
Mean	0.10%	0.10%	0.00%
Std Dev	3.50%	3.29%	-0.22%
Skew	-0.19	-0.08	0.11
Kurtosis	0.41	0.39	-0.02

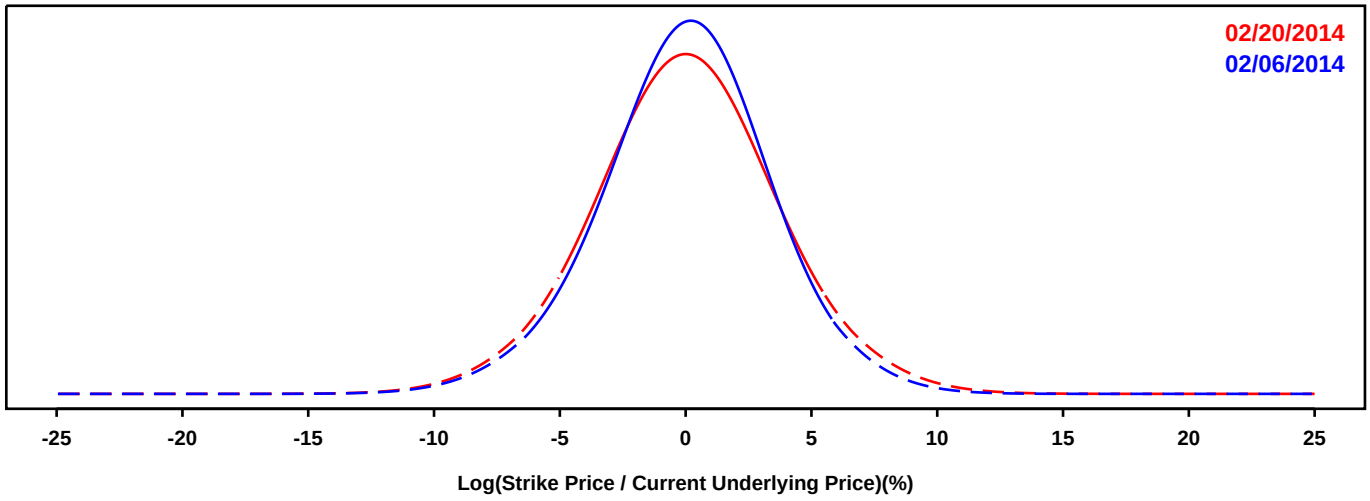
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- DOLLAR-POUND EXCHANGE RATE FUTURES

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

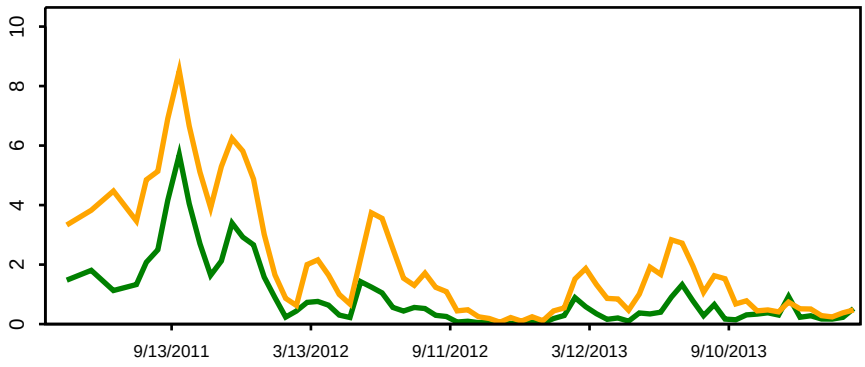
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



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

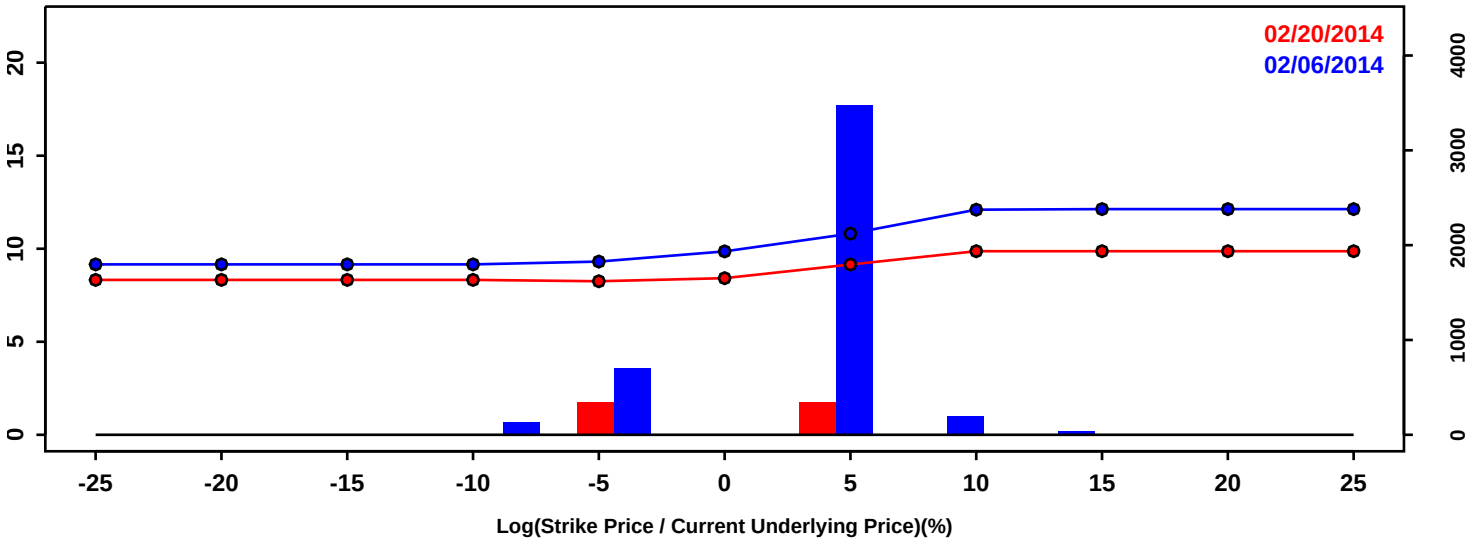
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-4.32%	-4.57%	-0.25%
50th Pct	0.08%	0.00%	-0.08%
90th Pct	4.29%	4.69%	0.40%
Mean	0.07%	0.09%	0.03%
Std Dev	3.43%	3.71%	0.28%
Skew	-0.11	0.01	0.12
Kurtosis	0.37	0.28	-0.09

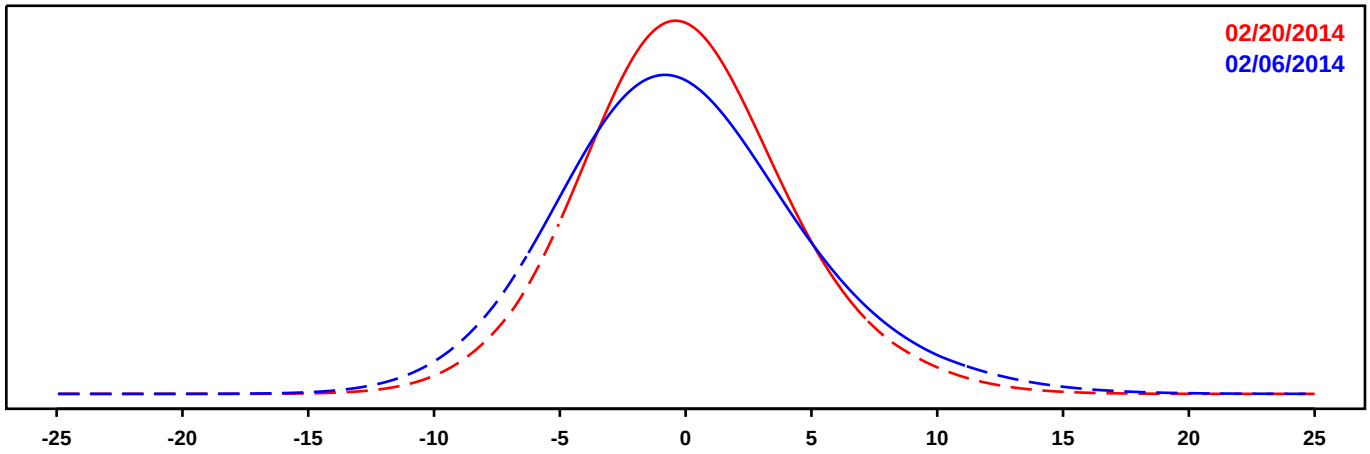
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- DOLLAR-YEN EXCHANGE RATE FUTURES

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

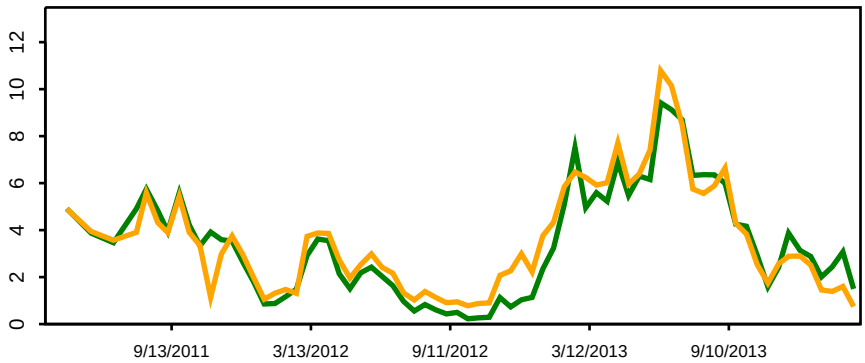
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



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

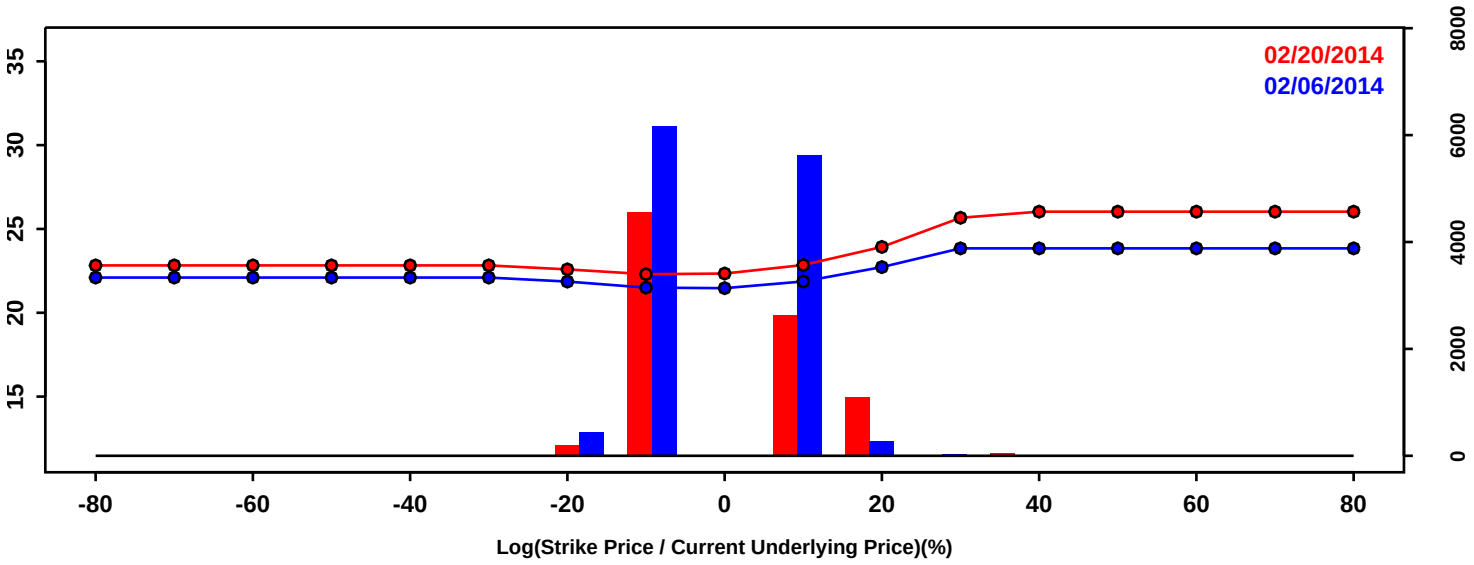
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-6.13%	-5.20%	0.93%
50th Pct	-0.38%	-0.10%	0.28%
90th Pct	6.29%	5.39%	-0.89%
Mean	-0.05%	0.05%	0.10%
Std Dev	4.94%	4.21%	-0.73%
Skew	0.34	0.21	-0.13
Kurtosis	0.42	0.35	-0.07

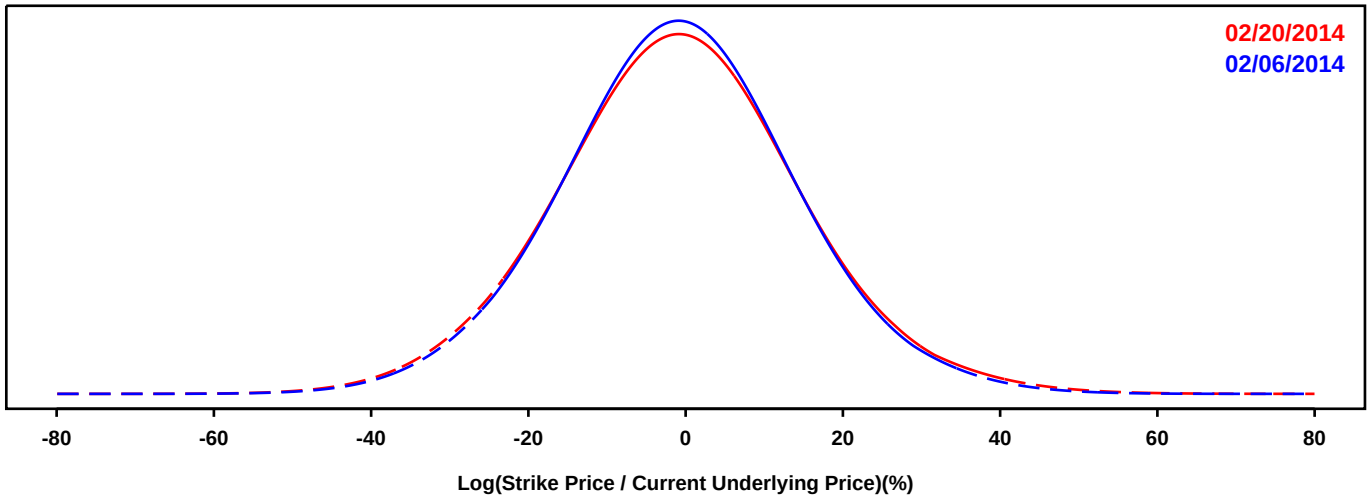
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CORN FUTURES

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

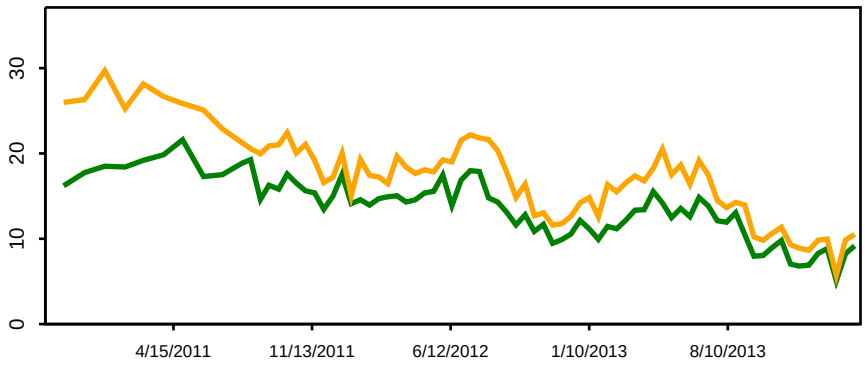
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

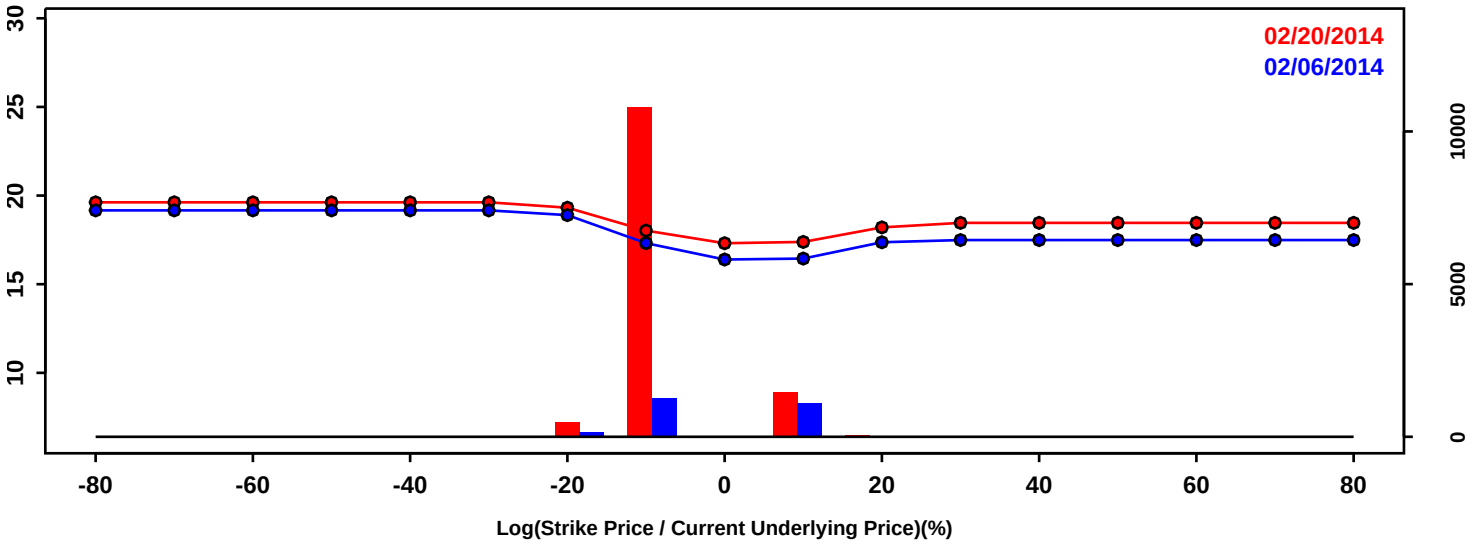
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-19.86%	-20.47%	-0.61%
50th Pct	-0.83%	-0.82%	0.01%
90th Pct	18.29%	19.14%	0.85%
Mean	-0.75%	-0.63%	0.11%
Std Dev	15.11%	15.77%	0.65%
Skew	0.05	0.09	0.04
Kurtosis	0.27	0.34	0.07

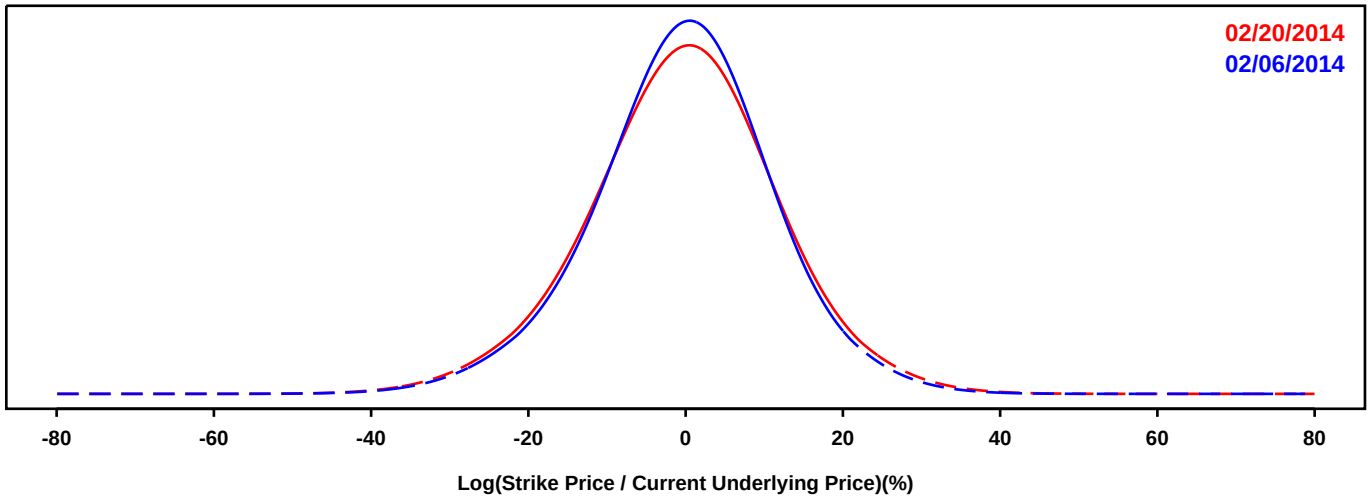
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- SOYBEAN FUTURES

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

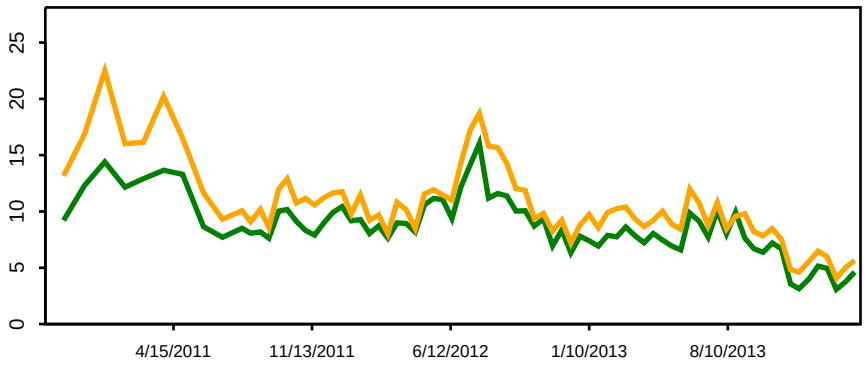
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

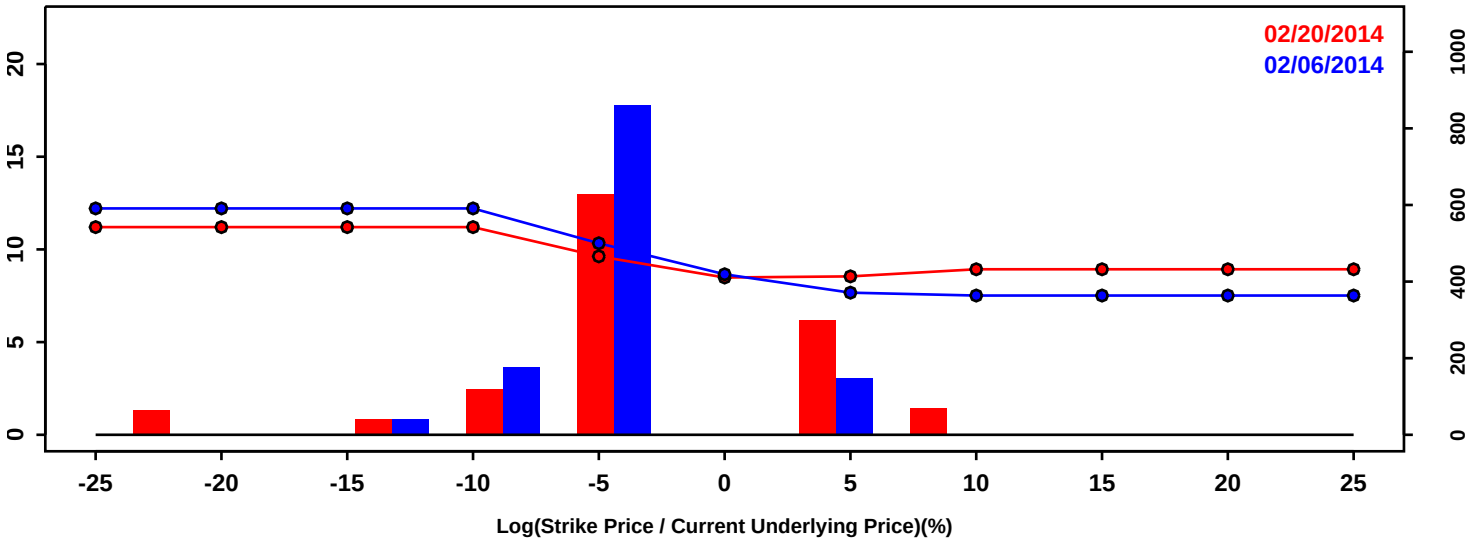
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-14.92%	-15.70%	-0.78%
50th Pct	0.00%	0.00%	0.00%
90th Pct	13.91%	14.84%	0.93%
Mean	-0.25%	-0.22%	0.03%
Std Dev	11.57%	12.21%	0.65%
Skew	-0.15	-0.11	0.04
Kurtosis	0.49	0.40	-0.09

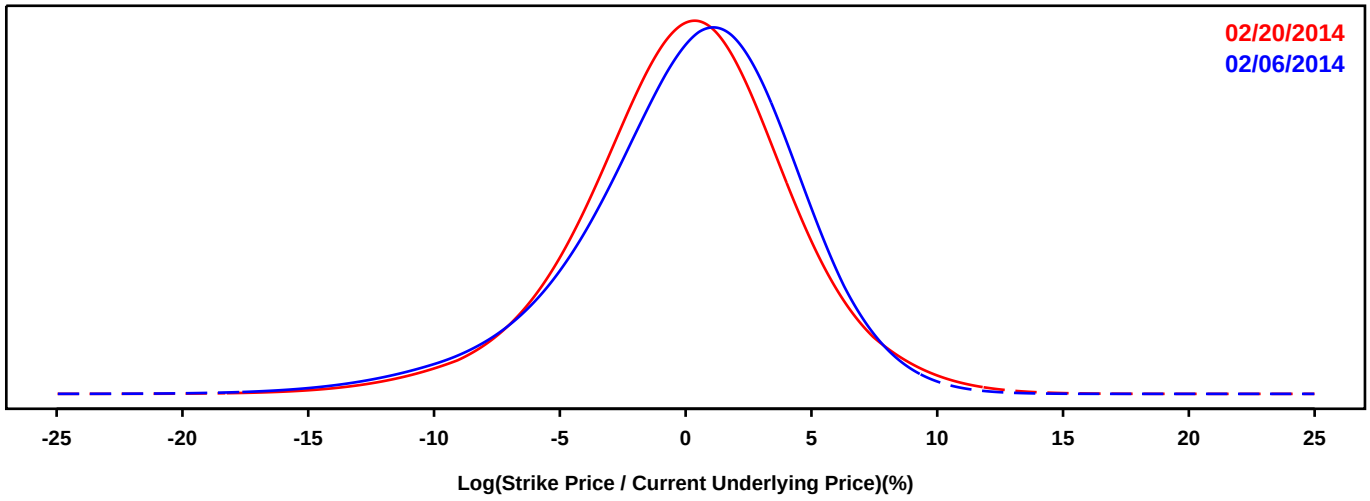
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CATTLE FUTURES

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

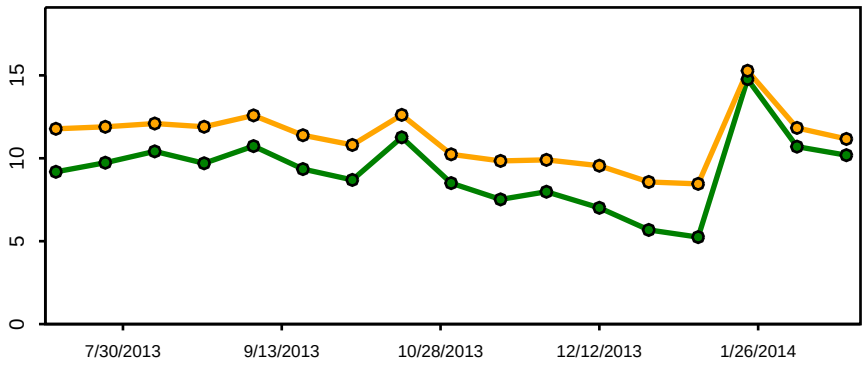
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -5% Increase >= 5%

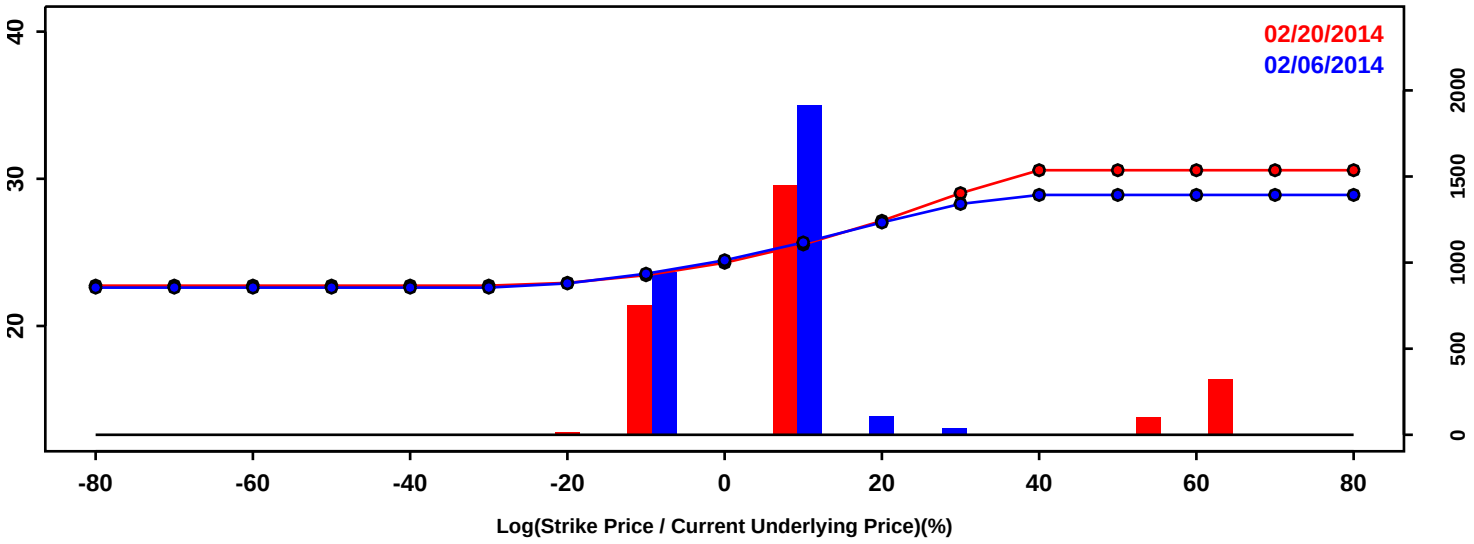
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-5.56%	-5.30%	0.26%
50th Pct	0.50%	0.12%	-0.38%
90th Pct	5.15%	5.05%	-0.10%
Mean	0.09%	-0.01%	-0.10%
Std Dev	4.36%	4.24%	-0.13%
Skew	-0.64	-0.29	0.35
Kurtosis	1.00	0.81	-0.19

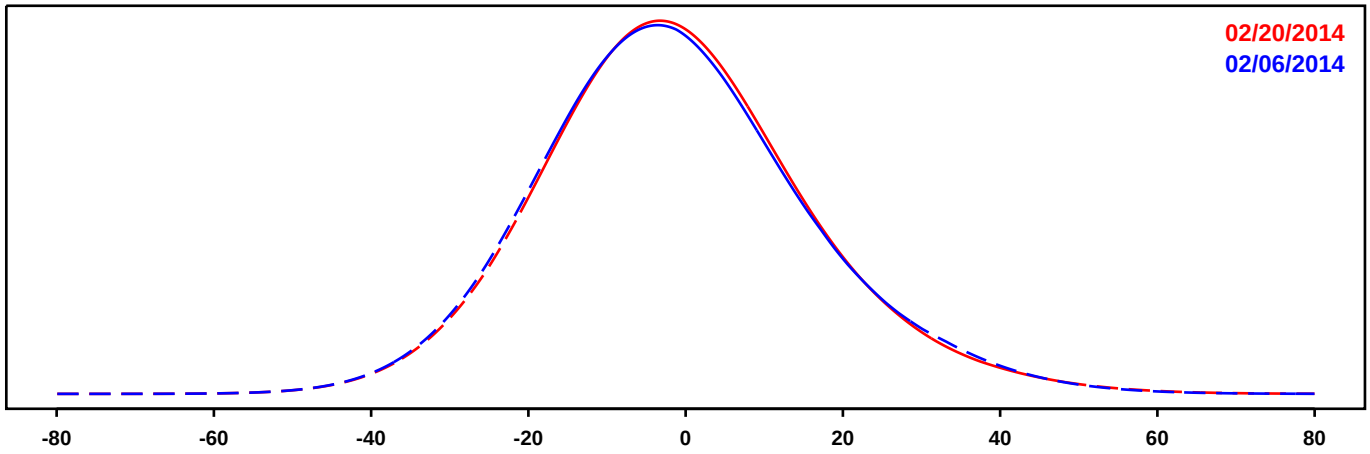
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- WHEAT FUTURES

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

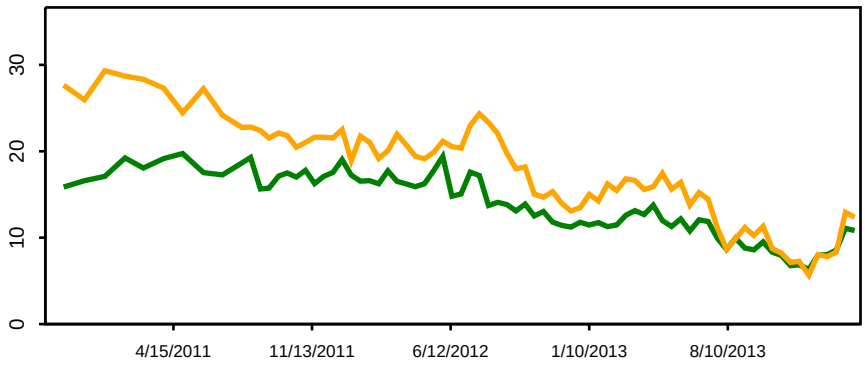
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <= -20% Increase >= 20%

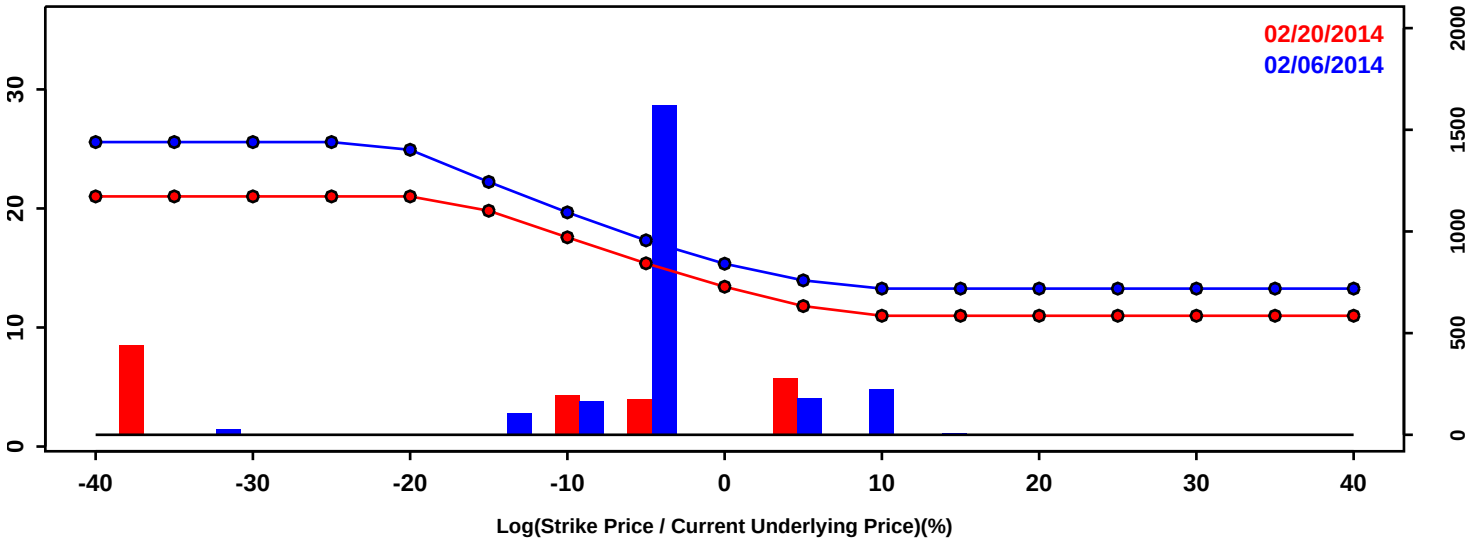
Statistics of the Log Return Distributions

	02/06/2014	02/20/2014	Change
10th Pct	-22.35%	-21.96%	0.38%
50th Pct	-2.25%	-1.93%	0.32%
90th Pct	21.26%	20.91%	-0.35%
Mean	-1.23%	-1.05%	0.19%
Std Dev	17.27%	17.13%	-0.15%
Skew	0.33	0.34	0.01
Kurtosis	0.35	0.49	0.14

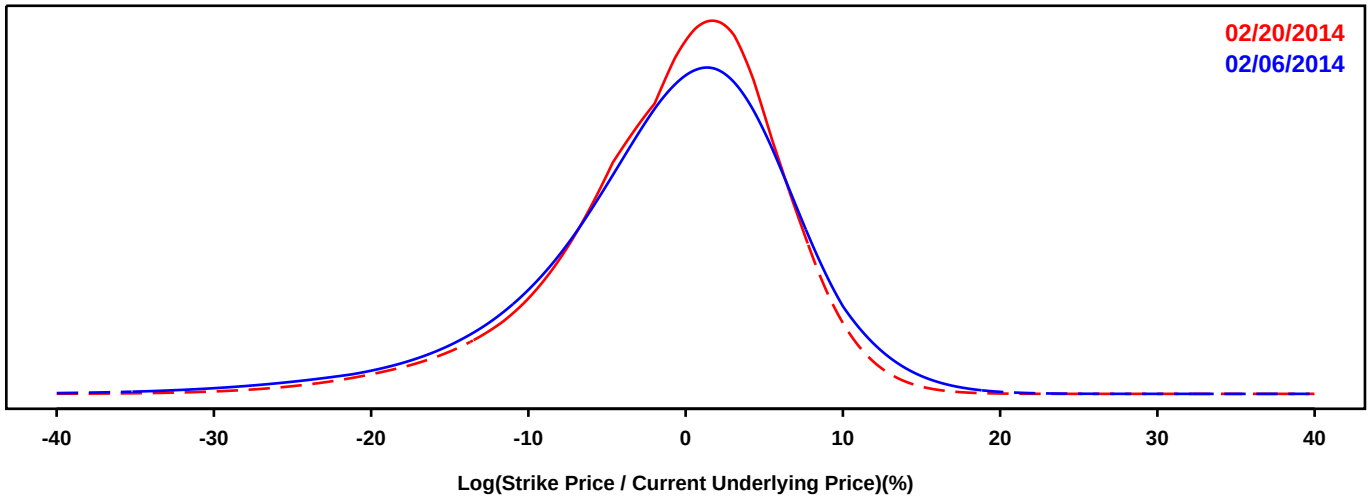
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- iSHARES DOW JONES US REAL ESTATE

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

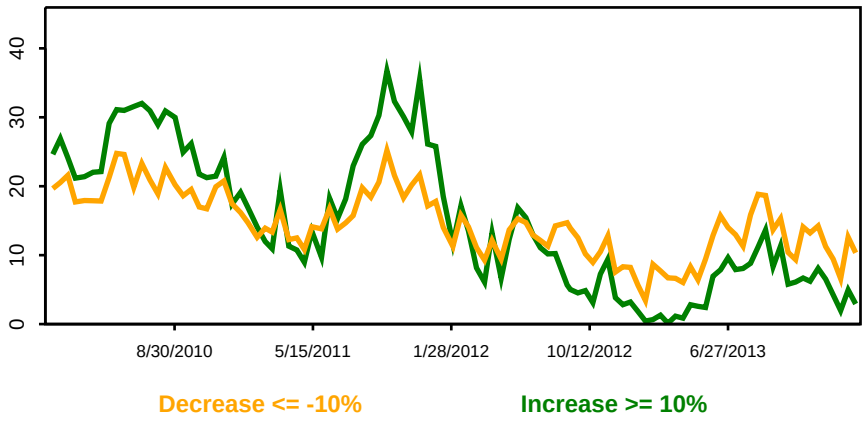
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change

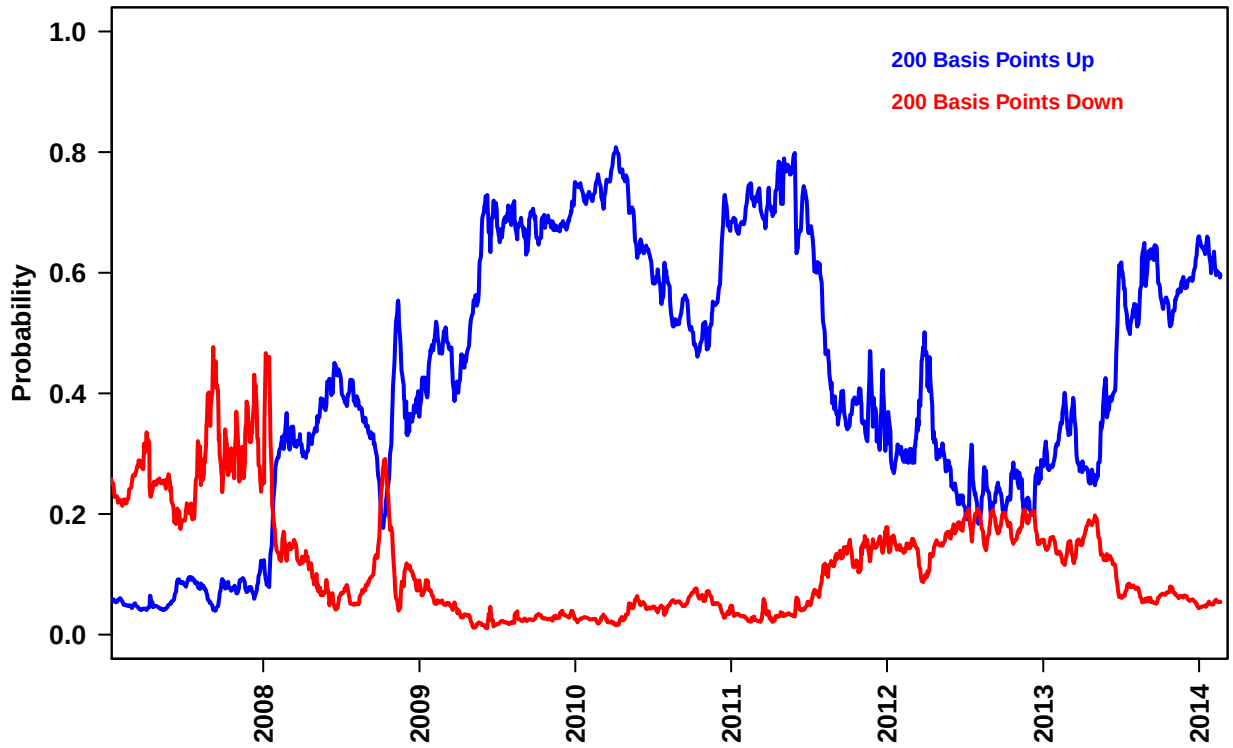


Statistics of the Log Return Distributions

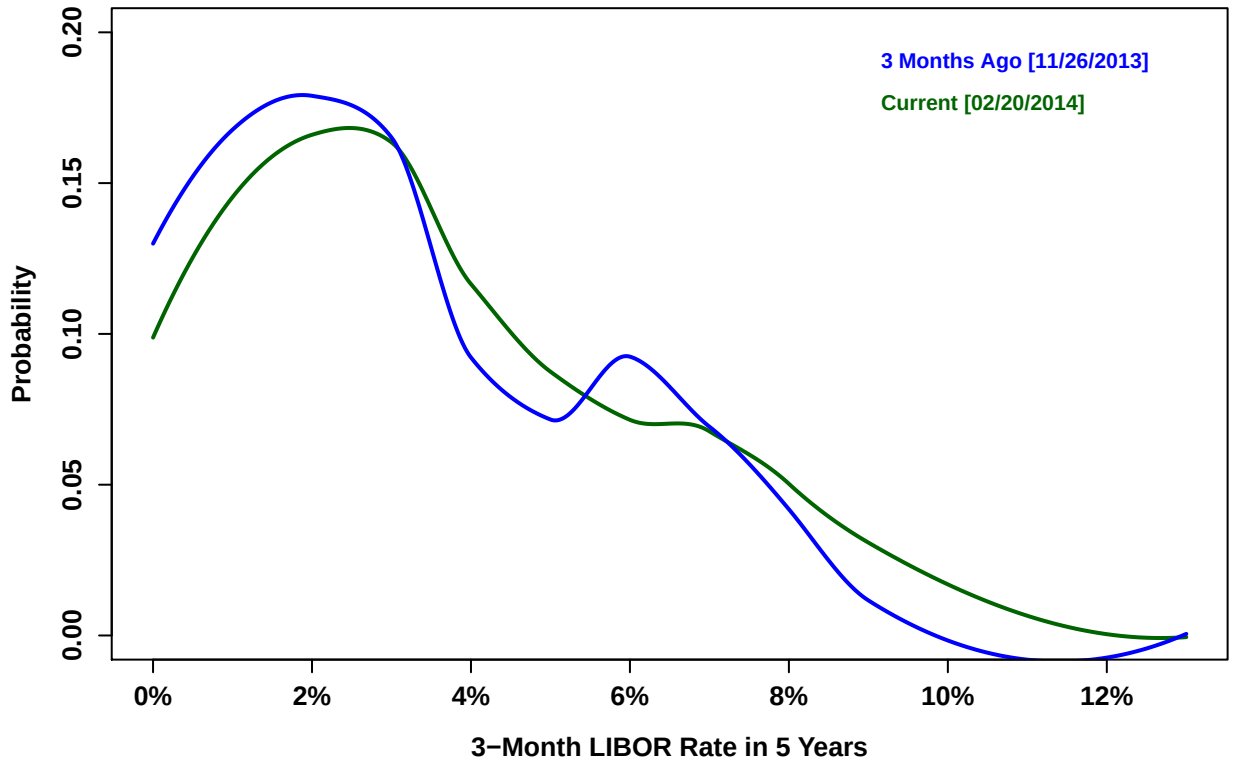
	02/06/2014	02/20/2014	Change
10th Pct	-11.56%	-10.23%	1.33%
50th Pct	-0.18%	0.00%	0.18%
90th Pct	7.73%	6.89%	-0.84%
Mean	-1.22%	-0.99%	0.23%
Std Dev	8.10%	7.08%	-1.02%
Skew	-0.91	-0.88	0.03
Kurtosis	1.78	1.43	-0.36

RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS −− Interest Rate Caps & Floors

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

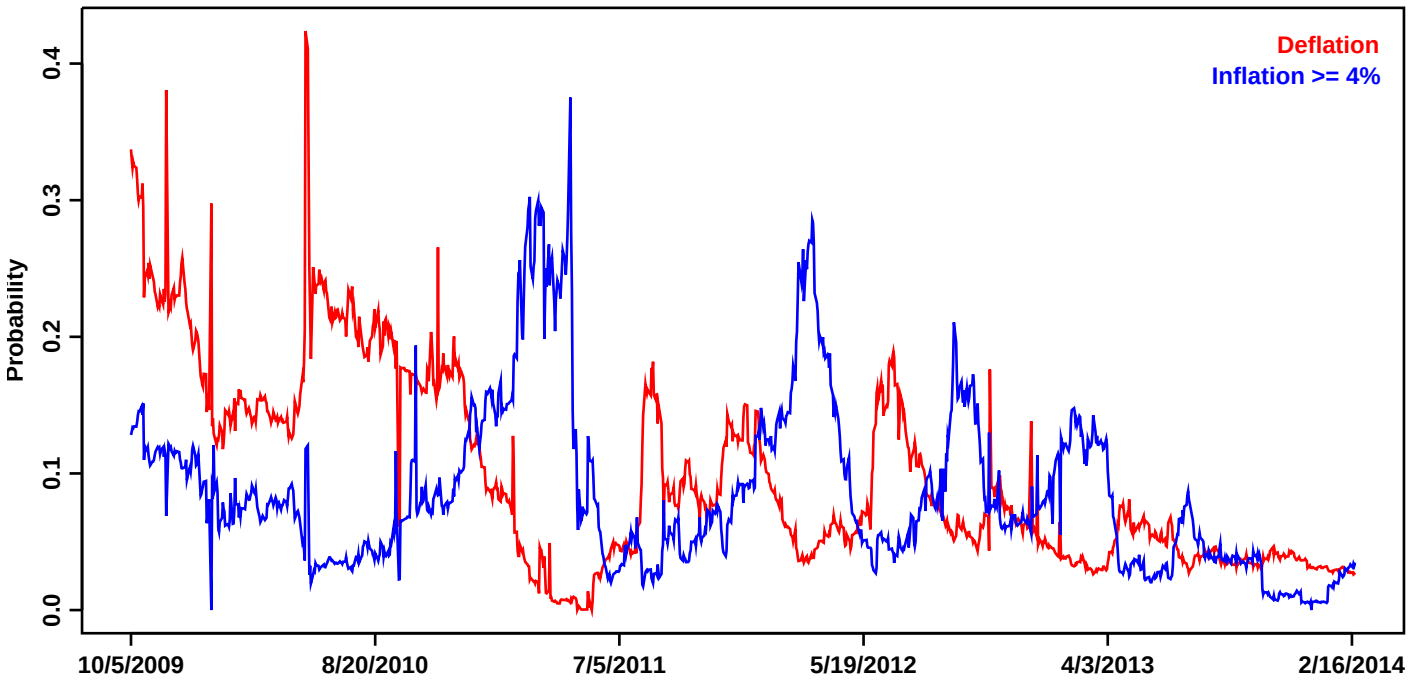


Risk Neutral Density Function for 3−Month LIBOR, 5 Years Out

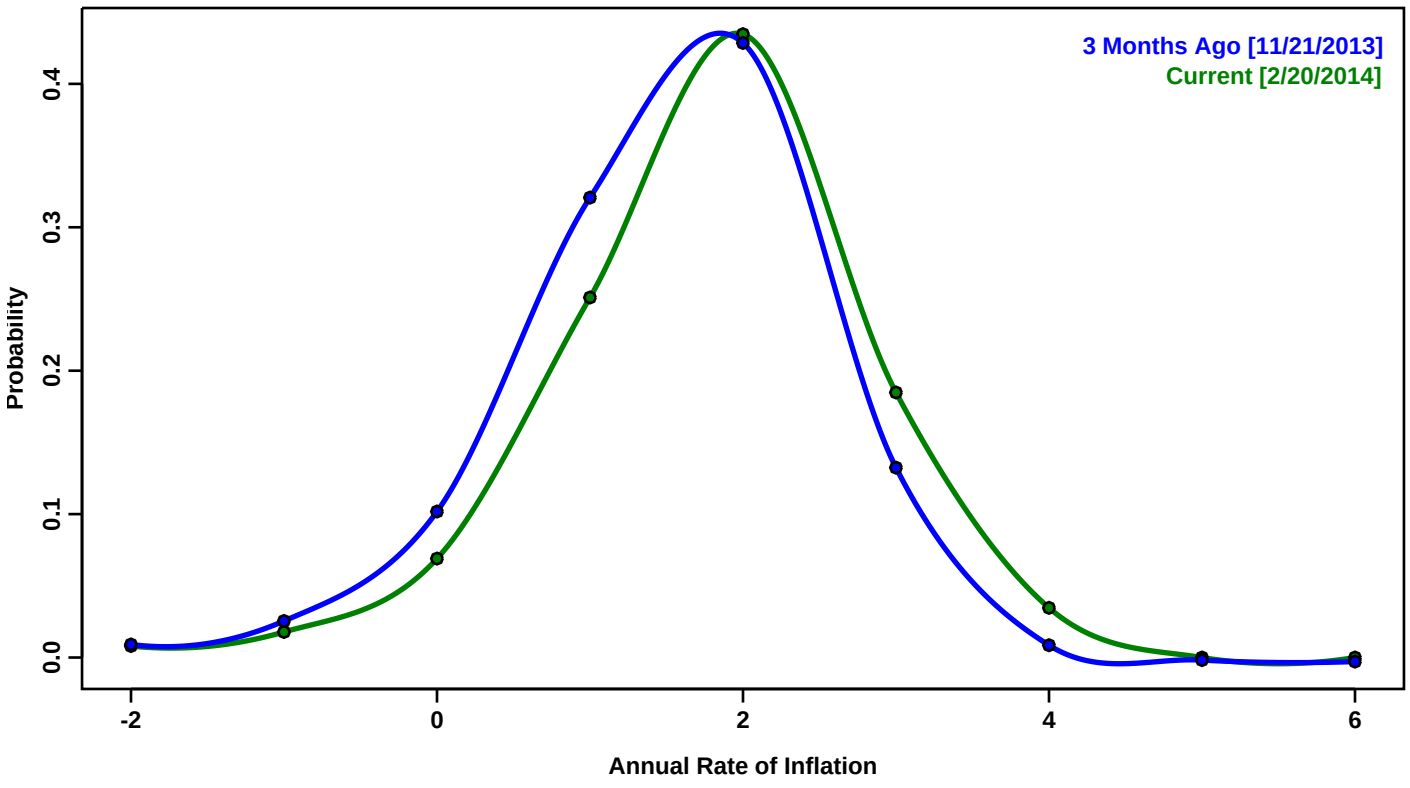


RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- Inflation Caps & Floors

Probabilty of Deflation and High Inflation over the next 12 Months



Risk Neutral Density Function for Inflation over the next 12 Months



RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- Inflation Caps & Floors