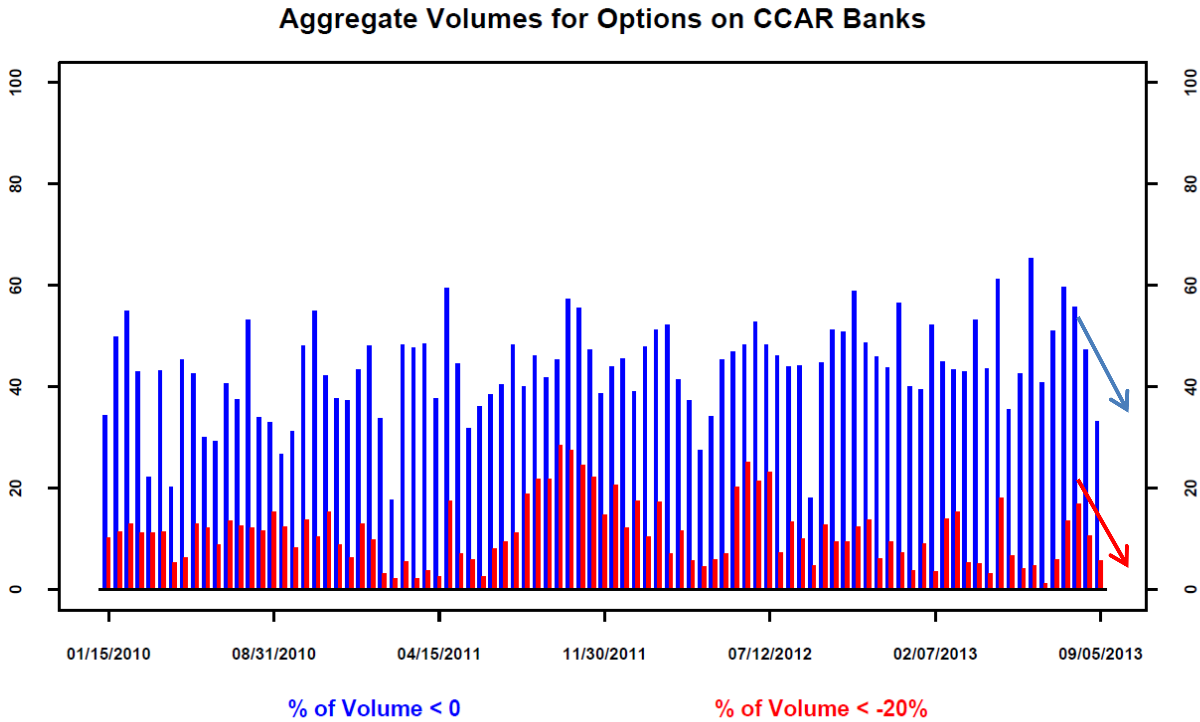
Minneapolis Options Report – September 5th

Banks & Insurance Companies
Share prices for the banks and insurance companies continued to fall over the past two weeks. While the S&P 500 fell only -11 basis points, the average CCAR bank dropped -210. Size was an important common factor with larger firms outperforming their smaller counterparts.

As shares have sold off, put trading has increased across the universe.

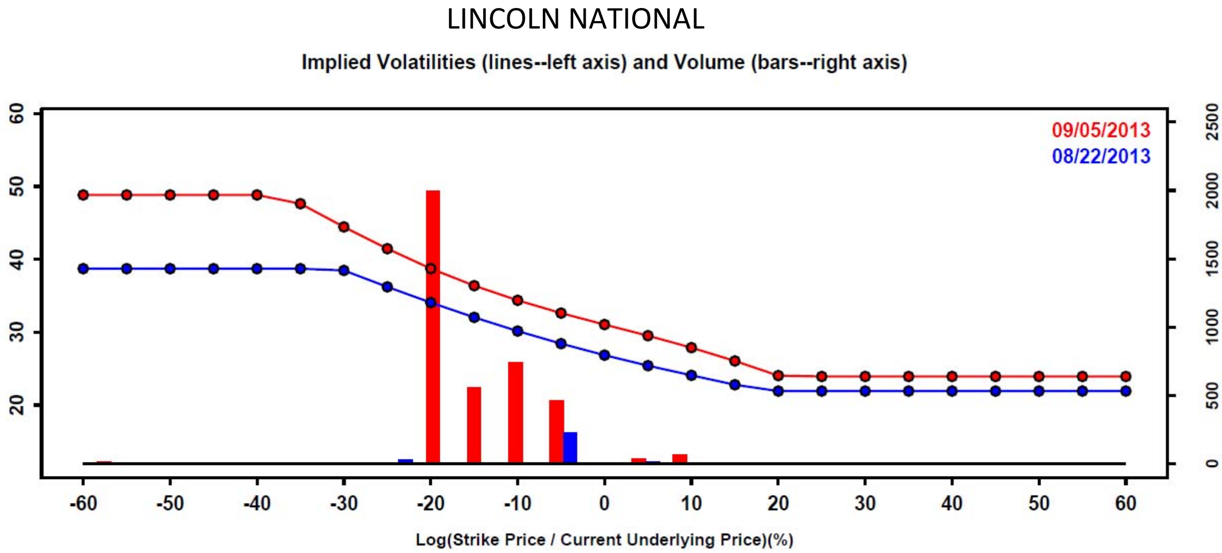


For options on banks, trading volumes fell about -20% relative to two weeks ago and RNPD standard deviations rose. Insurance company RNPD standard deviations also tended to rise on light trading. We measured less negative RNPD skews for a number of banks and insurance companies but also point out the emergence of an upward turn in downside tail probabilities in a number of charts (*see large change probability graphs in detail reports*).

Additional notes:

- Above average trading activity took place for options on shares of WFC, BBT, and STI. Tail risks as measured by RNPD standard deviation jumped substantially for each of these firms.

- We recorded strong activity in options on LNC shares. Most of the trading was below the spot price (note that at the money trading has been removed from the graph).



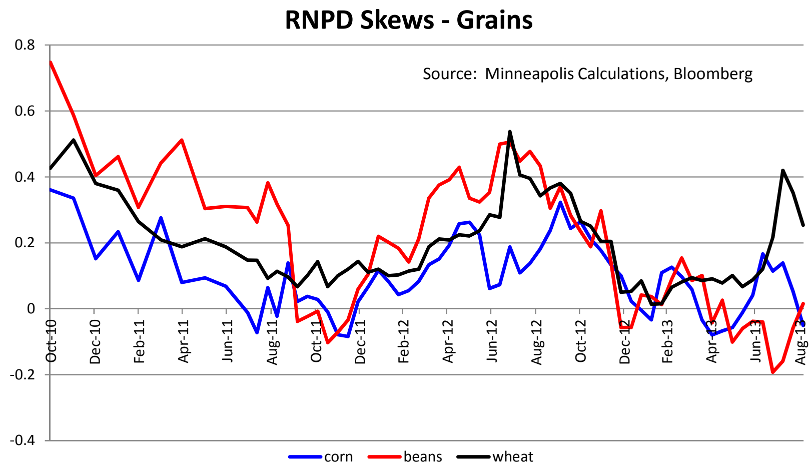
Other Commodity Markets
The S&P 500 was relatively unchanged over the past two weeks. Commodity prices rose and the dollar strengthened. Options volume across the set of markets we follow was light. The direction of tail risks as measured by RNPD standard deviation changes varied by market.

Additional notes:

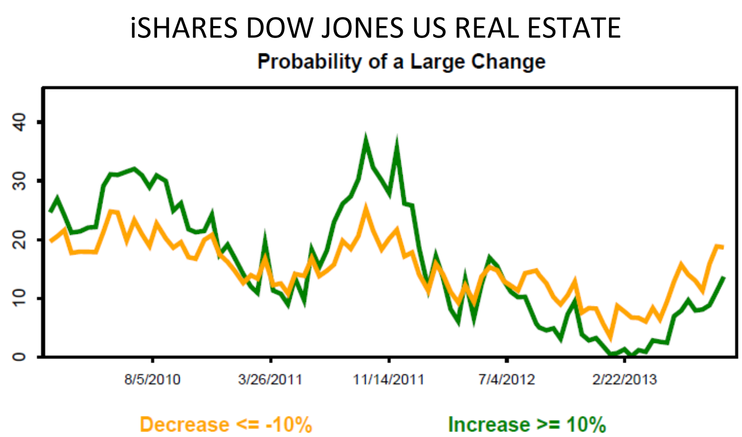
- Trading in options on WTI crude futures was strong again last week. Spot prices were flat. RNPD standard deviations are rising in these markets with a bias toward downside price changes. (*See Oil Reports*).

- Spot prices for gold and silver rose over the past two weeks. The RNPD standard deviations derived from options on gold and silver futures show tail risks that continue to rise. (*See Gold and Silver Reports*).

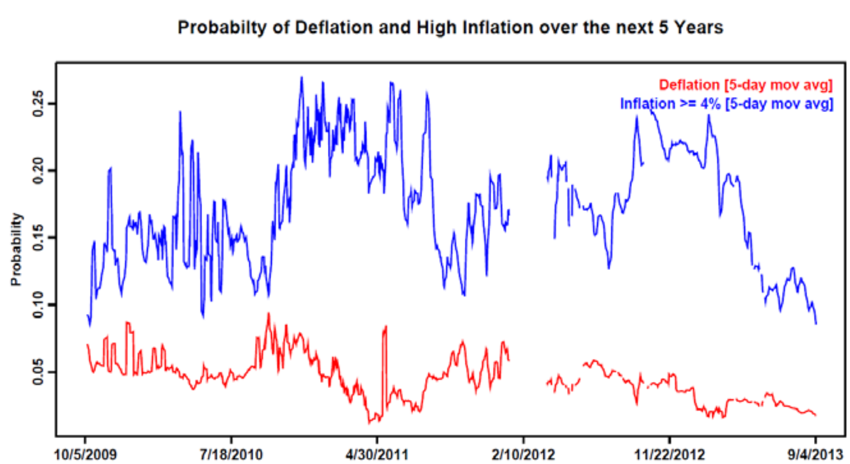
- Grain prices were up smartly over the past two weeks. Corn futures rose 2.0%, soybeans rose 4.4%, and wheat rose 2.0%. RNPD standard deviations fell for each of these markets. Risk neutral expectations as measured by skew are currently directionless for corn and beans but remain biased to the upside for what. (*See grain market reports*)



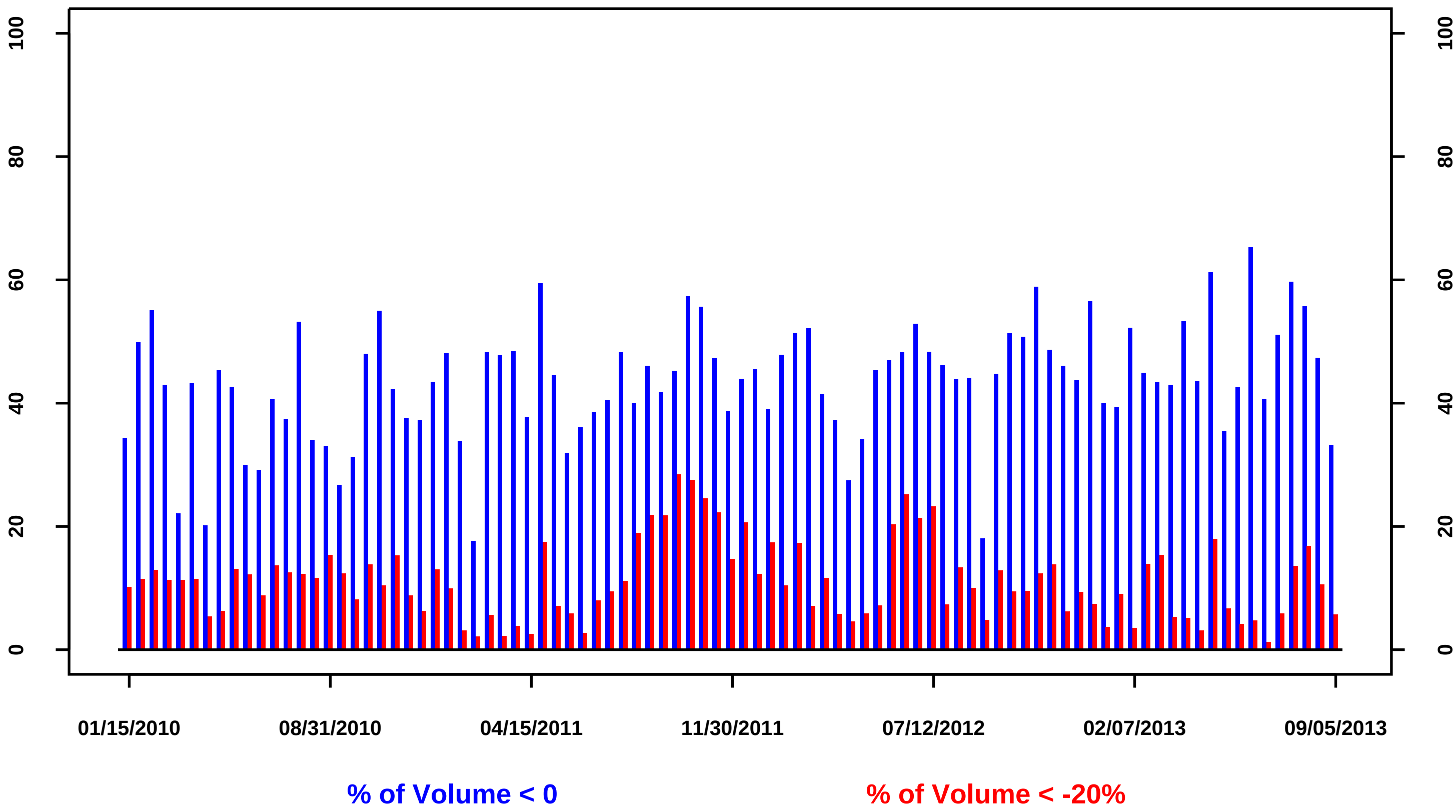
- The DJ Real Estate Index ETF is now down over -4% for the year over -11% since May. Risk neutral probabilities of large price changes continued to increase. (*See Real Estate Report*)



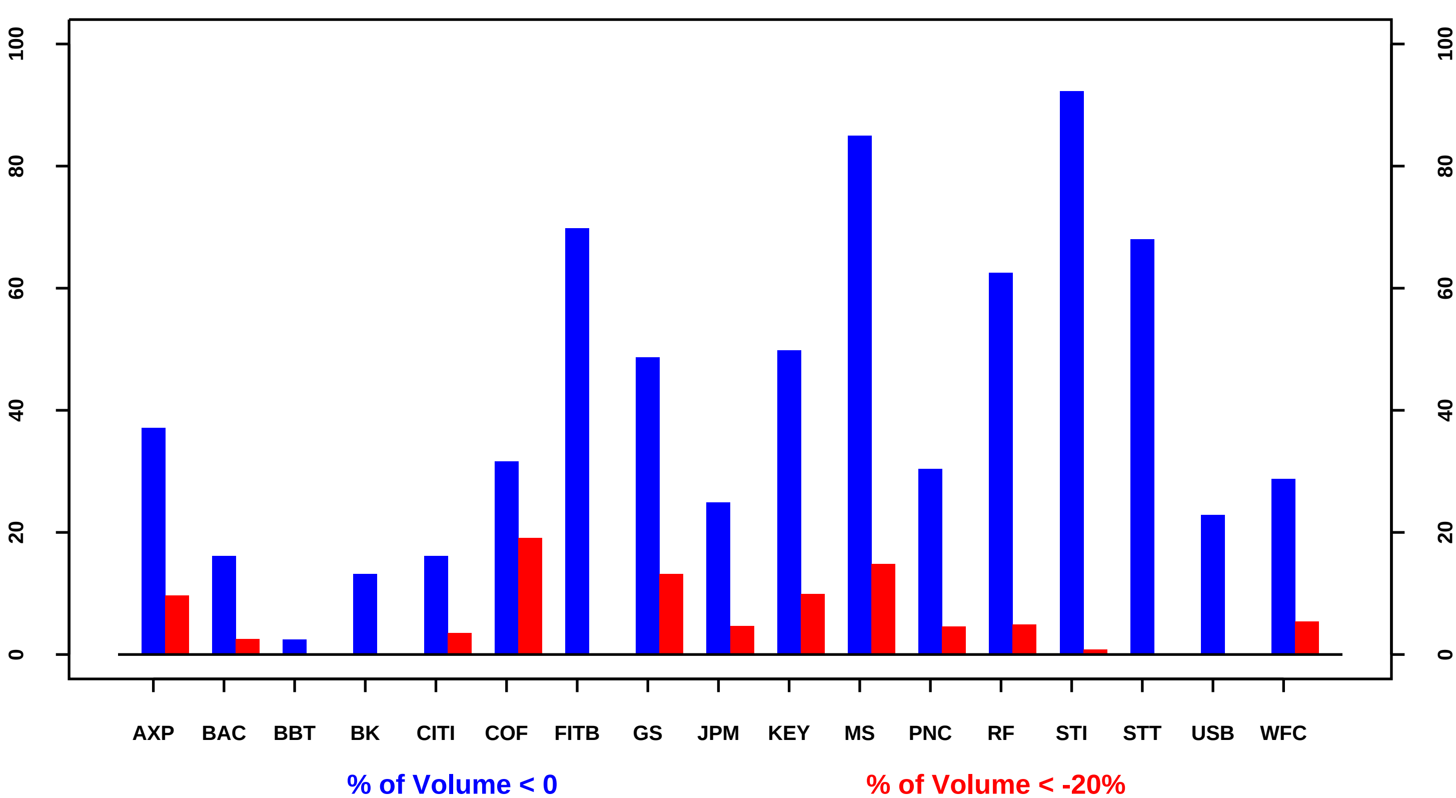
- Risk neutral expectations for high inflation over the next five years fell. (*Also see inflation reports*)



Aggregate Volumes for Options on CCAR Banks



Volumes for Options on CCAR Banks



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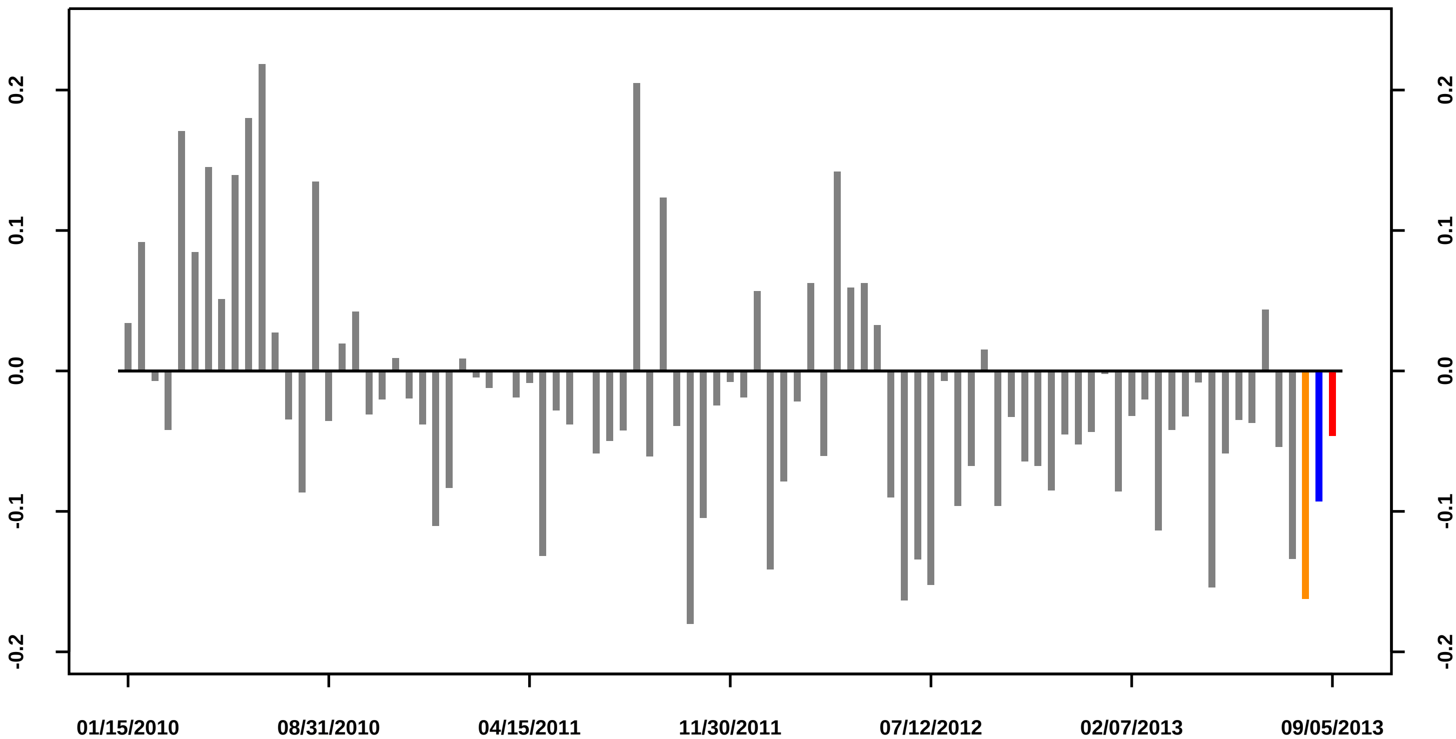
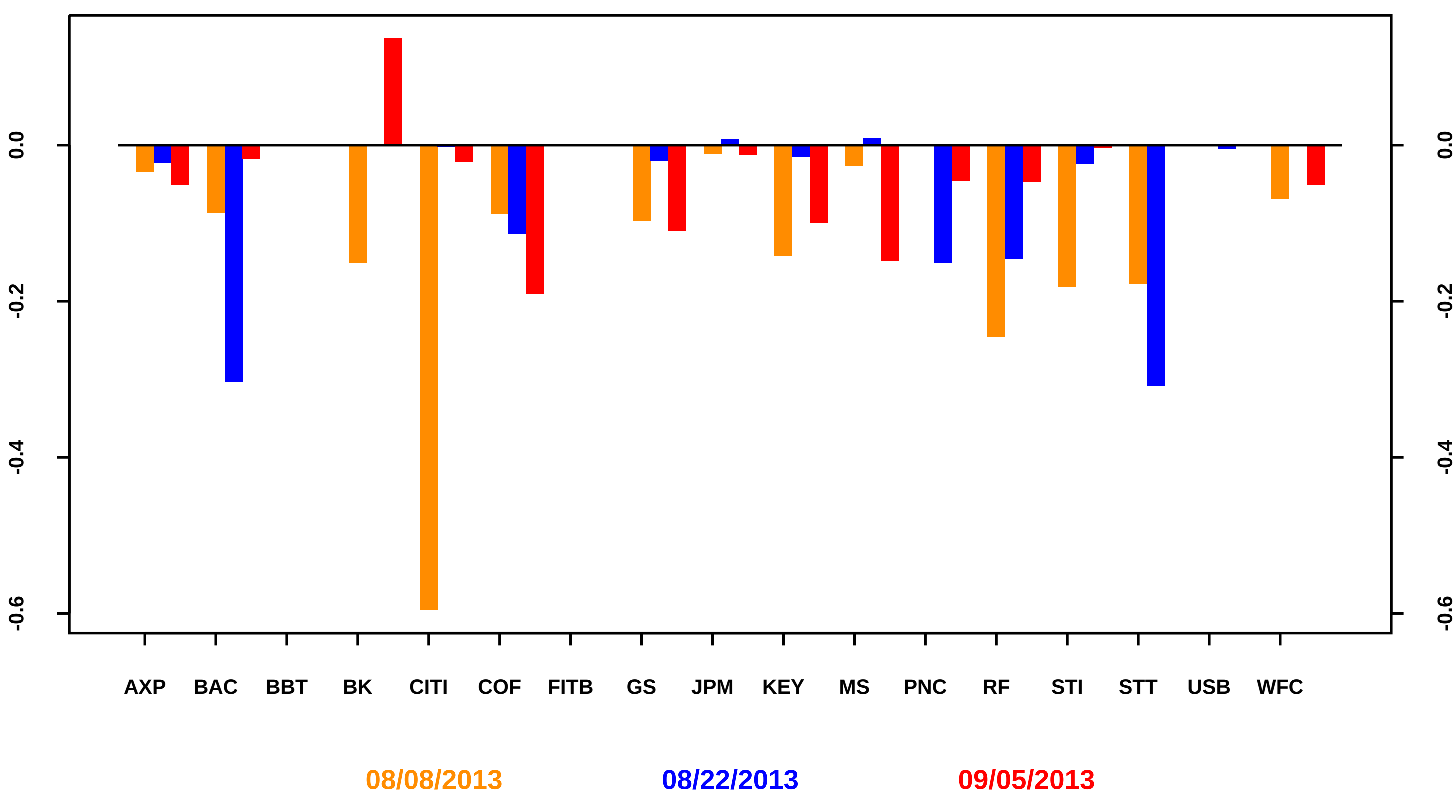
Updated with data through 09/05/2013

Aggregate Volume Skew--CCAR Banks

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

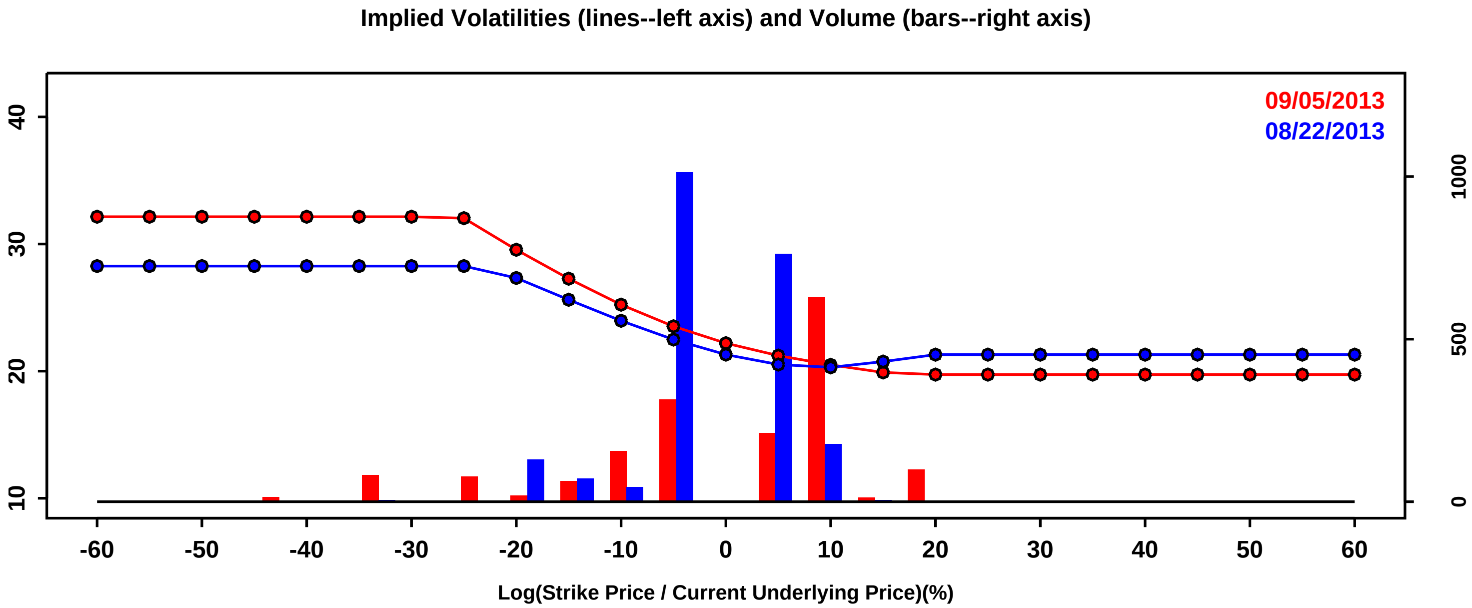


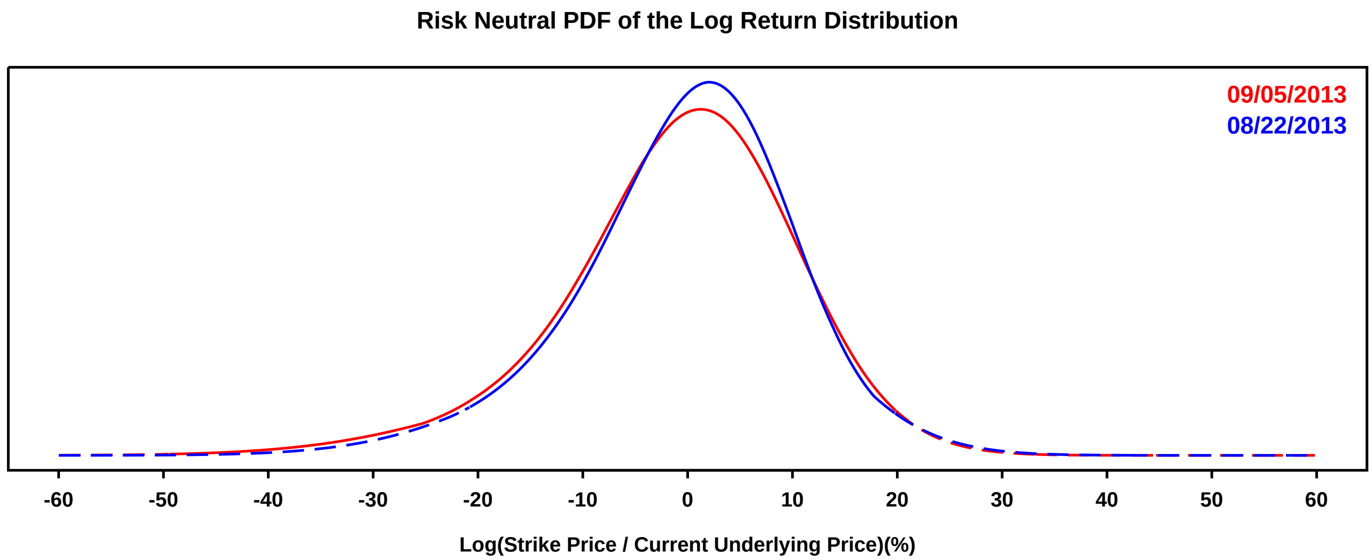
CCAR Bank Volume Skew -- Last Three Periods

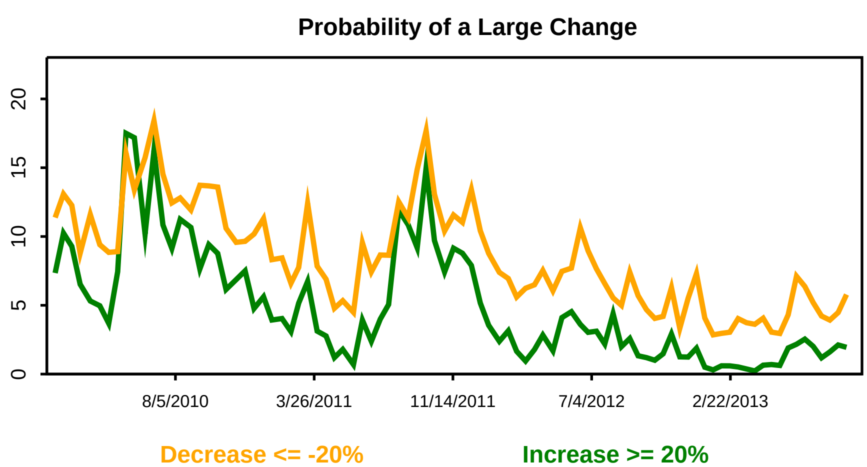


RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- AMERICAN EXPRESS

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







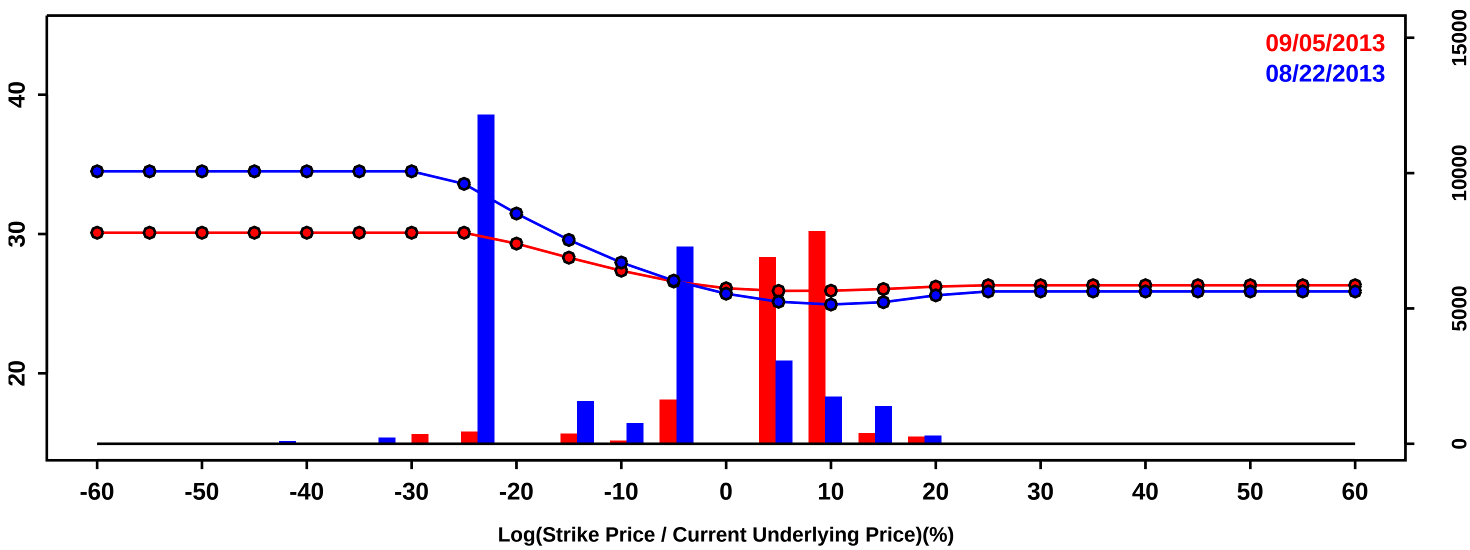
Statistics of the Log Return Distributions

	08/22/2013	09/05/2013	Change
10th Pct	-13.83%	-15.33%	-1.50%
50th Pct	0.67%	0.07%	-0.60%
90th Pct	12.31%	12.54%	0.23%
Mean	-0.12%	-0.84%	-0.72%
Std Dev	10.66%	11.38%	0.72%
Skew	-0.46	-0.61	-0.15
Kurtosis	0.84	1.04	0.20

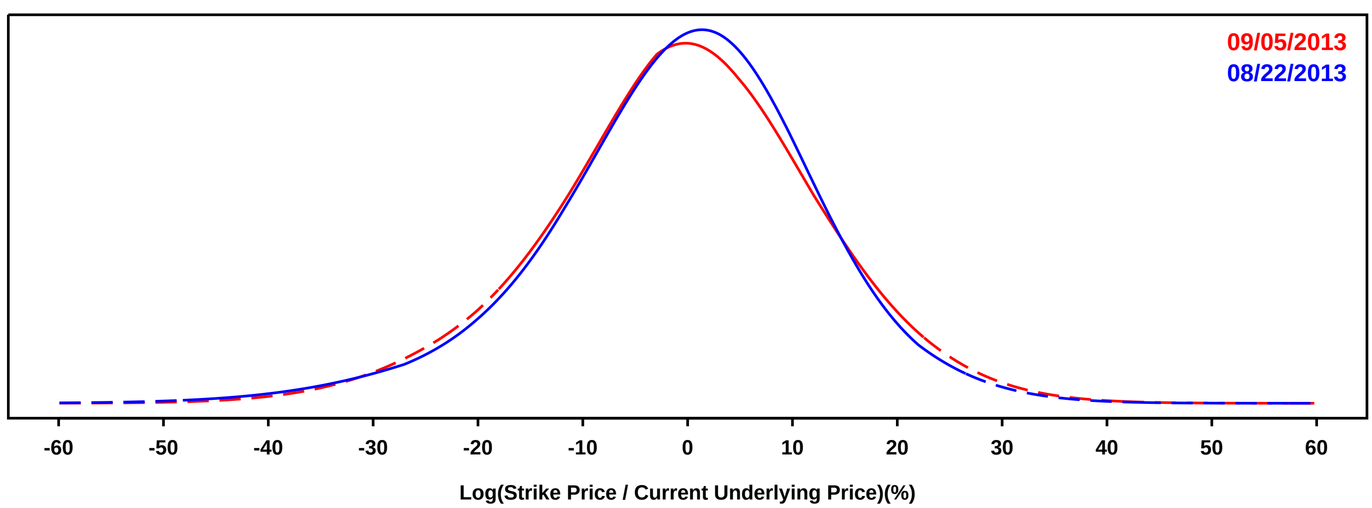
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- BANK OF AMERICA

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

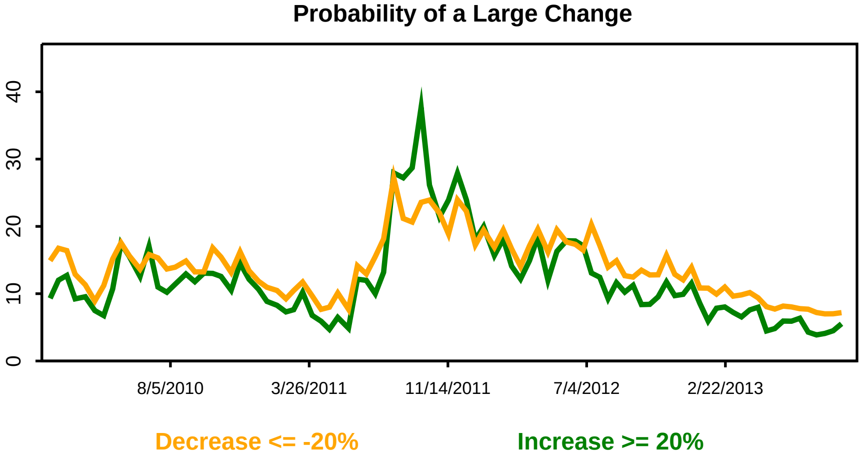
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



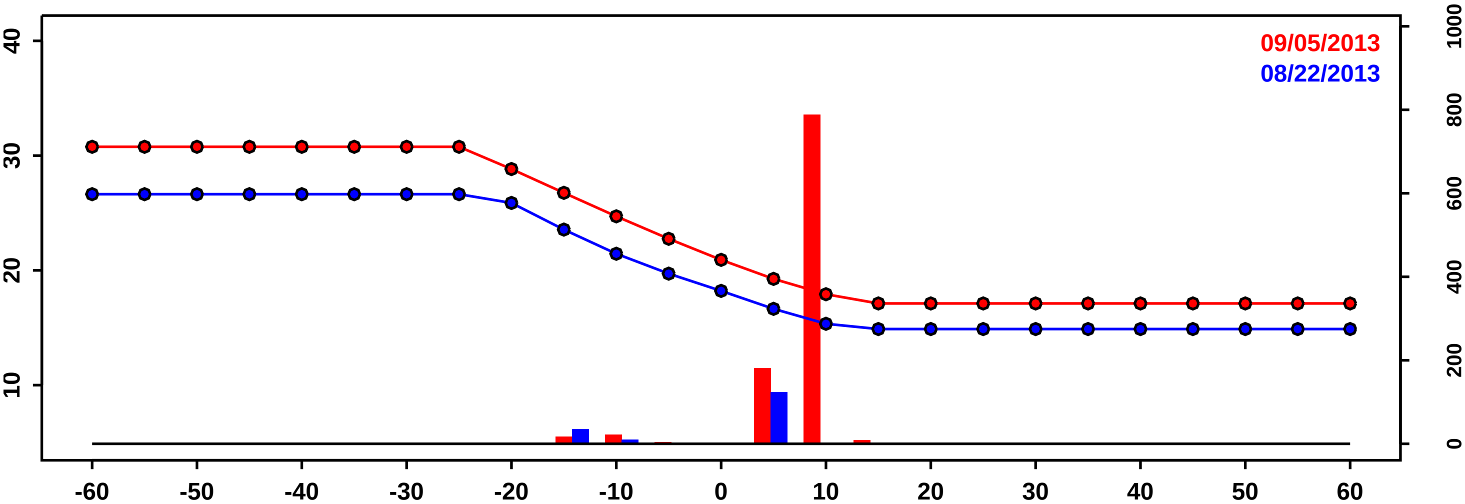
Statistics of the Log Return Distributions

	08/22/2013	09/05/2013	Change
10th Pct	-16.81%	-17.16%	-0.35%
50th Pct	0.23%	-0.10%	-0.33%
90th Pct	14.90%	15.86%	0.96%
Mean	-0.48%	-0.40%	0.08%
Std Dev	12.93%	13.11%	0.18%
Skew	-0.40	-0.18	0.22
Kurtosis	0.83	0.37	-0.46

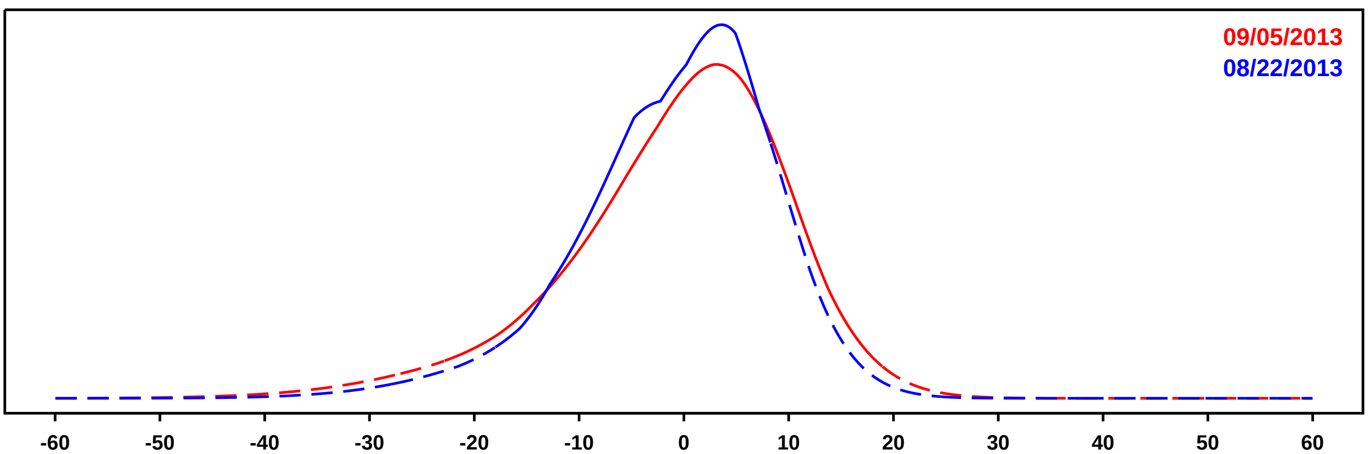
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- BB&T

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

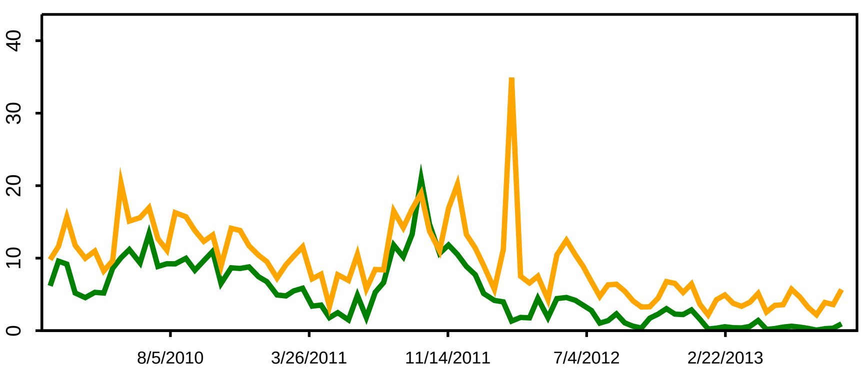
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



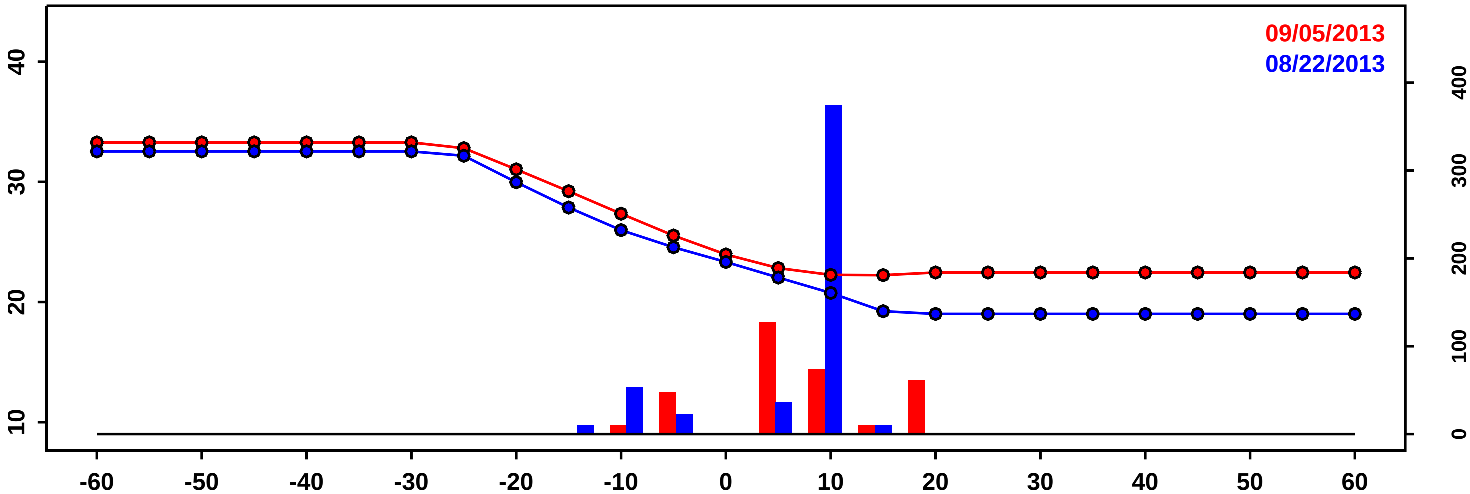
Statistics of the Log Return Distributions

	08/22/2013	09/05/2013	Change
10th Pct	-12.71%	-15.01%	-2.30%
50th Pct	0.35%	0.66%	0.31%
90th Pct	9.99%	11.39%	1.40%
Mean	-0.75%	-0.78%	-0.03%
Std Dev	9.32%	10.83%	1.51%
Skew	-0.71	-0.80	-0.10
Kurtosis	1.02	1.18	0.16

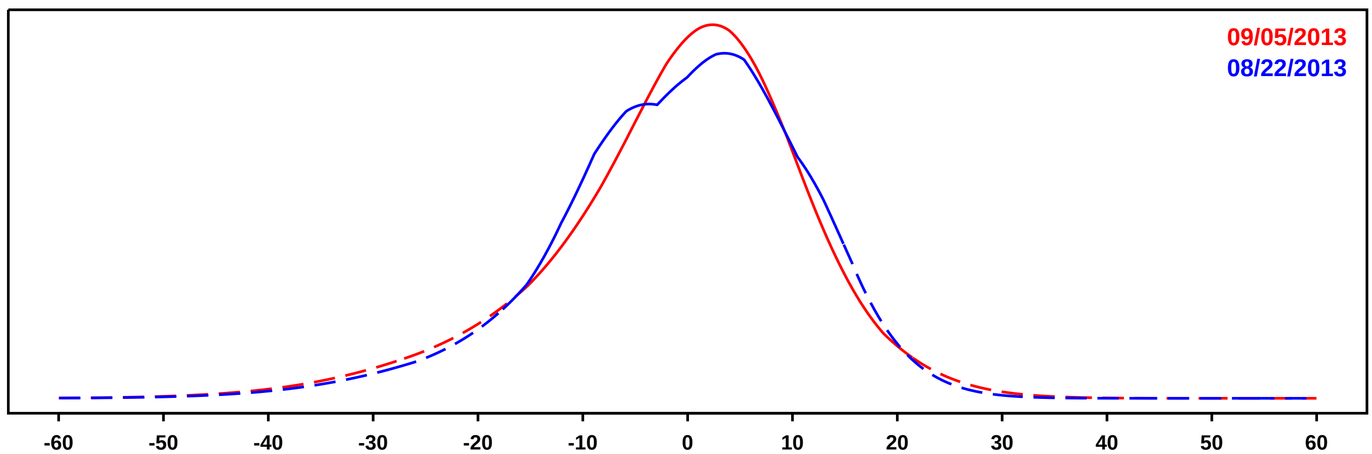
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- BANK OF NEW YORK MELLON

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

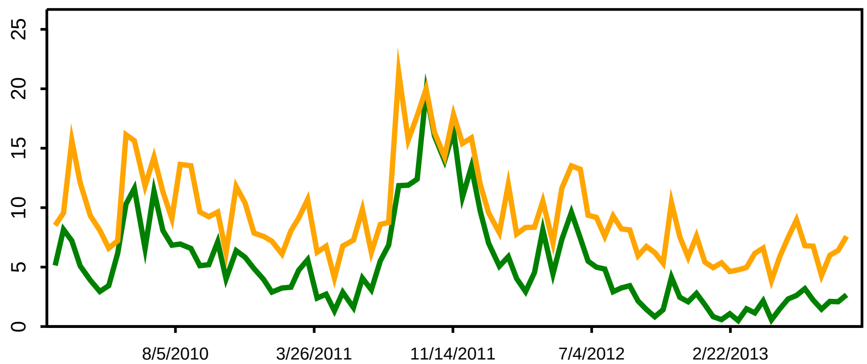
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change

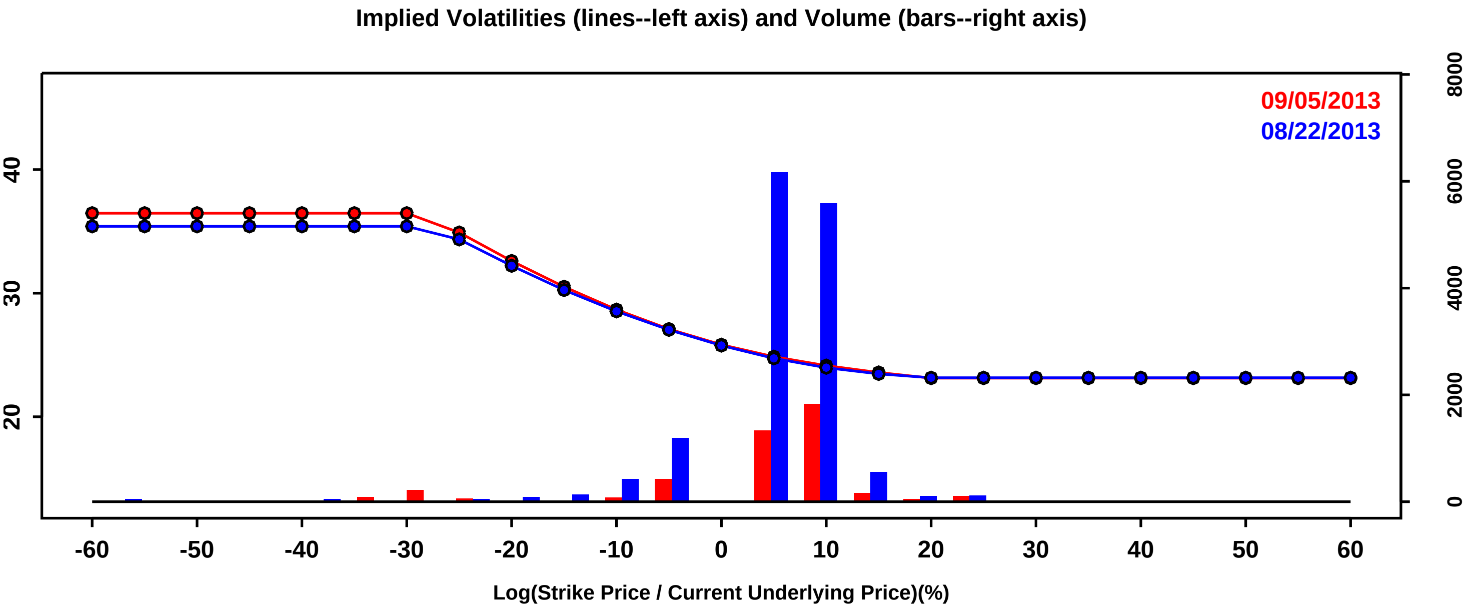


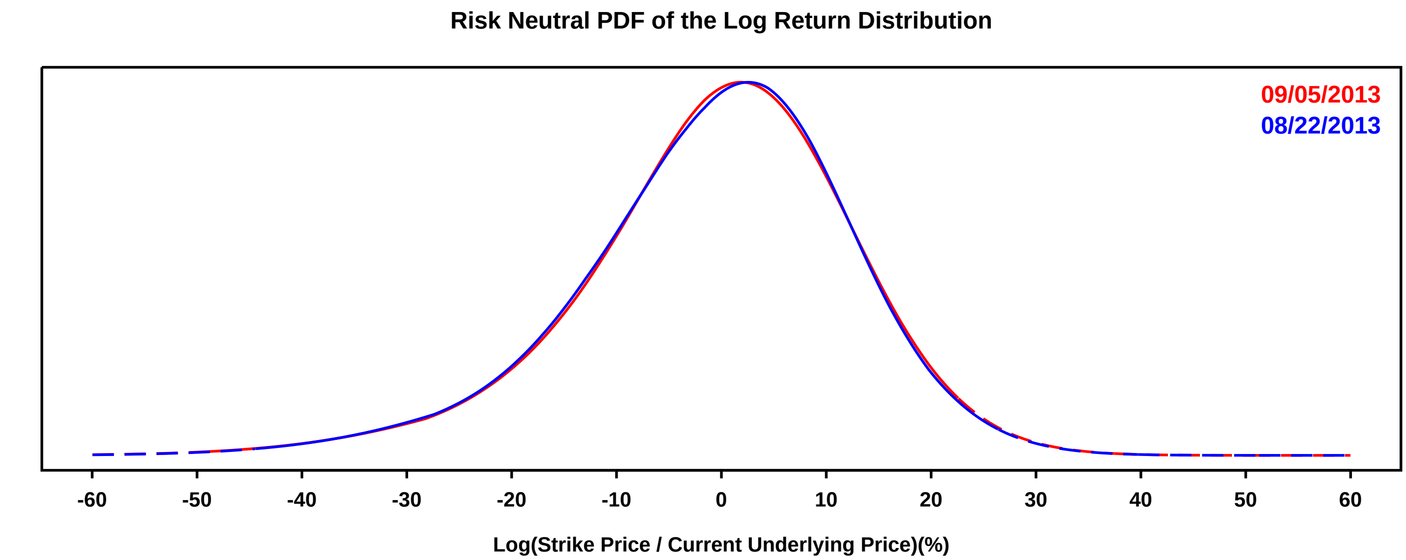
Statistics of the Log Return Distributions

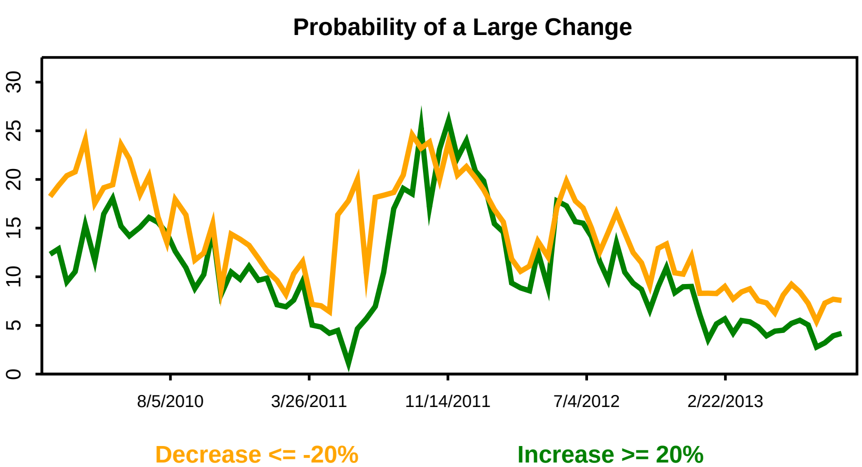
	08/22/2013	09/05/2013	Change
10th Pct	-15.97%	-17.22%	-1.25%
50th Pct	0.27%	0.37%	0.10%
90th Pct	13.39%	12.98%	-0.41%
Mean	-0.79%	-0.98%	-0.19%
Std Dev	11.92%	12.33%	0.41%
Skew	-0.61	-0.65	-0.05
Kurtosis	0.79	1.03	0.24

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.







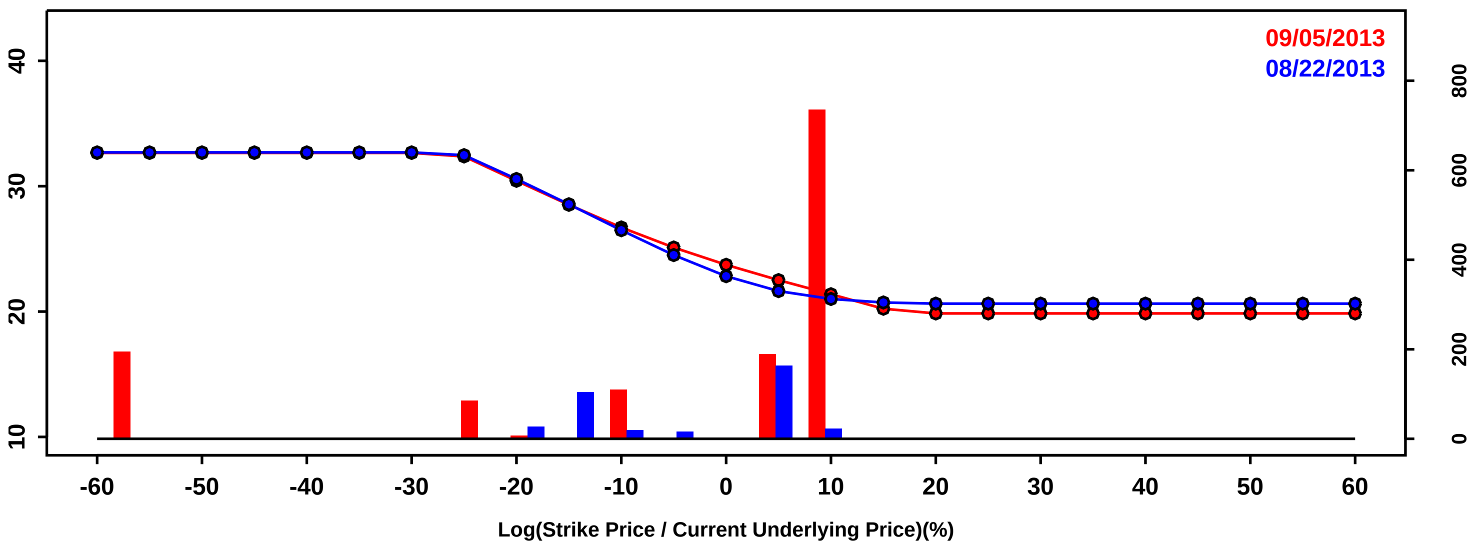
Statistics of the Log Return Distributions

	08/22/2013	09/05/2013	Change
10th Pct	-17.48%	-17.32%	0.16%
50th Pct	0.43%	0.49%	0.07%
90th Pct	14.71%	15.00%	0.28%
Mean	-0.67%	-0.52%	0.15%
Std Dev	13.09%	13.15%	0.06%
Skew	-0.55	-0.57	-0.01
Kurtosis	0.84	0.94	0.09

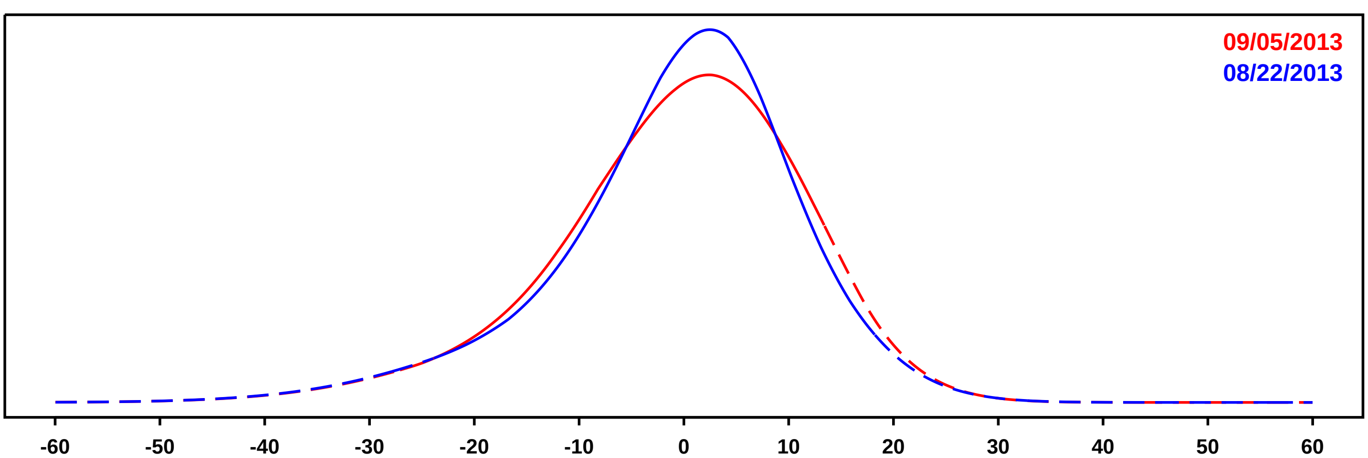
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CAPITAL ONE

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

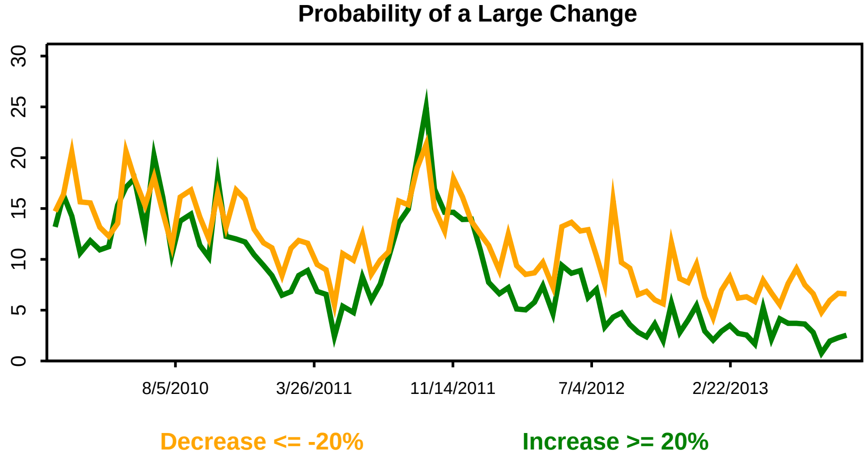
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



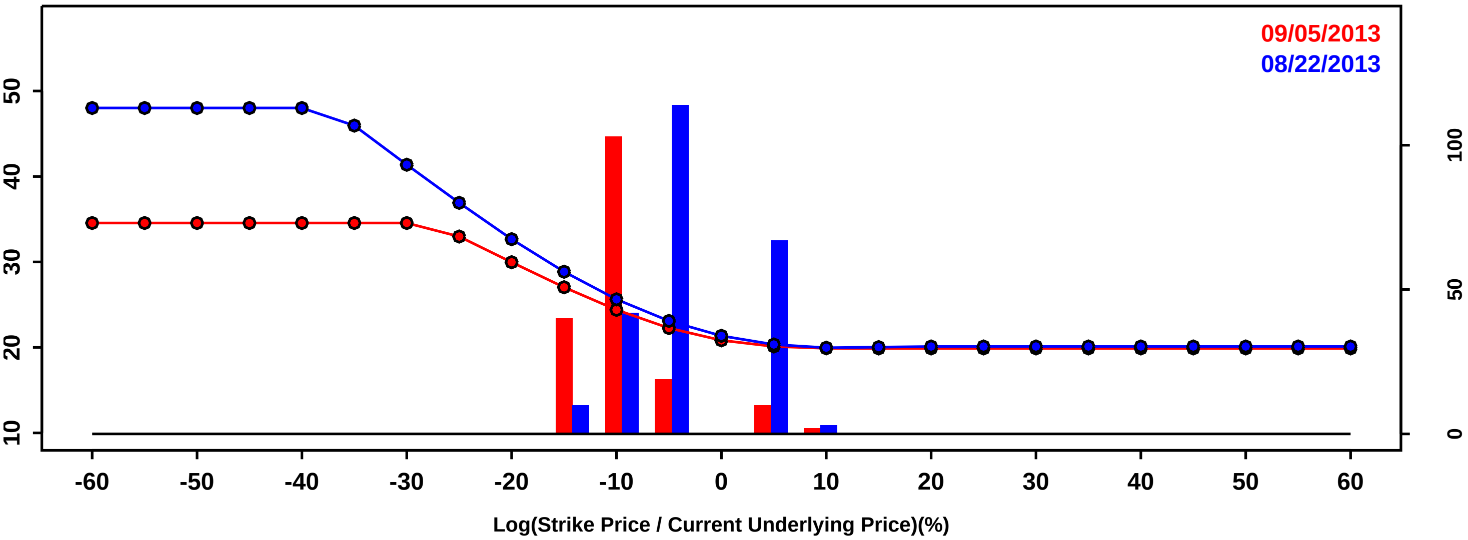
Statistics of the Log Return Distributions

	08/22/2013	09/05/2013	Change
10th Pct	-15.92%	-16.18%	-0.26%
50th Pct	0.66%	0.62%	-0.04%
90th Pct	12.79%	13.76%	0.97%
Mean	-0.63%	-0.50%	0.13%
Std Dev	11.78%	12.11%	0.32%
Skew	-0.71	-0.61	0.09
Kurtosis	1.19	0.82	-0.37

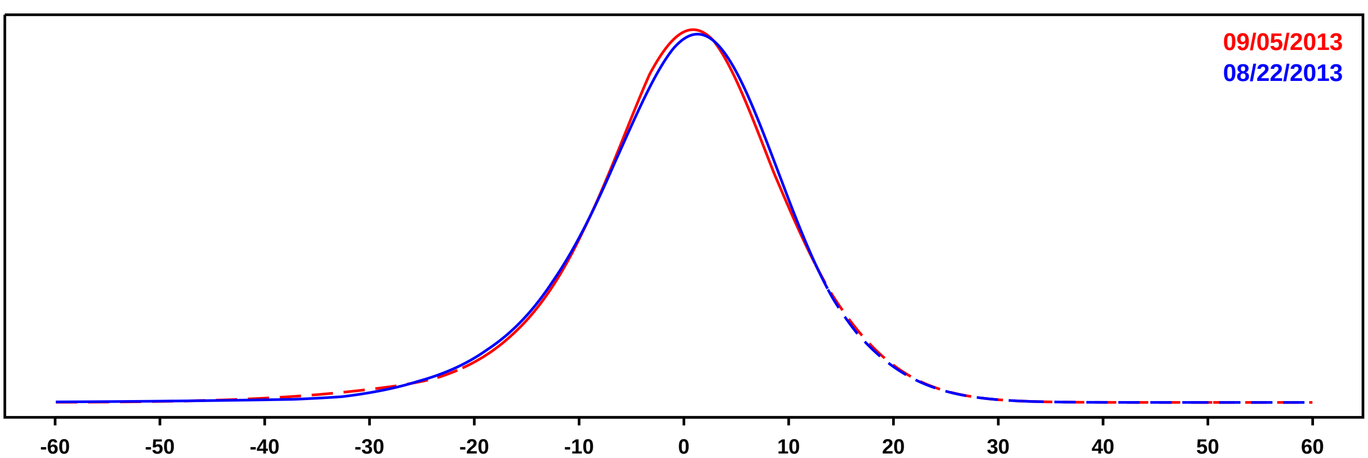
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- FIFTH THIRD

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

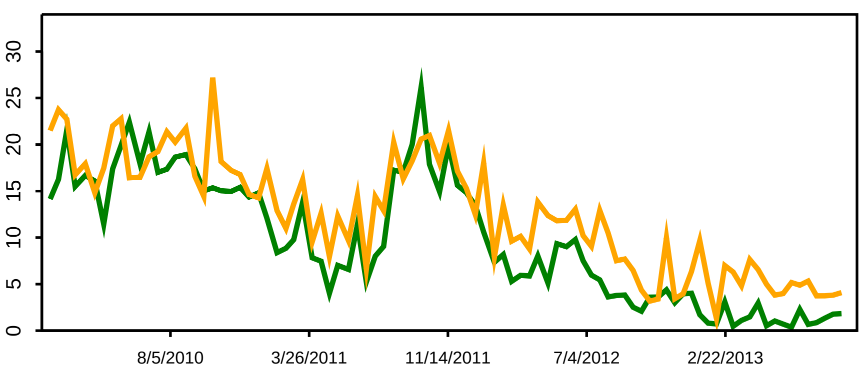
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



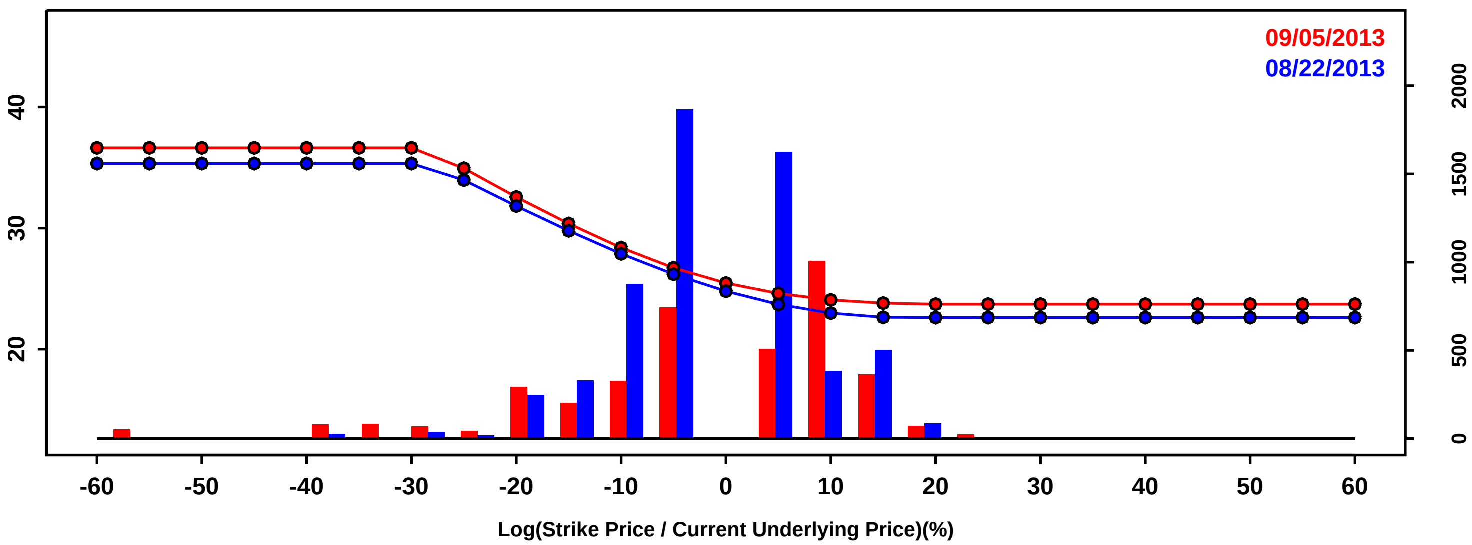
Statistics of the Log Return Distributions

	08/22/2013	09/05/2013	Change
10th Pct	-13.06%	-12.96%	0.10%
50th Pct	0.42%	0.30%	-0.11%
90th Pct	11.85%	11.98%	0.14%
Mean	-0.25%	-0.30%	-0.05%
Std Dev	10.44%	10.49%	0.05%
Skew	-0.72	-0.64	0.08
Kurtosis	2.53	1.76	-0.77

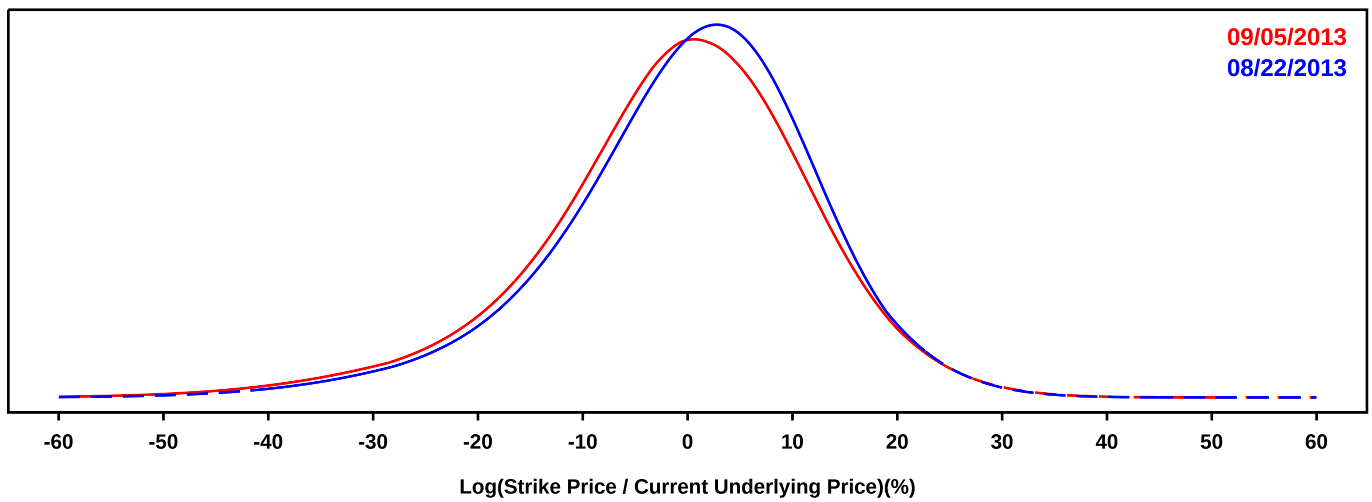
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- GOLDMAN SACHS

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

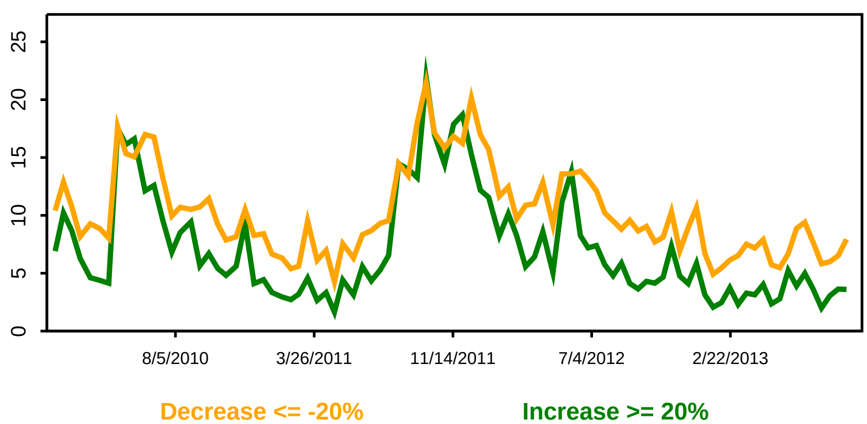
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Statistics of the Log Return Distributions

	08/22/2013	09/05/2013	Change
10th Pct	-15.98%	-17.67%	-1.68%
50th Pct	1.07%	-0.18%	-1.25%
90th Pct	14.43%	14.07%	-0.36%
Mean	-0.02%	-1.18%	-1.16%
Std Dev	12.47%	13.05%	0.57%
Skew	-0.60	-0.59	0.01
Kurtosis	1.04	1.10	0.05

RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- JP MORGAN

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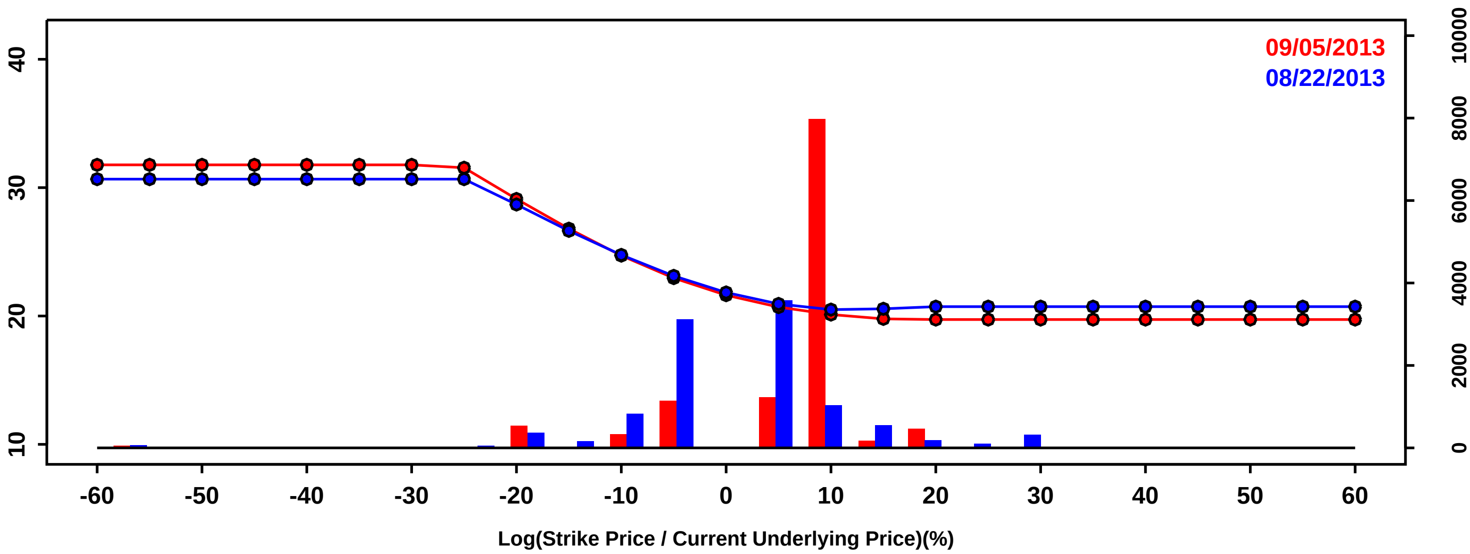
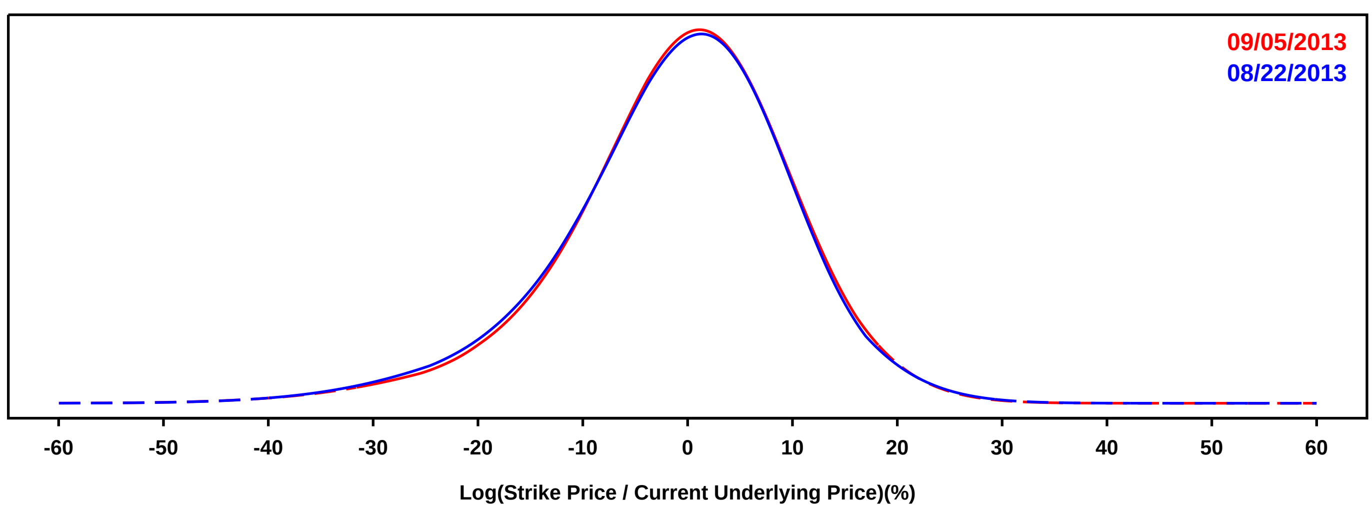
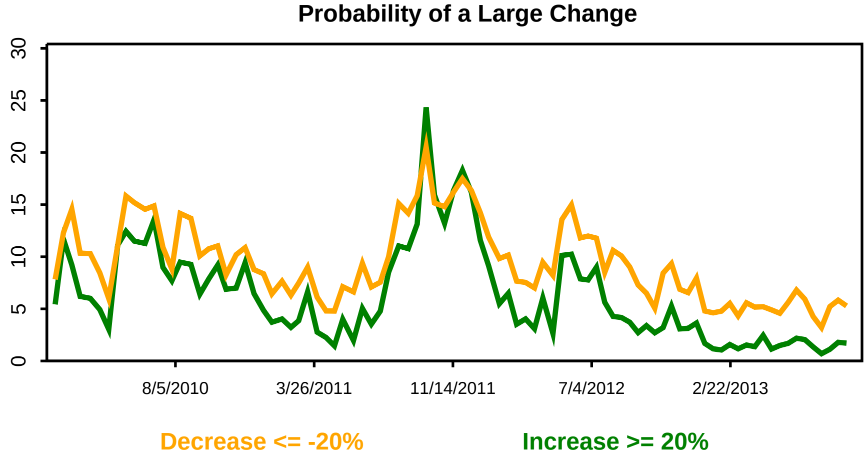




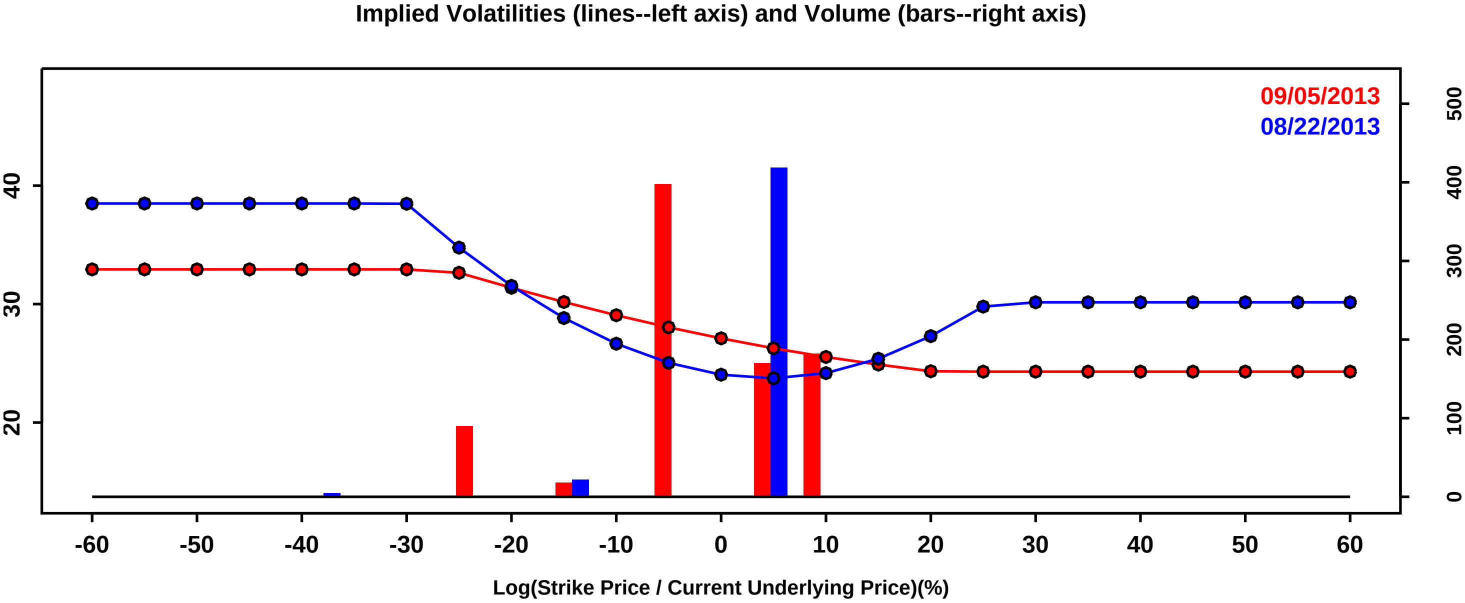


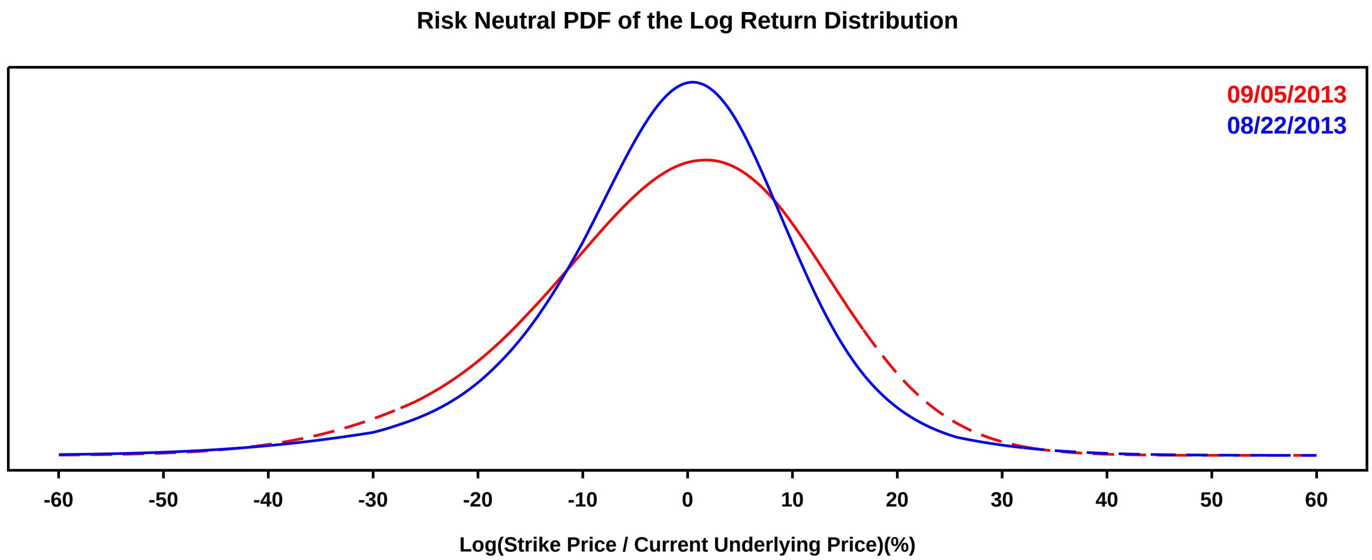
Statistics of the Log Return Distributions

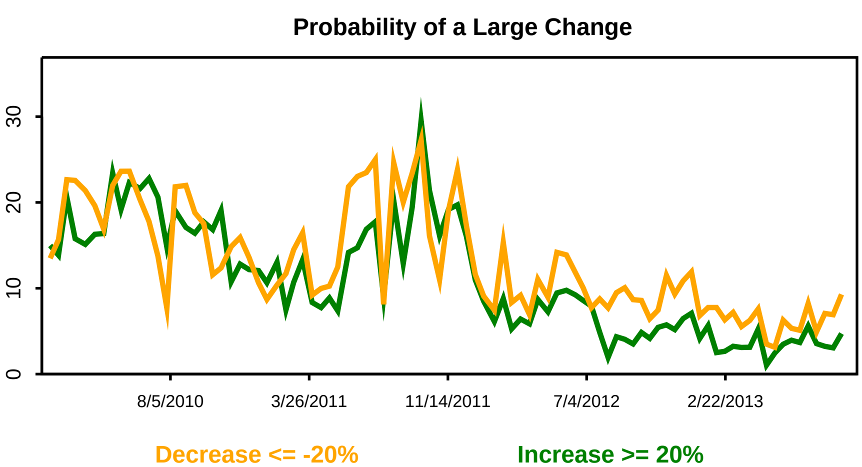
	08/22/2013	09/05/2013	Change
10th Pct	-15.46%	-14.77%	0.69%
50th Pct	-0.19%	0.00%	0.19%
90th Pct	11.81%	12.00%	0.20%
Mean	-1.14%	-0.87%	0.28%
Std Dev	11.16%	11.00%	-0.16%
Skew	-0.57	-0.60	-0.03
Kurtosis	0.98	1.13	0.15

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.







Statistics of the Log Return Distributions

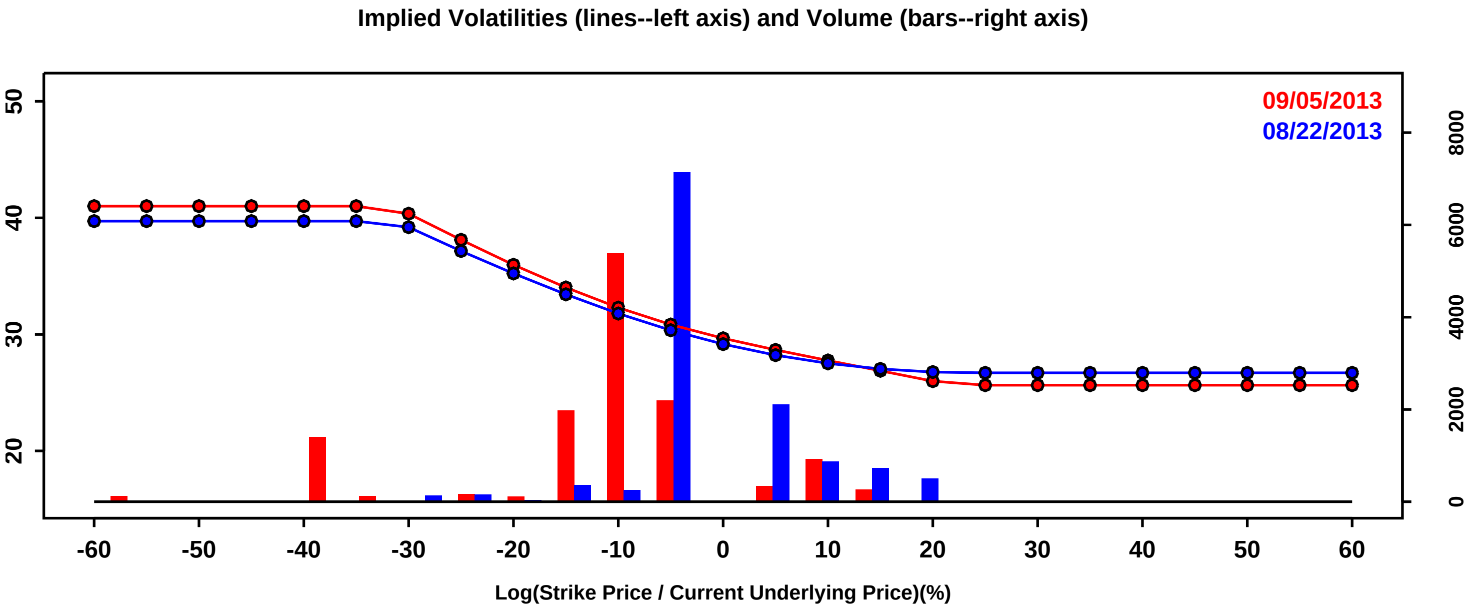
	08/22/2013	09/05/2013	Change
10th Pct	-16.63%	-19.28%	-2.65%
50th Pct	-0.66%	-0.25%	0.42%
90th Pct	12.62%	15.45%	2.83%
Mean	-1.48%	-1.19%	0.29%
Std Dev	12.44%	13.77%	1.33%
Skew	-0.53	-0.39	0.13
Kurtosis	1.70	0.35	-1.35

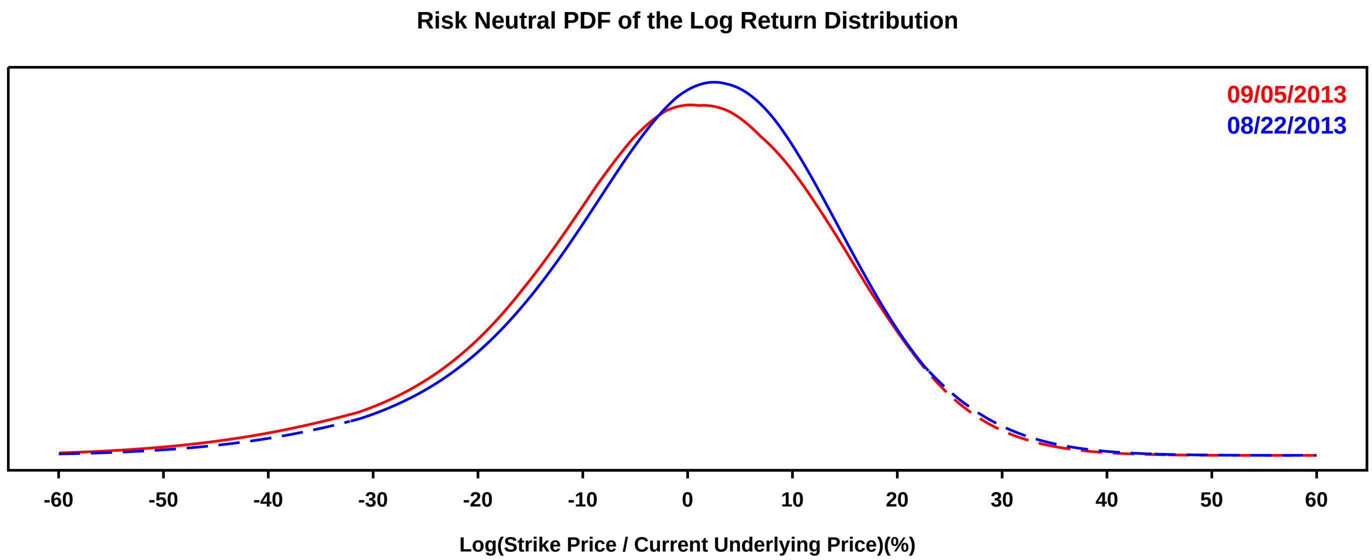
FRB of Minneapolis

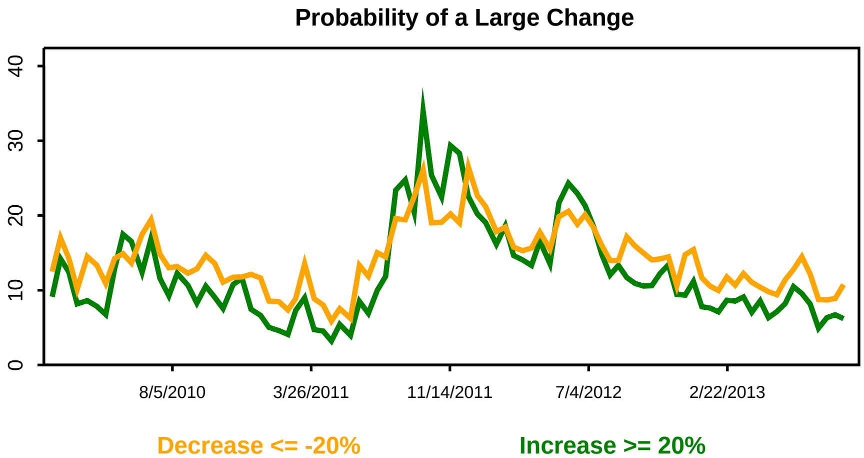
Updated with data through 09/05/2013

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.







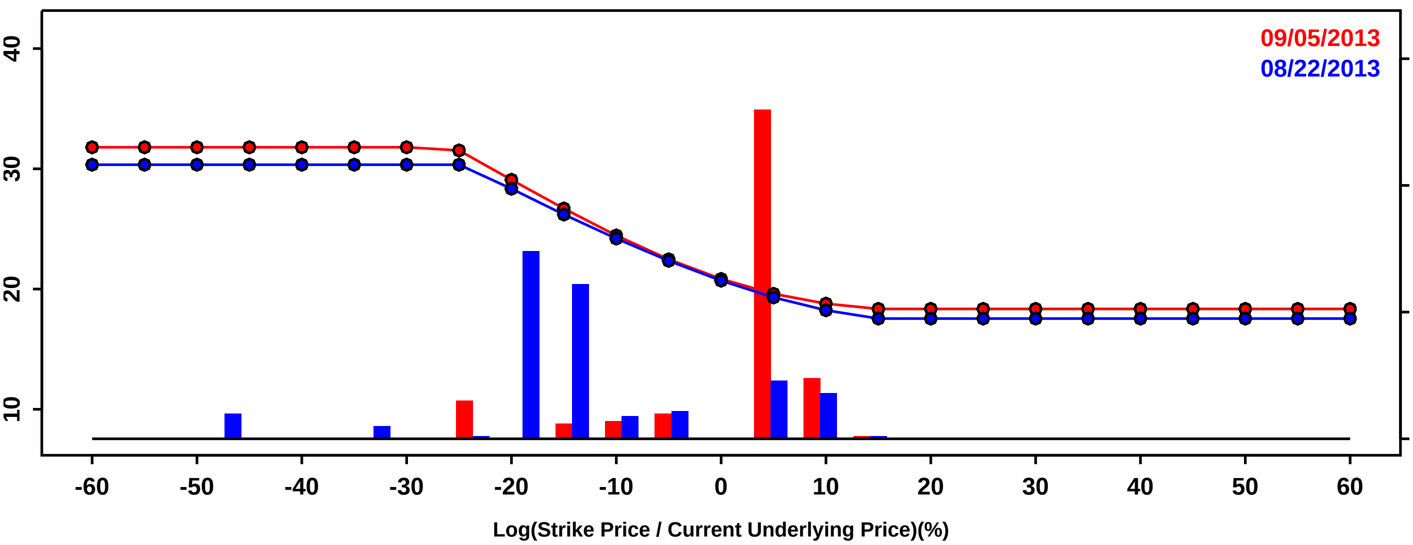
Statistics of the Log Return Distributions

	08/22/2013	09/05/2013	Change
10th Pct	-18.76%	-20.83%	-2.07%
50th Pct	1.07%	-0.15%	-1.21%
90th Pct	17.30%	16.85%	-0.46%
Mean	0.01%	-1.30%	-1.31%
Std Dev	14.63%	15.25%	0.62%
Skew	-0.51	-0.57	-0.06
Kurtosis	0.83	0.83	0.00

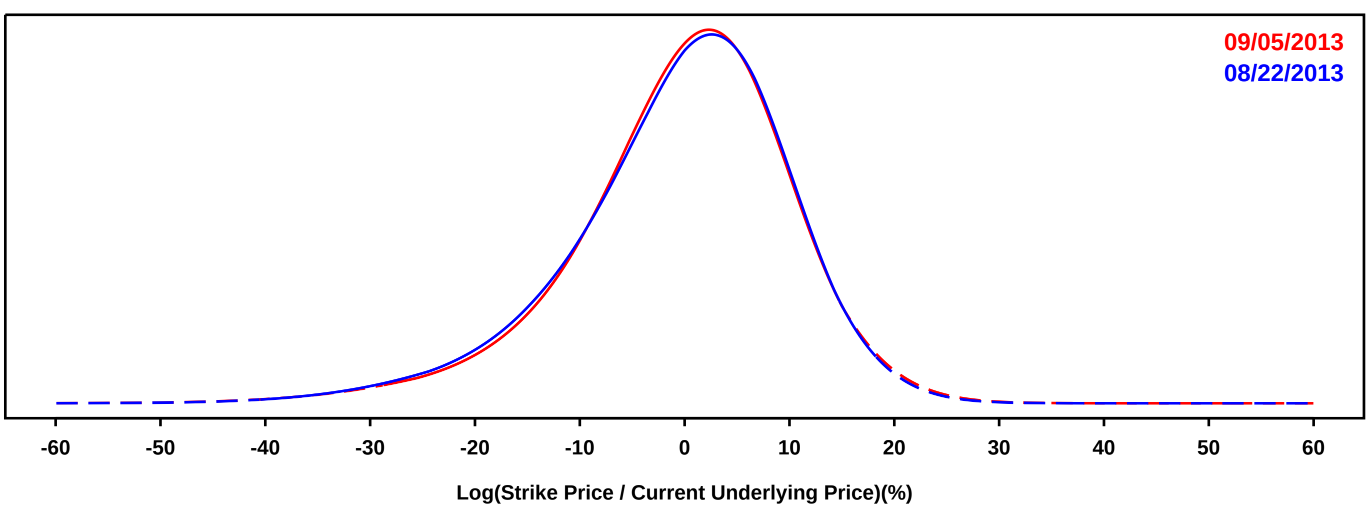
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- PNC FINANCIAL

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

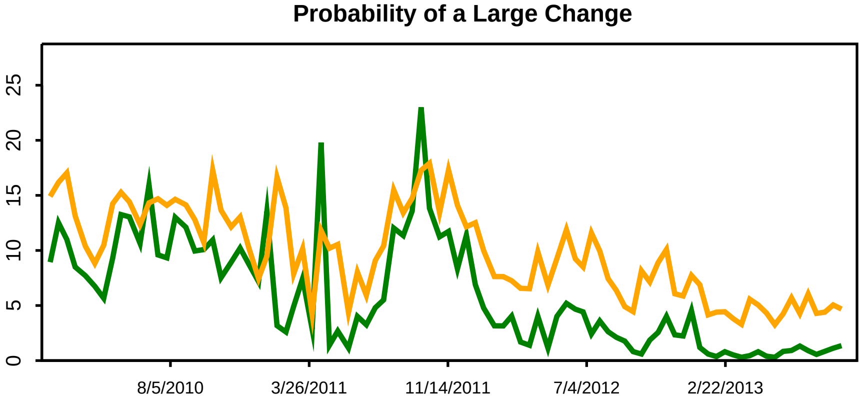
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



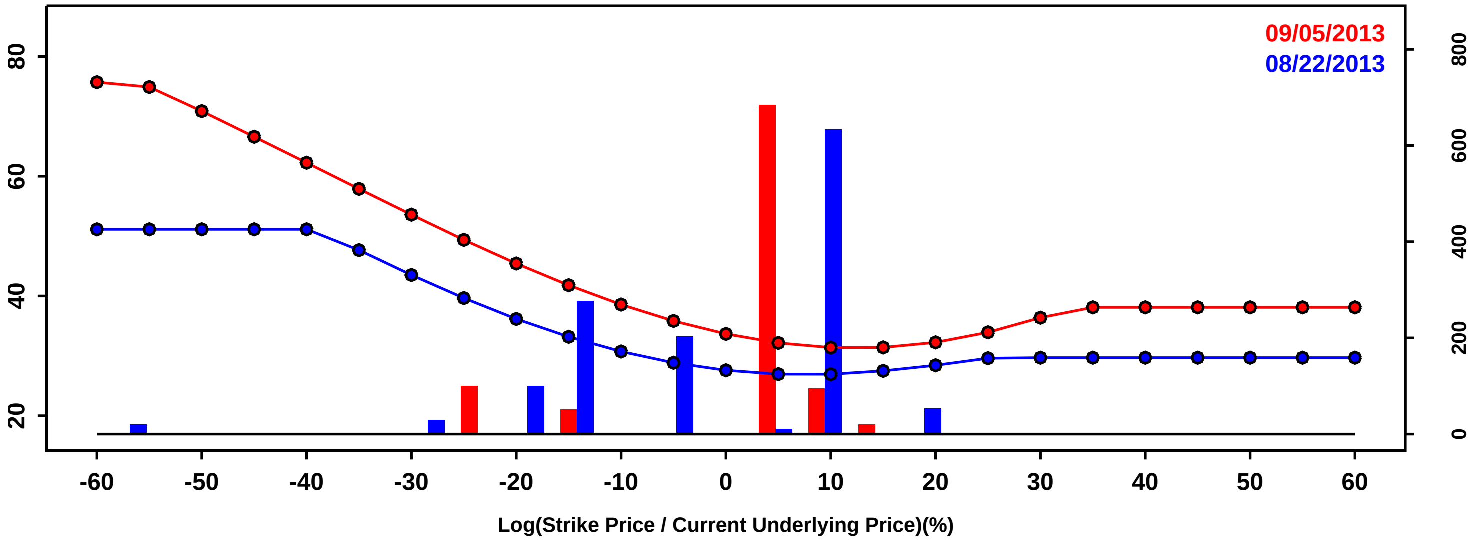
Statistics of the Log Return Distributions

	08/22/2013	09/05/2013	Change
10th Pct	-14.38%	-13.75%	0.63%
50th Pct	0.69%	0.75%	0.06%
90th Pct	11.64%	11.76%	0.12%
Mean	-0.52%	-0.31%	0.21%
Std Dev	10.64%	10.57%	-0.07%
Skew	-0.72	-0.72	0.00
Kurtosis	1.10	1.35	0.25

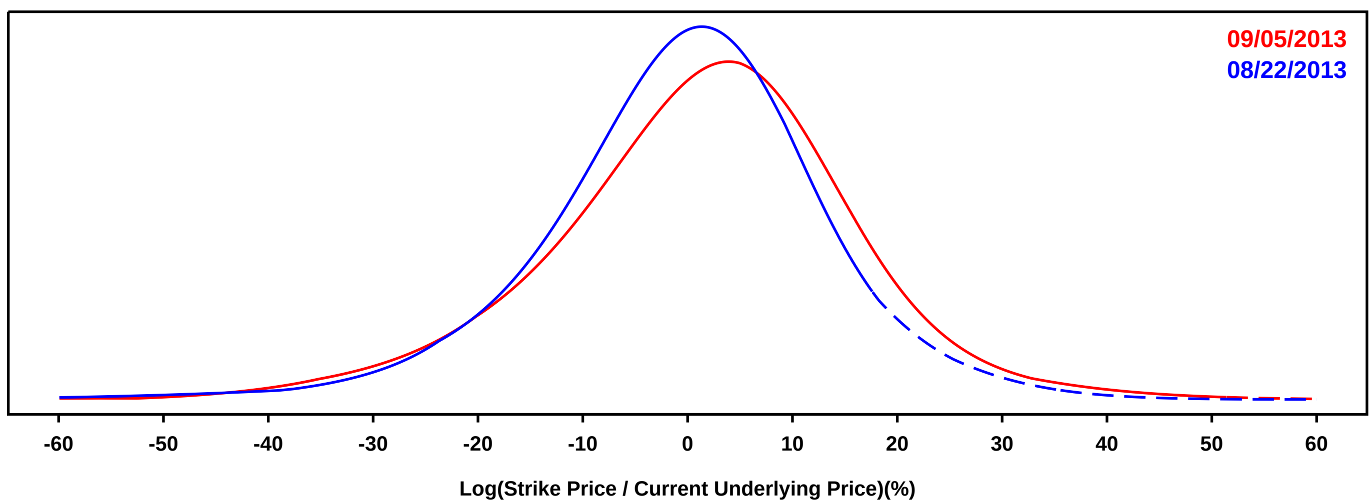
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- REGIONS FINANCIAL

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

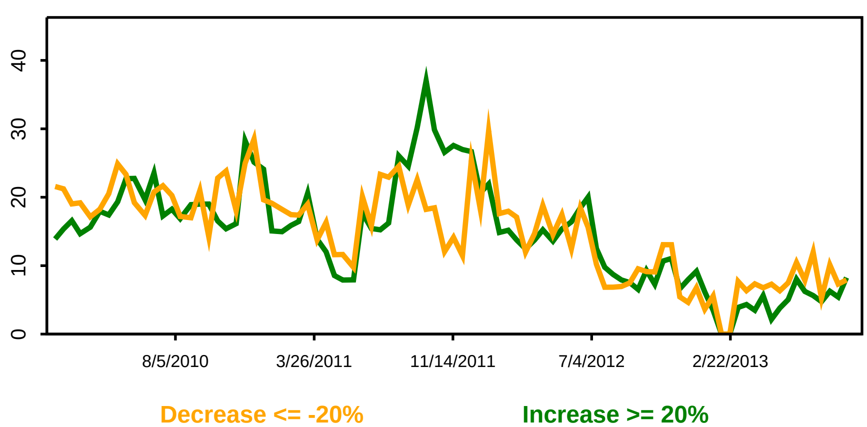
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change

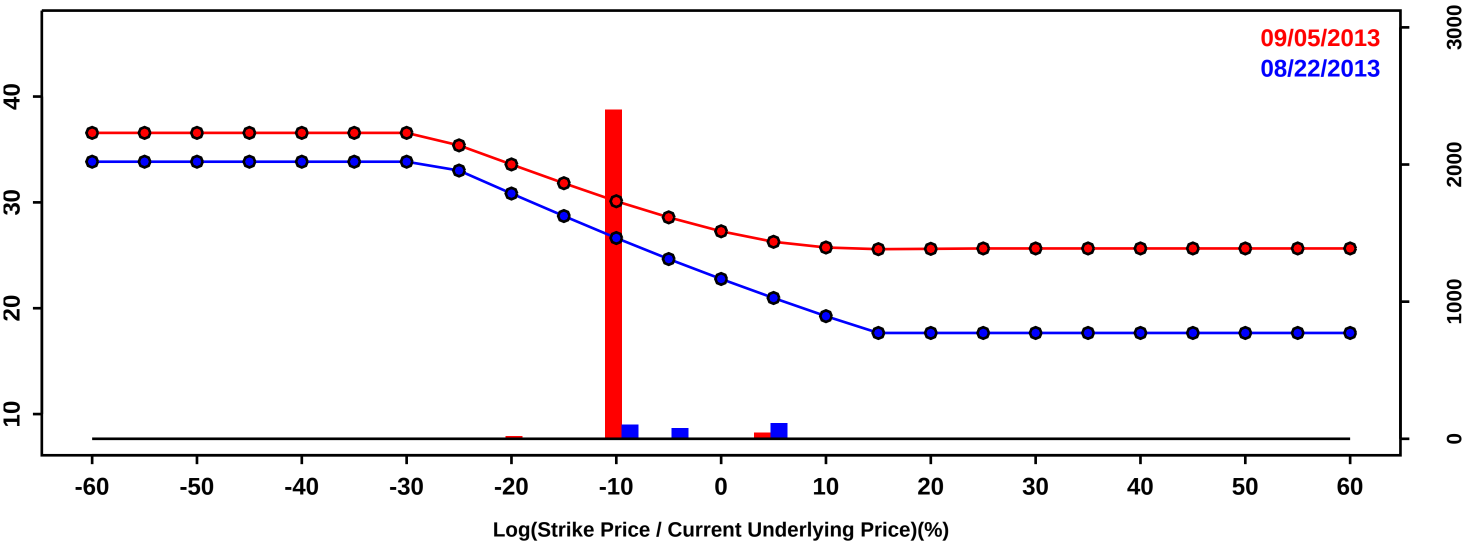


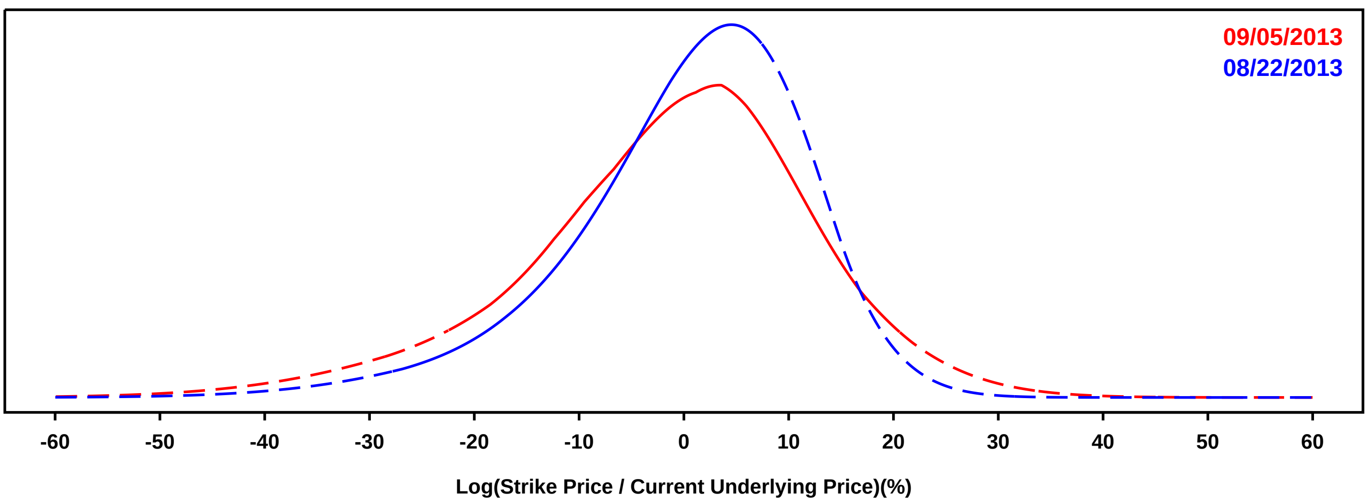
Statistics of the Log Return Distributions

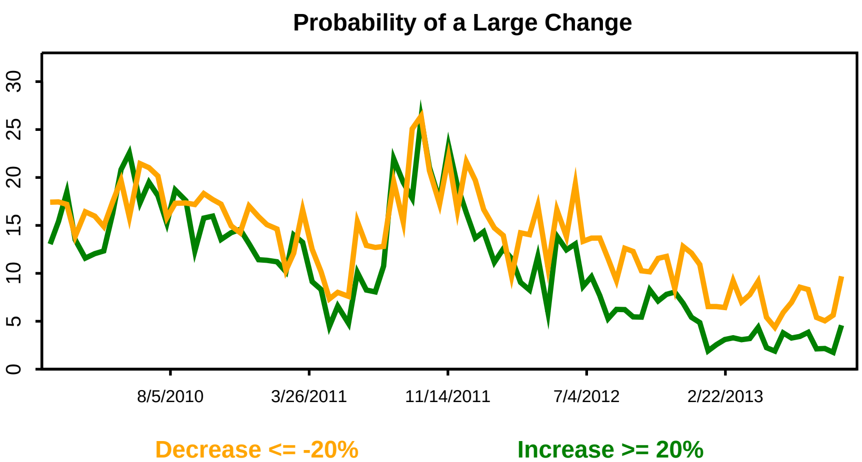
	08/22/2013	09/05/2013	Change
10th Pct	-17.08%	-17.57%	-0.49%
50th Pct	0.32%	2.15%	1.82%
90th Pct	15.42%	18.49%	3.07%
Mean	-0.42%	1.24%	1.66%
Std Dev	13.76%	15.11%	1.35%
Skew	-0.56	-0.47	0.09
Kurtosis	2.07	2.23	0.16

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.





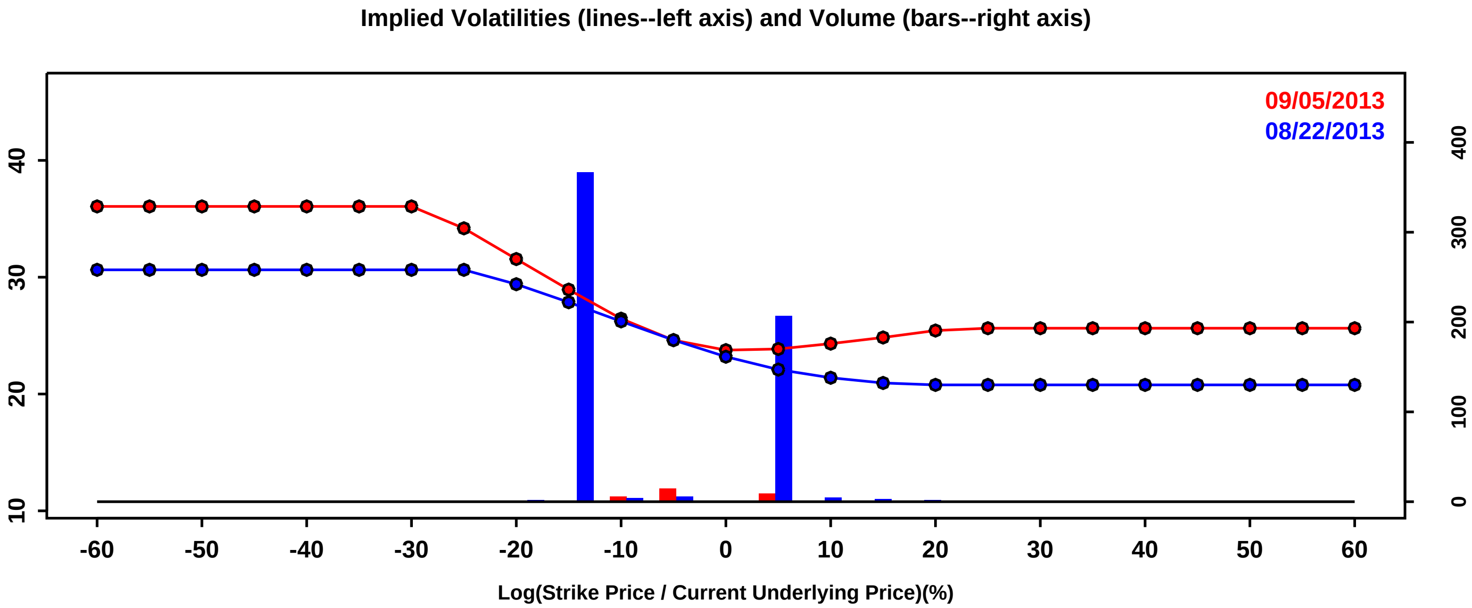


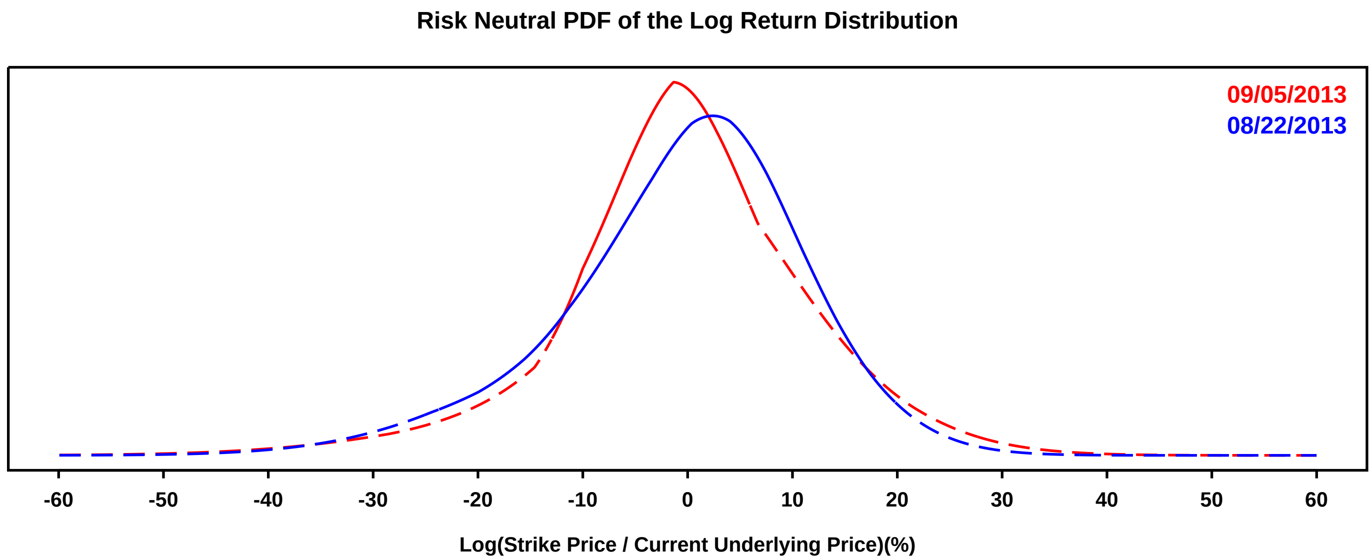
Statistics of the Log Return Distributions

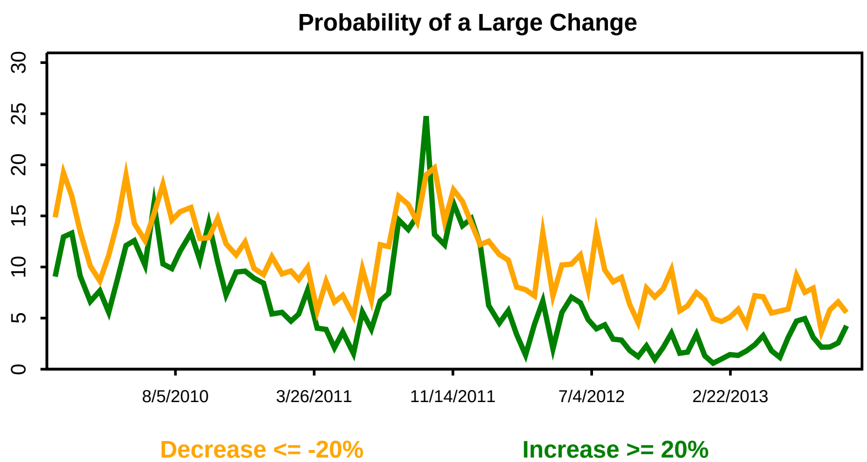
	08/22/2013	09/05/2013	Change
10th Pct	-14.78%	-19.65%	-4.88%
50th Pct	1.90%	0.00%	-1.90%
90th Pct	13.37%	14.94%	1.56%
Mean	0.38%	-1.34%	-1.72%
Std Dev	11.52%	14.02%	2.50%
Skew	-0.83	-0.55	0.28
Kurtosis	1.24	0.84	-0.40

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.







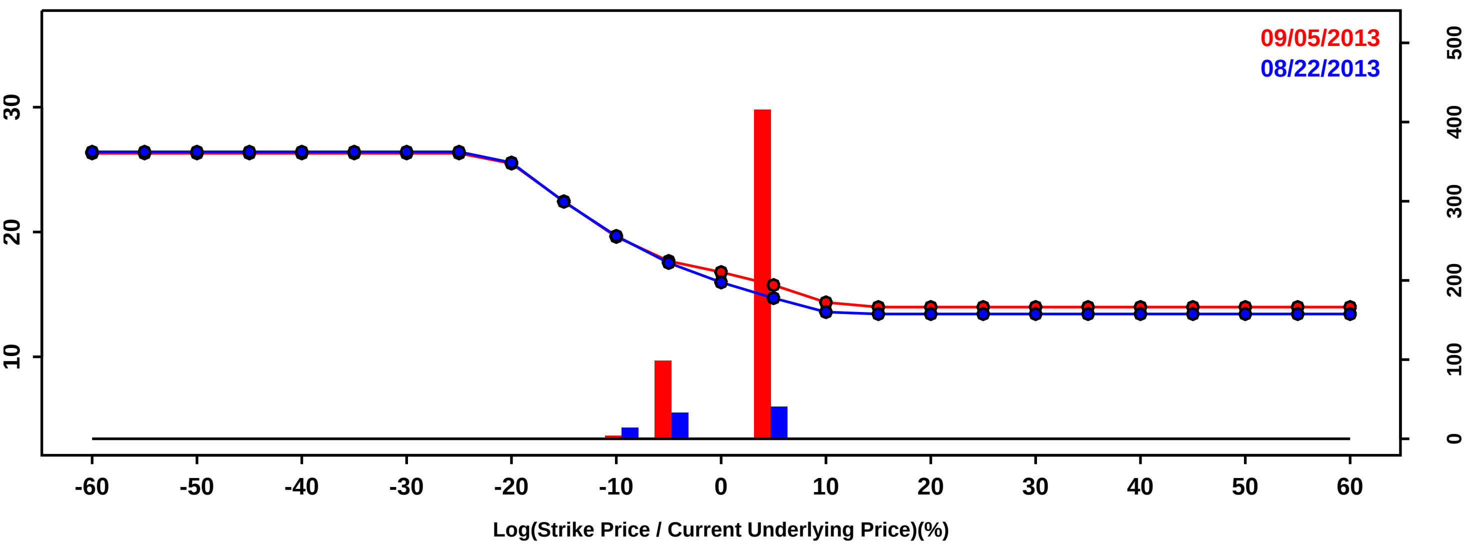
Statistics of the Log Return Distributions

	08/22/2013	09/05/2013	Change
10th Pct	-16.10%	-14.32%	1.78%
50th Pct	0.65%	-0.25%	-0.90%
90th Pct	13.28%	14.27%	0.99%
Mean	-0.50%	-0.34%	0.16%
Std Dev	11.84%	12.06%	0.22%
Skew	-0.58	-0.39	0.19
Kurtosis	0.77	1.51	0.74

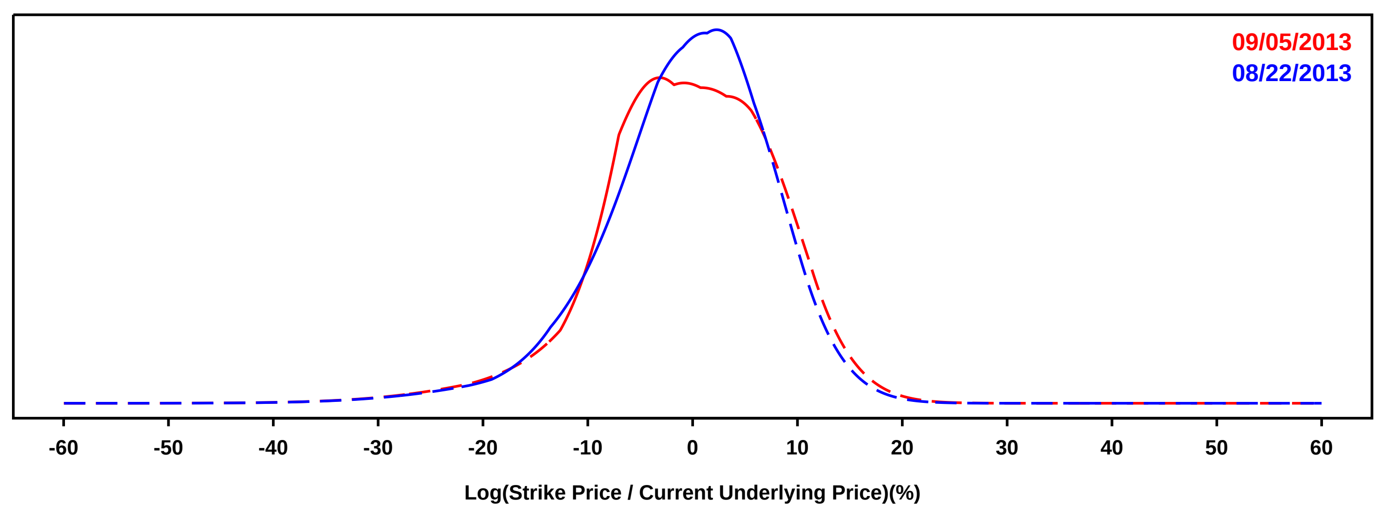
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- US BANCORP

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

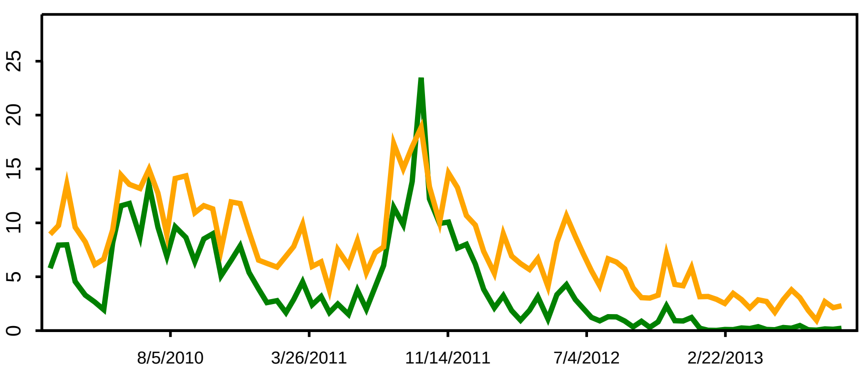
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change

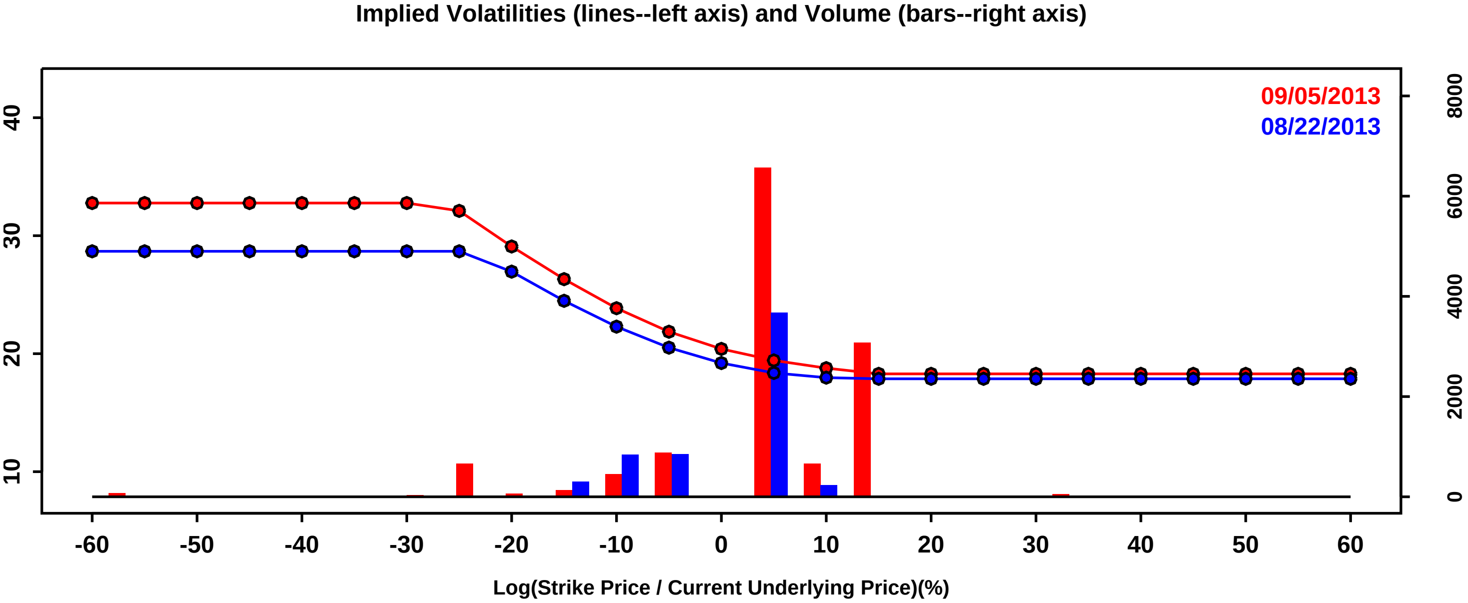


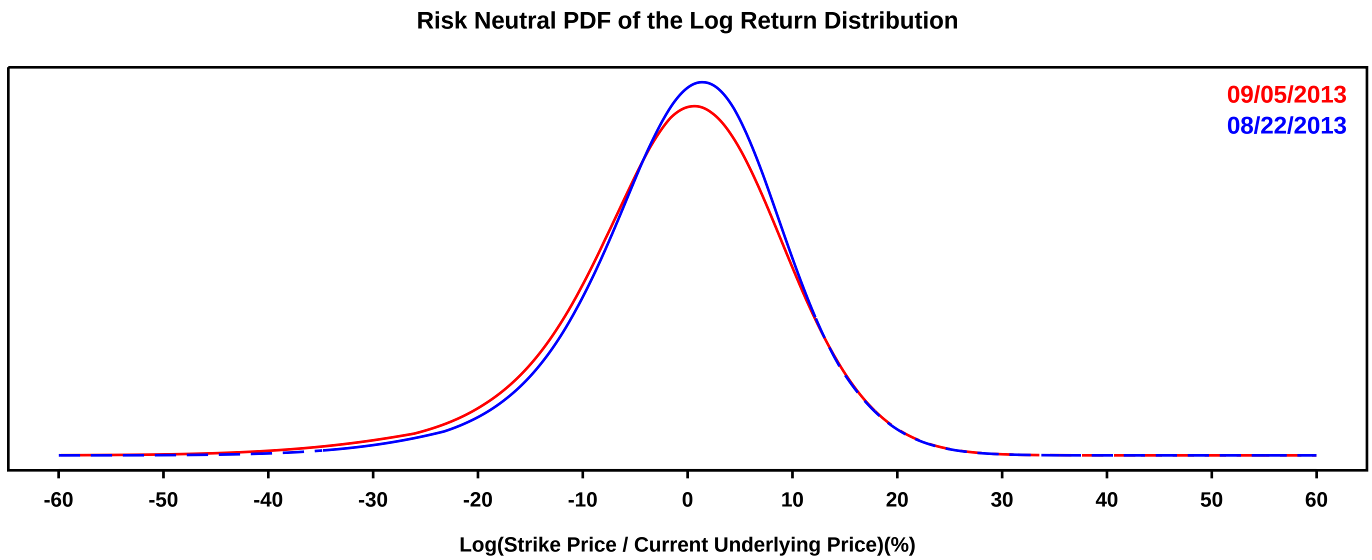
Statistics of the Log Return Distributions

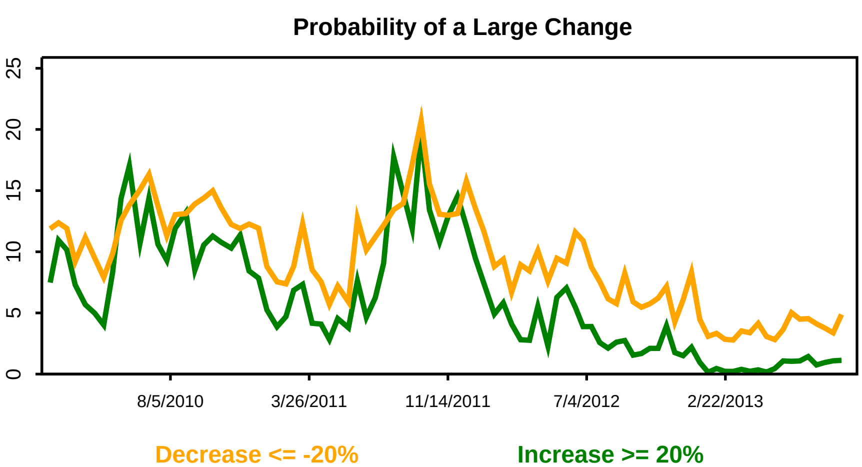
	08/22/2013	09/05/2013	Change
10th Pct	-10.71%	-10.42%	0.29%
50th Pct	0.16%	-0.16%	-0.32%
90th Pct	8.91%	9.73%	0.83%
Mean	-0.53%	-0.47%	0.06%
Std Dev	8.09%	8.43%	0.34%
Skew	-0.73	-0.59	0.14
Kurtosis	1.48	1.19	-0.29

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.







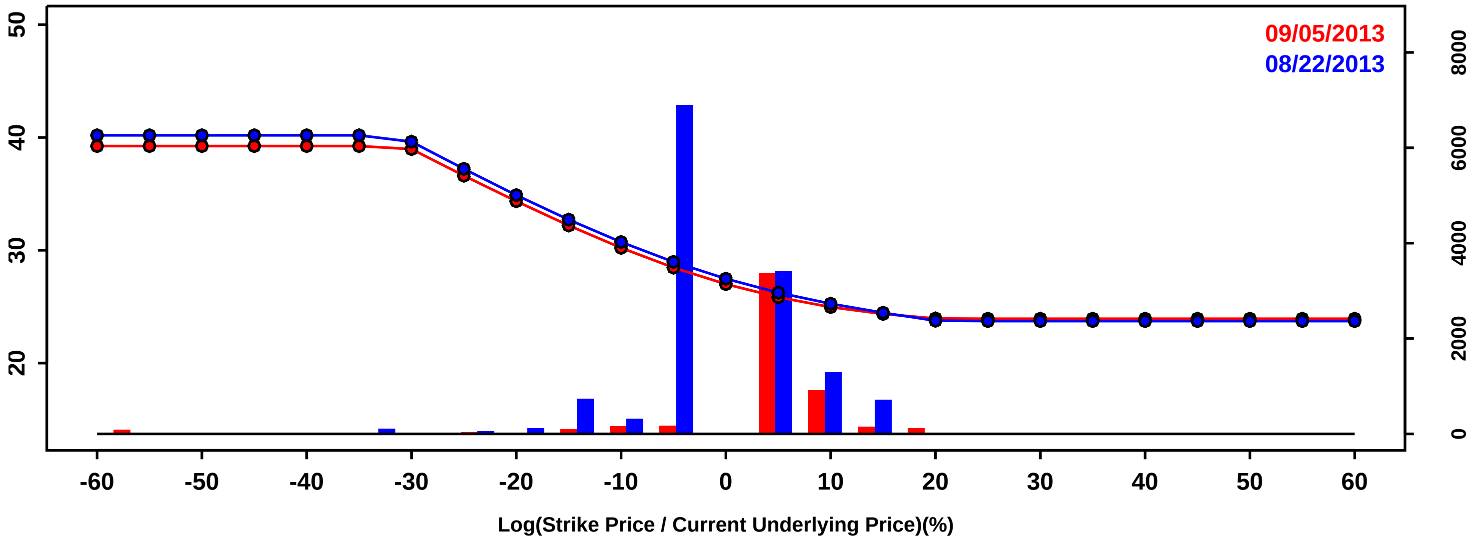
Statistics of the Log Return Distributions

	08/22/2013	09/05/2013	Change
10th Pct	-12.40%	-14.18%	-1.79%
50th Pct	0.45%	-0.22%	-0.67%
90th Pct	11.08%	11.14%	0.06%
Mean	-0.24%	-1.10%	-0.85%
Std Dev	9.67%	10.53%	0.86%
Skew	-0.56	-0.71	-0.15
Kurtosis	1.14	1.51	0.37

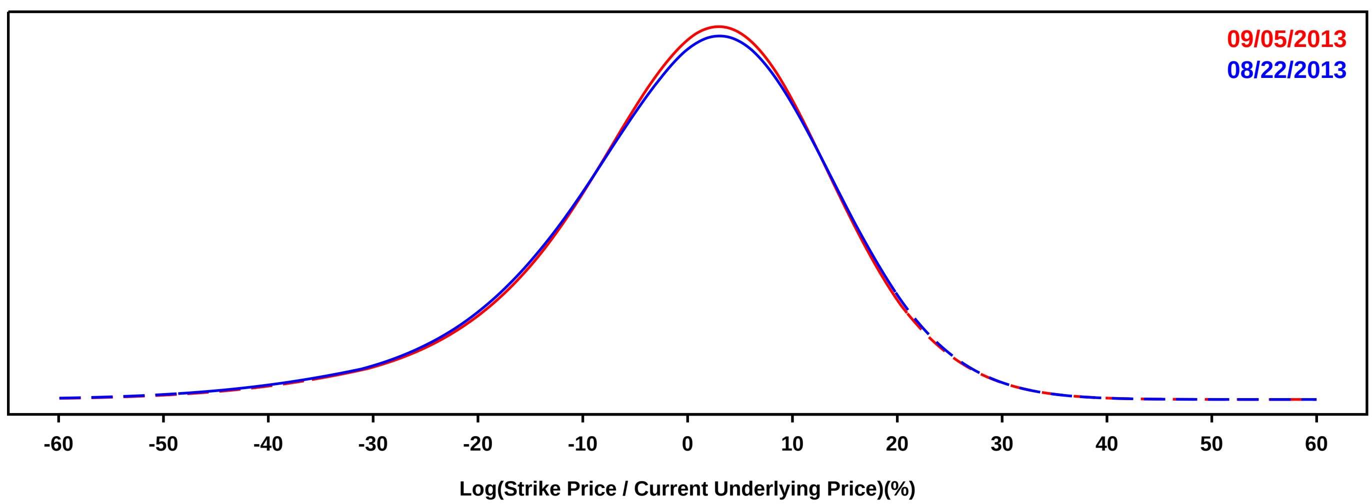
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- AIG

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

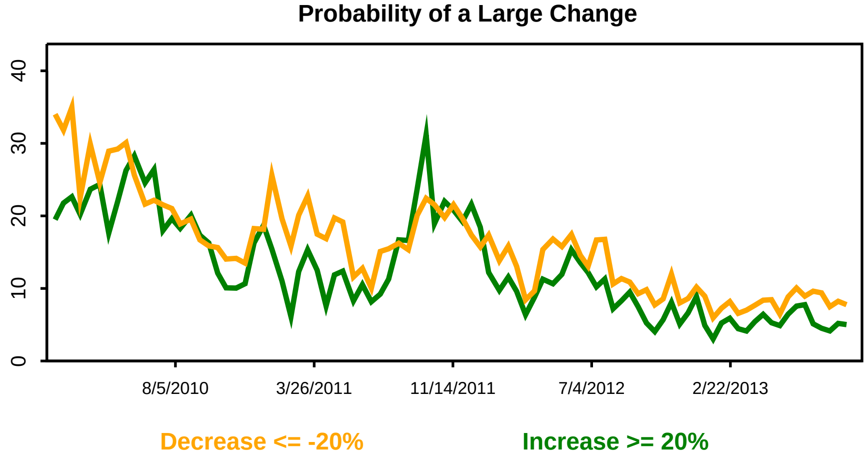
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



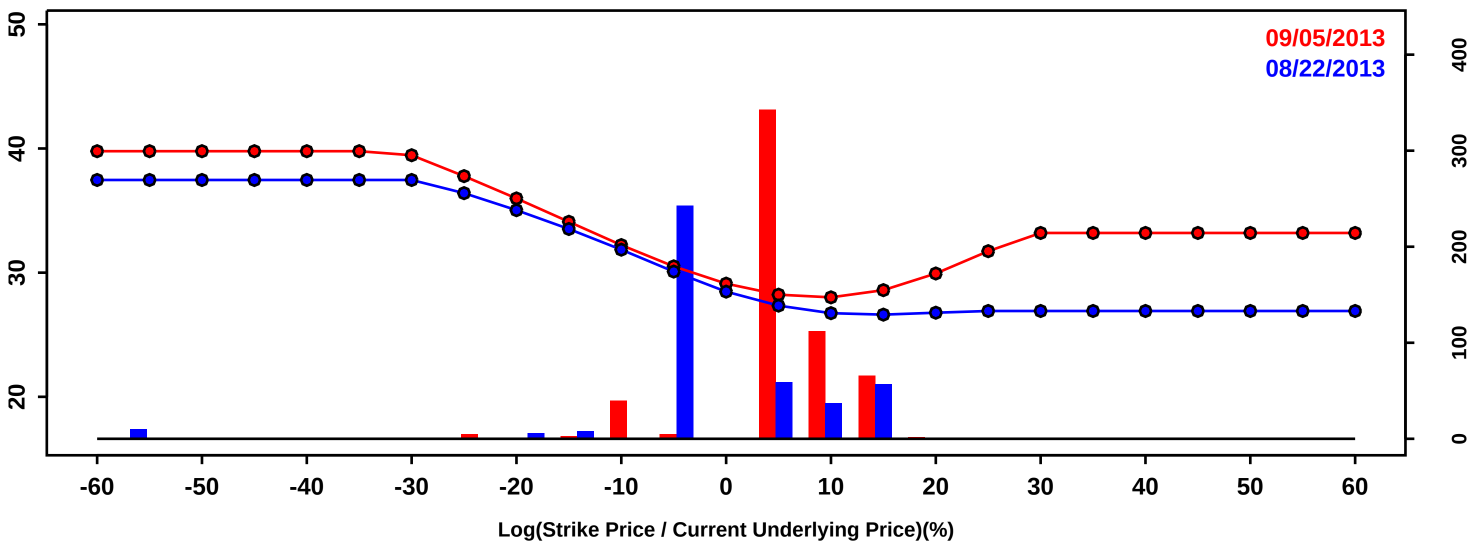
Statistics of the Log Return Distributions

	08/22/2013	09/05/2013	Change
10th Pct	-17.96%	-17.39%	0.56%
50th Pct	1.15%	1.25%	0.10%
90th Pct	16.09%	15.86%	-0.24%
Mean	-0.13%	0.03%	0.17%
Std Dev	13.94%	13.64%	-0.30%
Skew	-0.66	-0.64	0.02
Kurtosis	1.12	1.12	0.01

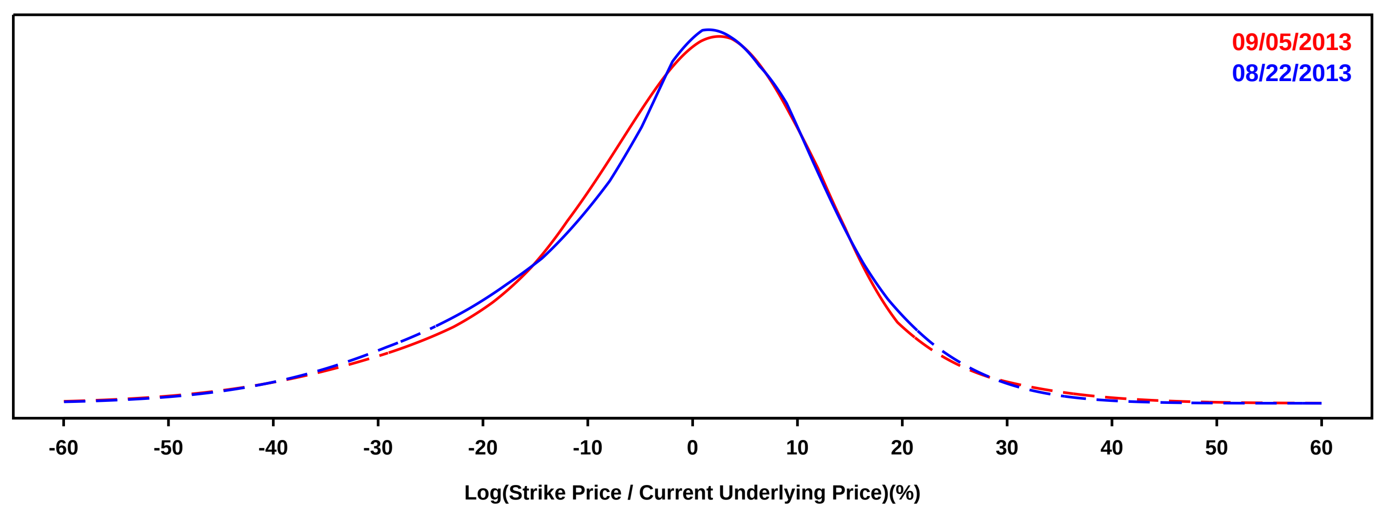
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- HARTFORD FINANCIAL

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

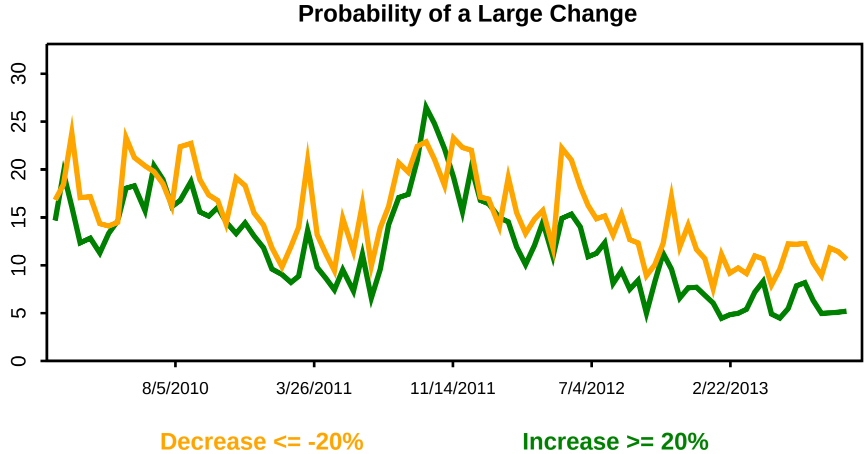
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



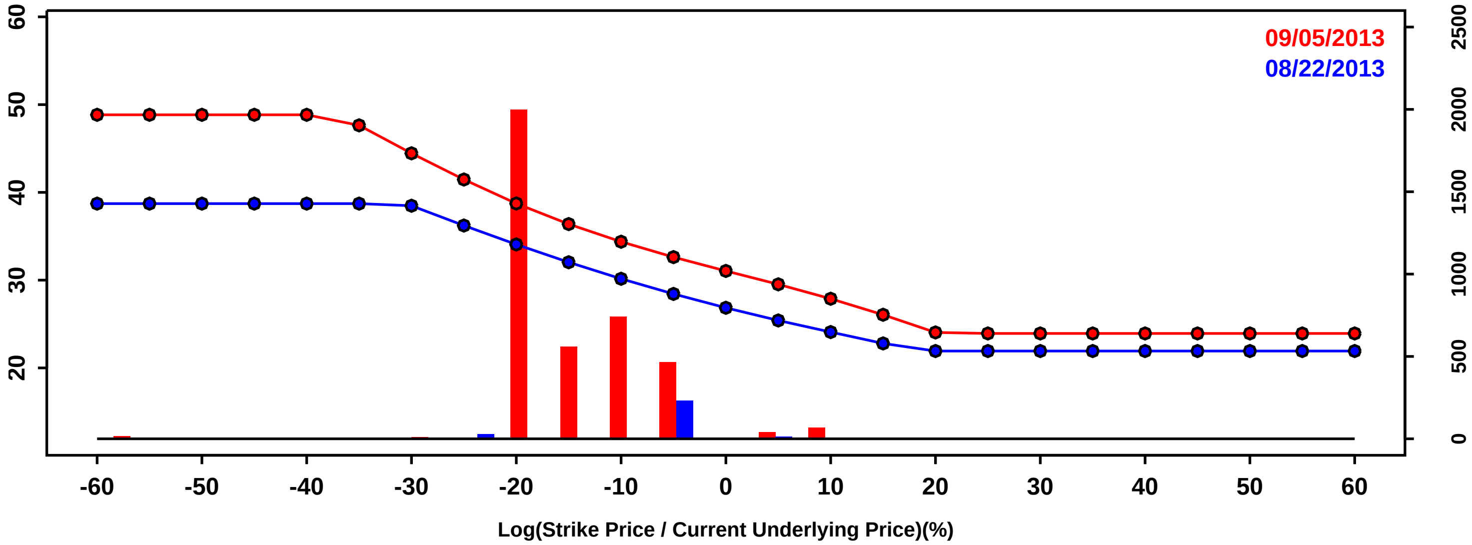
Statistics of the Log Return Distributions

	08/22/2013	09/05/2013	Change
10th Pct	-21.62%	-20.76%	0.85%
50th Pct	0.31%	0.21%	-0.10%
90th Pct	15.37%	15.24%	-0.13%
Mean	-1.46%	-1.31%	0.15%
Std Dev	14.83%	14.96%	0.12%
Skew	-0.60	-0.55	0.05
Kurtosis	0.79	1.17	0.38

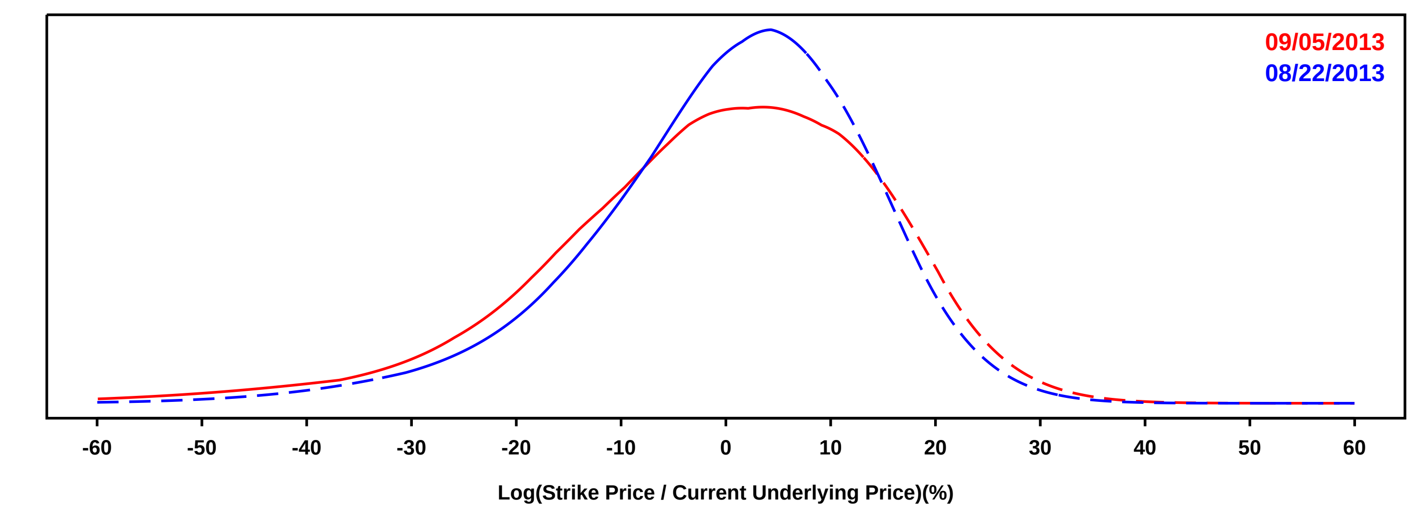
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- LINCOLN NATIONAL

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

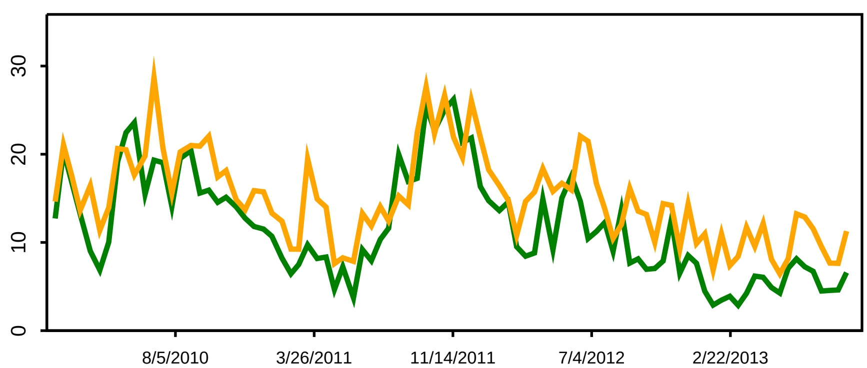
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



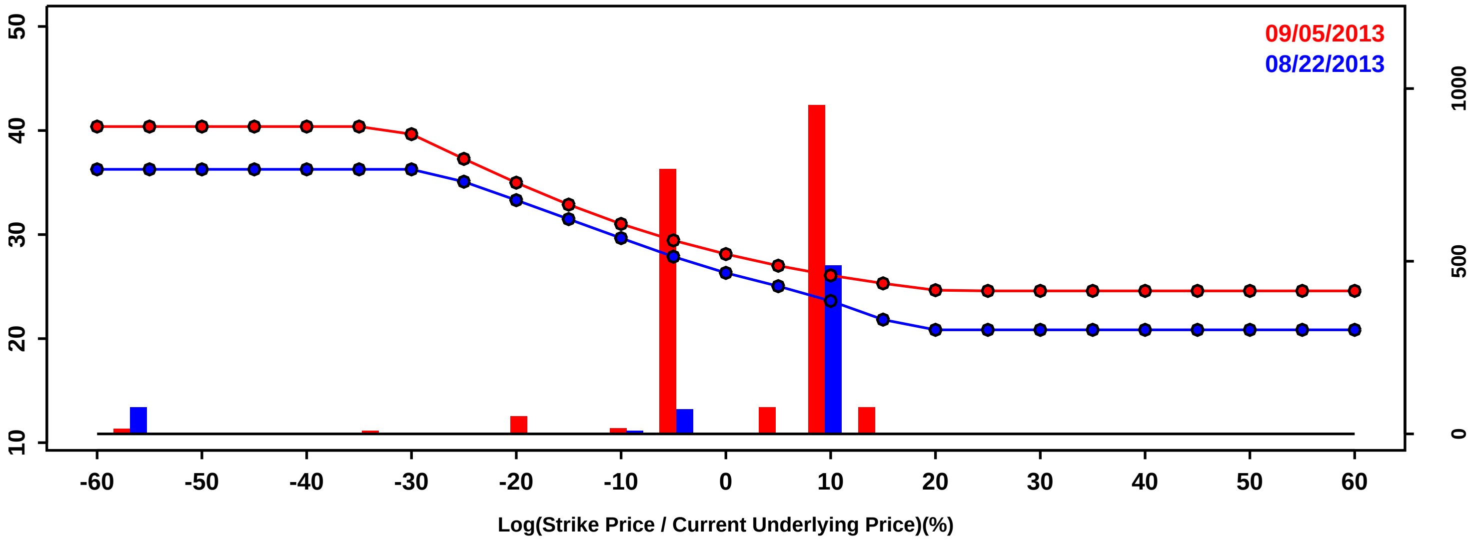
Statistics of the Log Return Distributions

	08/22/2013	09/05/2013	Change
10th Pct	-17.27%	-21.35%	-4.08%
50th Pct	1.68%	0.51%	-1.16%
90th Pct	15.93%	17.56%	1.64%
Mean	0.27%	-1.08%	-1.35%
Std Dev	13.52%	16.04%	2.52%
Skew	-0.69	-0.78	-0.09
Kurtosis	1.01	1.30	0.29

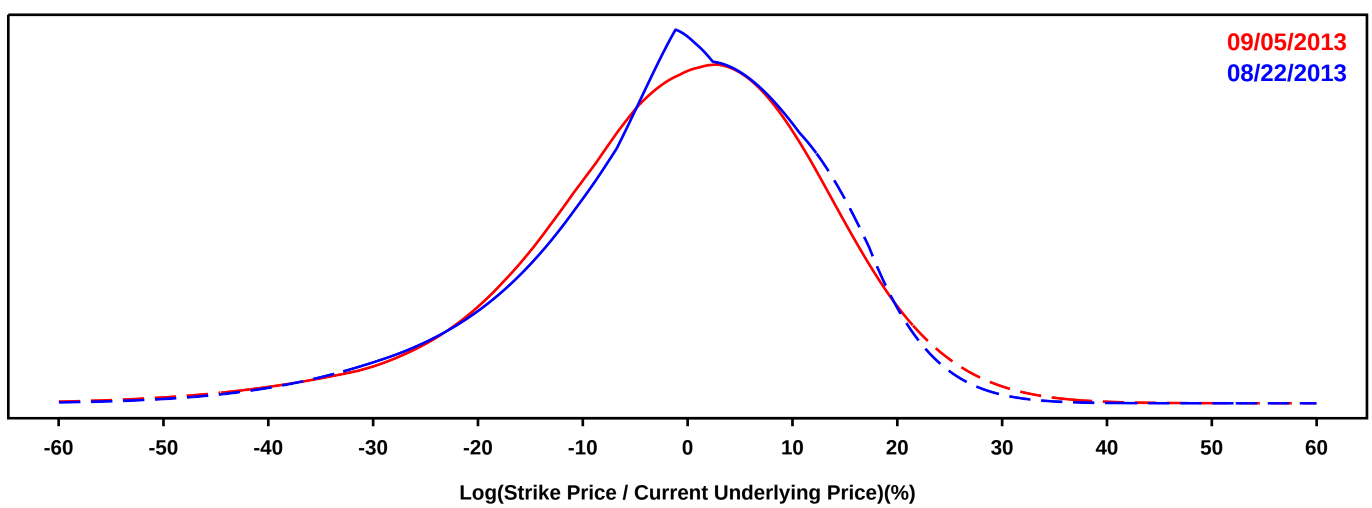
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- METLIFE

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

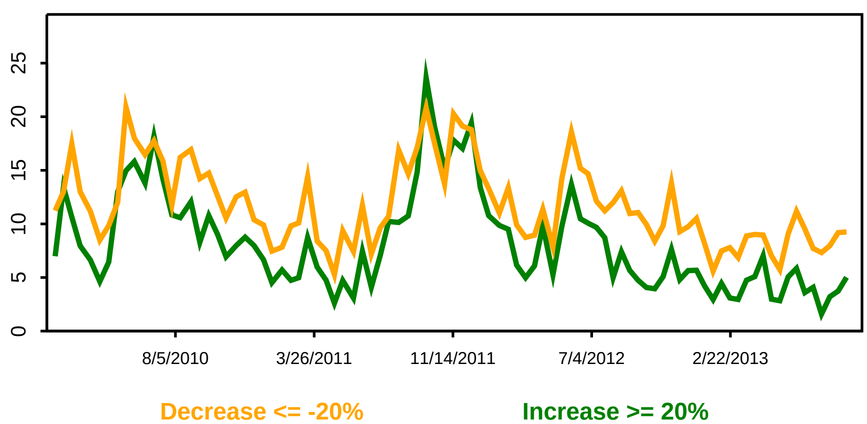
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



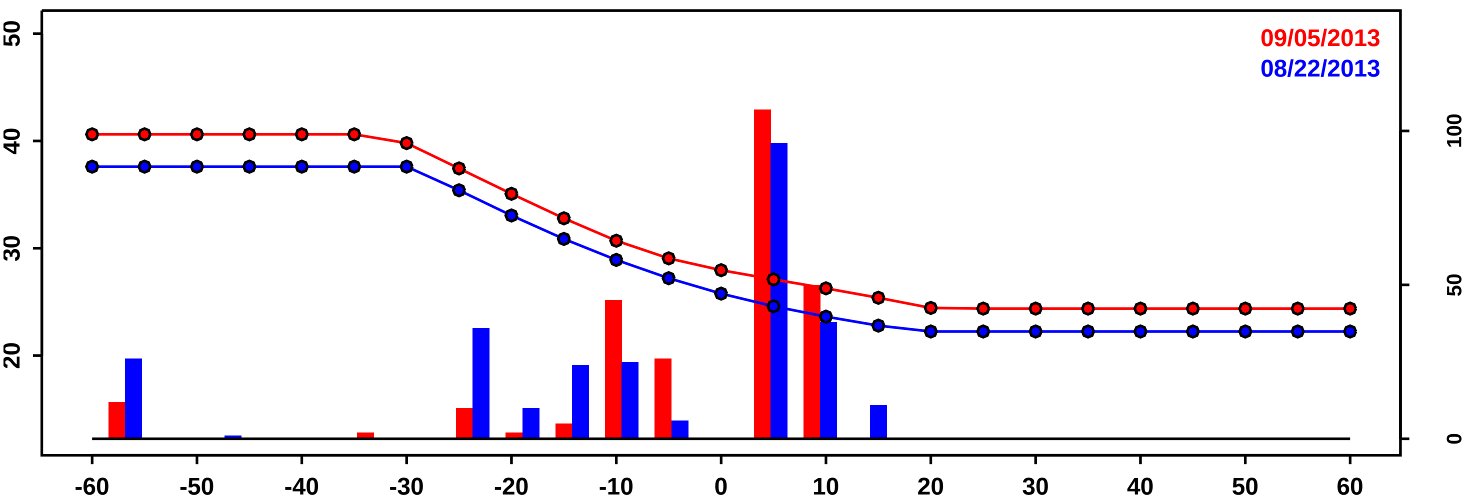
Statistics of the Log Return Distributions

	08/22/2013	09/05/2013	Change
10th Pct	-19.06%	-19.18%	-0.11%
50th Pct	0.39%	0.21%	-0.18%
90th Pct	15.30%	15.76%	0.46%
Mean	-0.86%	-0.99%	-0.13%
Std Dev	13.73%	14.31%	0.58%
Skew	-0.68	-0.62	0.07
Kurtosis	0.80	1.01	0.21

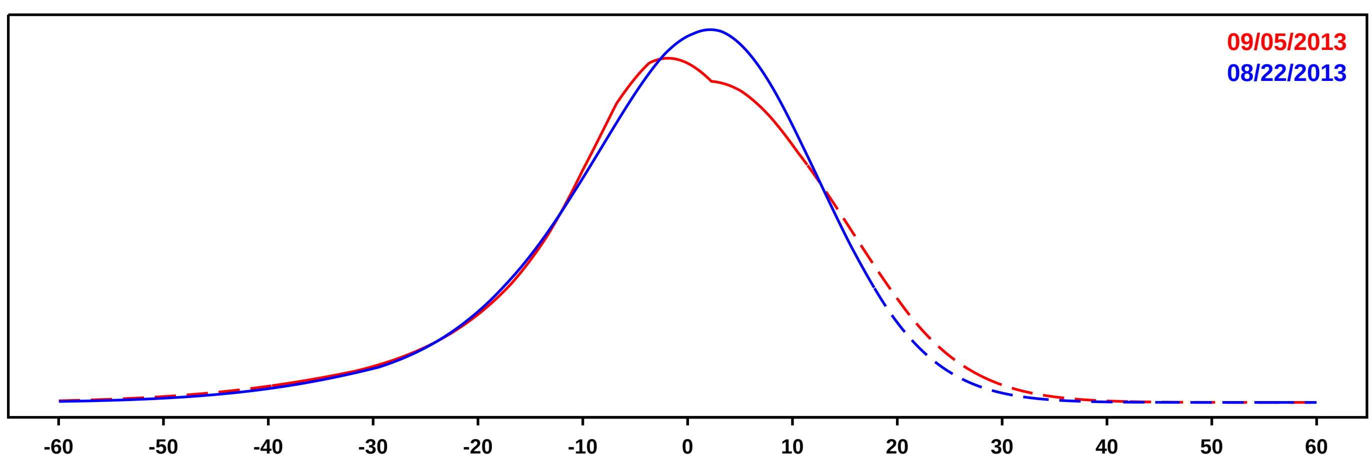
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- PRUDENTIAL

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

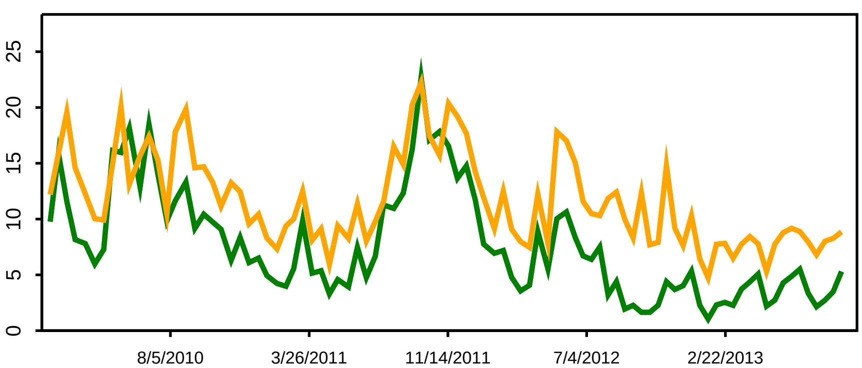
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



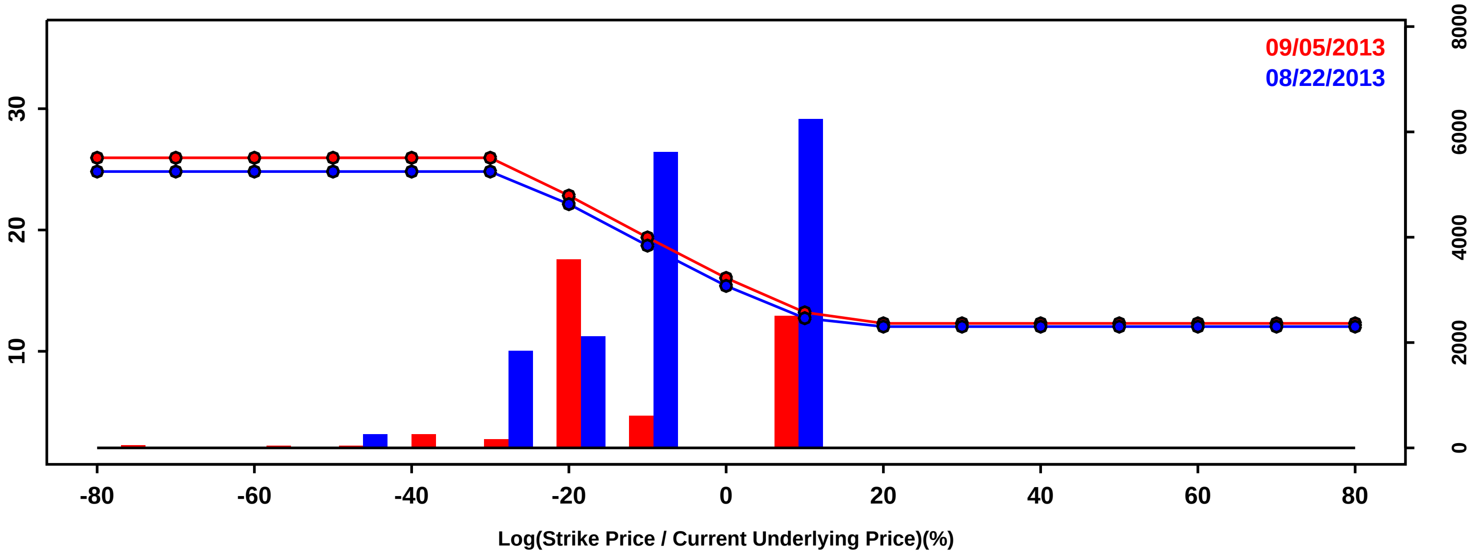
Statistics of the Log Return Distributions

	08/22/2013	09/05/2013	Change
10th Pct	-18.10%	-18.62%	-0.52%
50th Pct	0.12%	-0.16%	-0.28%
90th Pct	14.35%	16.11%	1.76%
Mean	-1.10%	-0.91%	0.20%
Std Dev	13.26%	14.25%	0.99%
Skew	-0.66	-0.60	0.06
Kurtosis	1.07	1.11	0.04

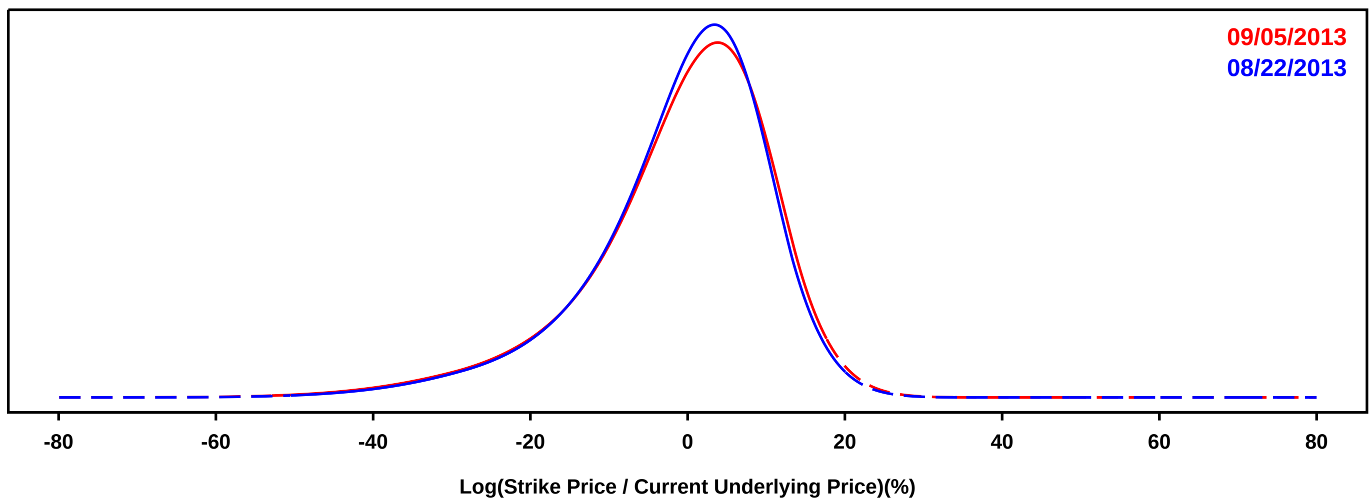
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- S&P 500

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

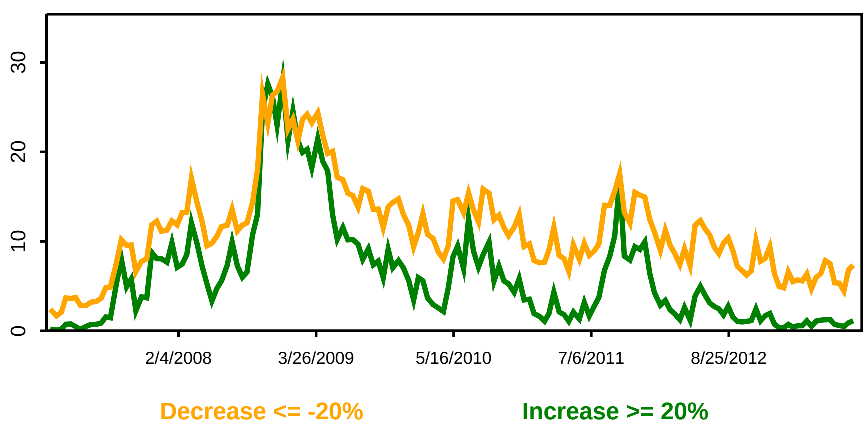
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change

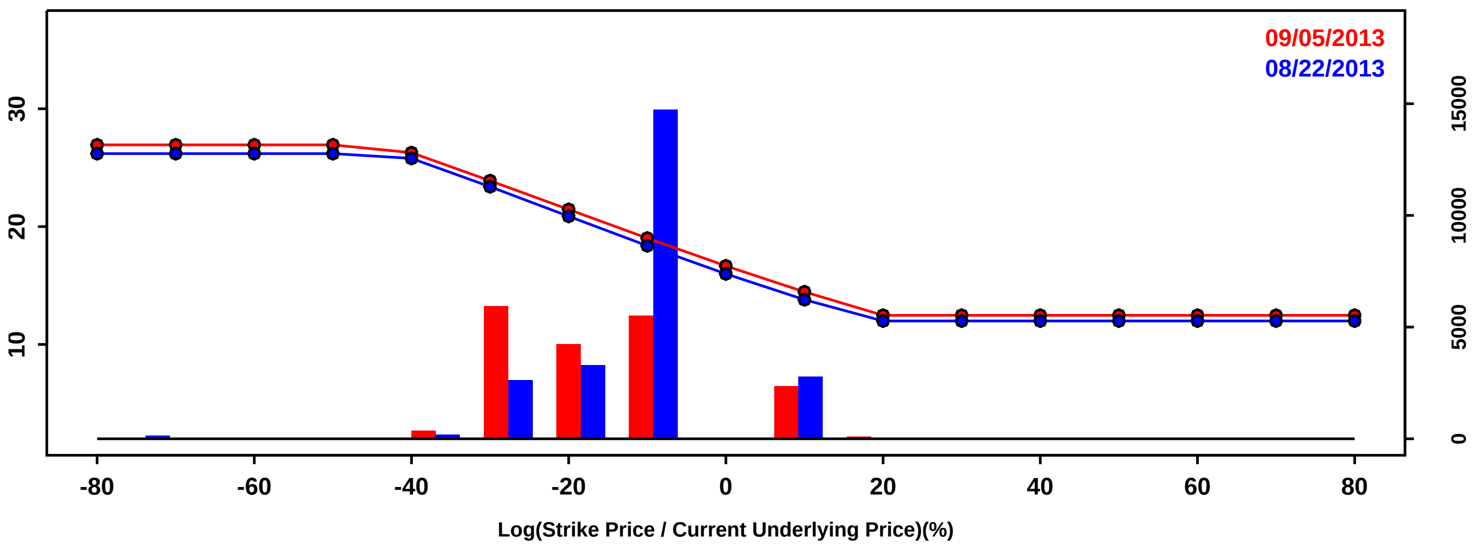


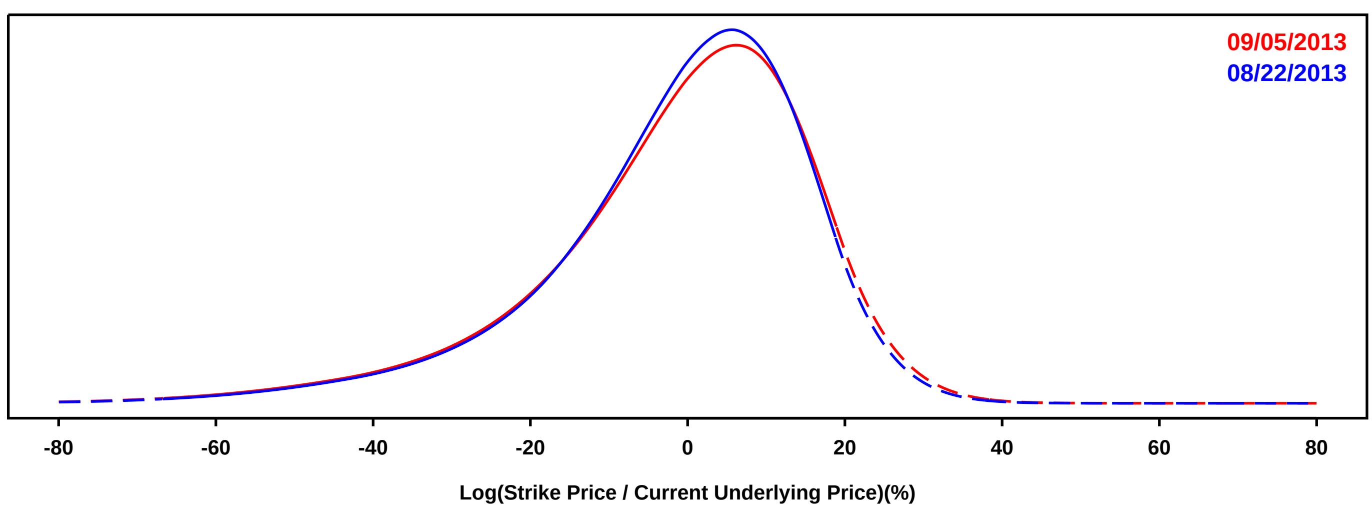
Statistics of the Log Return Distributions

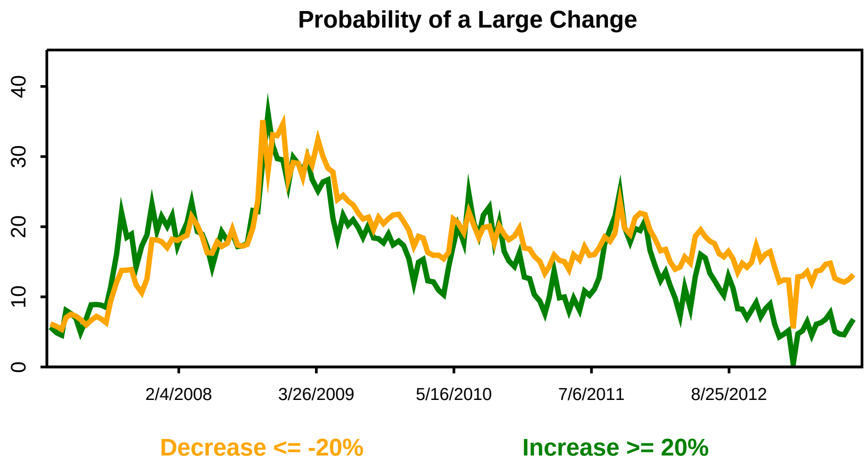
	08/22/2013	09/05/2013	Change
10th Pct	-16.06%	-16.68%	-0.62%
50th Pct	0.78%	0.98%	0.19%
90th Pct	11.44%	12.04%	0.60%
Mean	-1.01%	-0.93%	0.08%
Std Dev	11.50%	12.00%	0.50%
Skew	-1.02	-1.04	-0.02
Kurtosis	1.77	1.79	0.02

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.







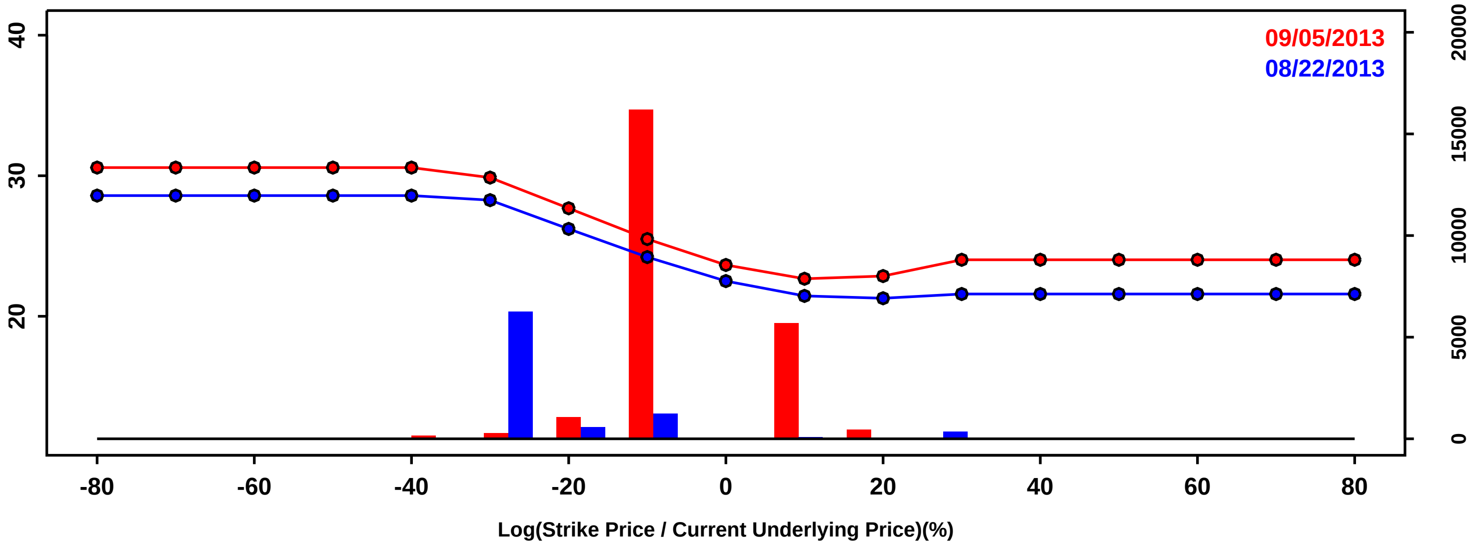
Statistics of the Log Return Distributions

	08/22/2013	09/05/2013	Change
10th Pct	-23.26%	-24.22%	-0.96%
50th Pct	1.42%	1.60%	0.18%
90th Pct	16.89%	17.70%	0.81%
Mean	-1.30%	-1.26%	0.04%
Std Dev	16.84%	17.51%	0.67%
Skew	-1.06	-1.04	0.02
Kurtosis	1.87	1.78	-0.10

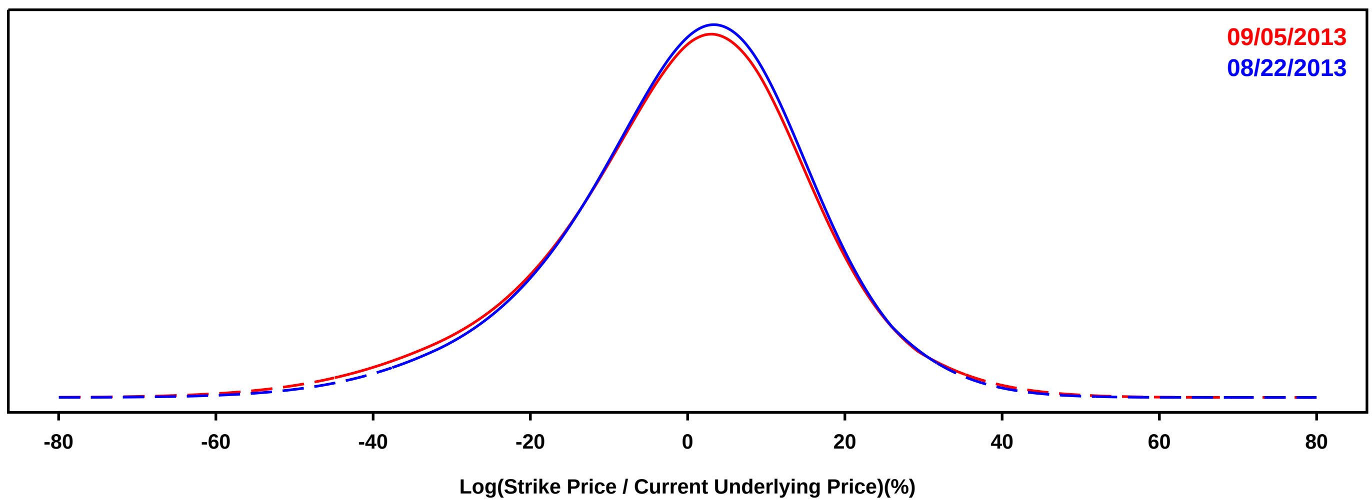
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CRUDE OIL FUTURES (WTI)

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

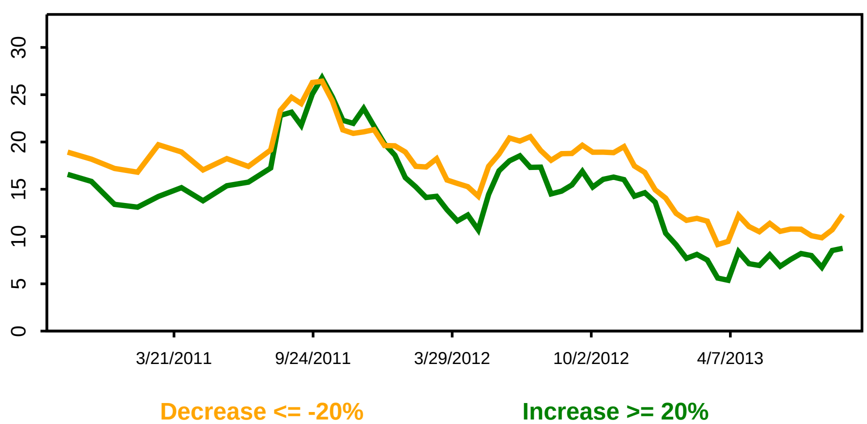
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change

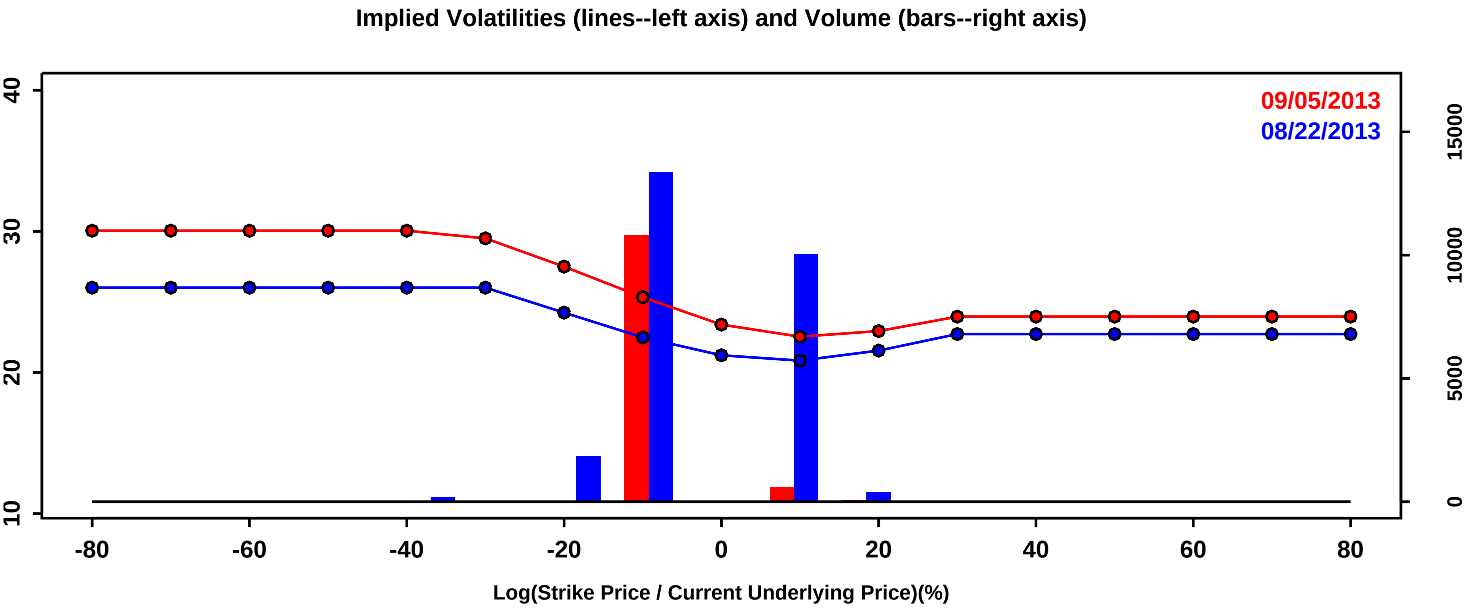


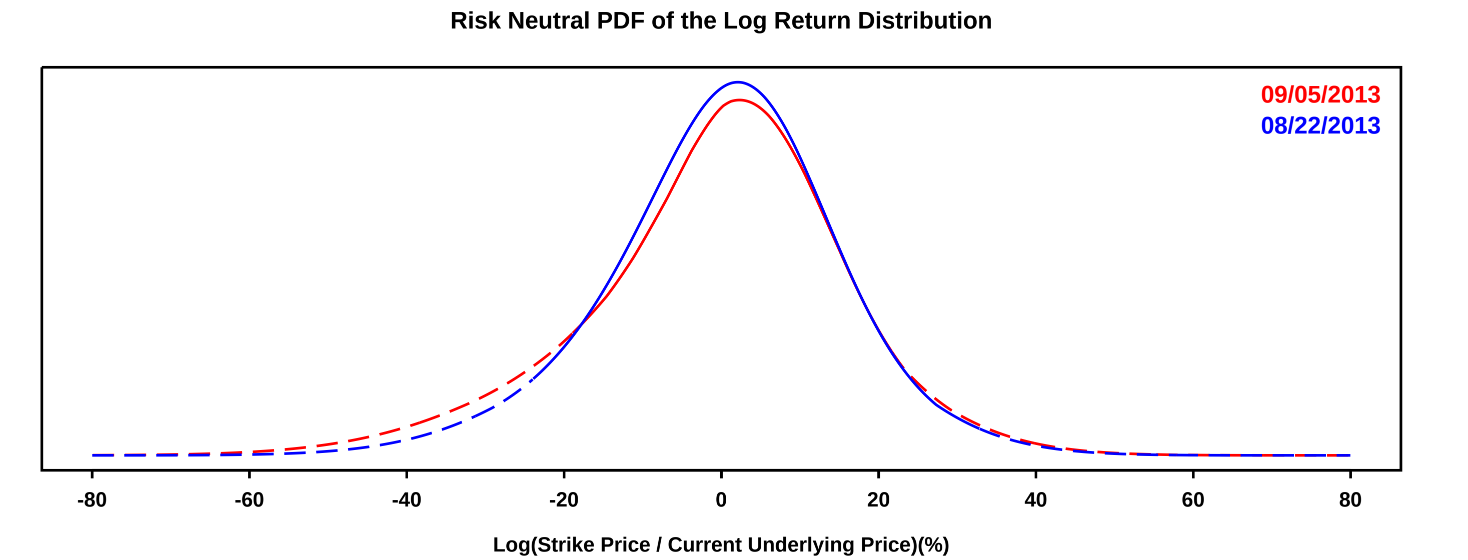
Statistics of the Log Return Distributions

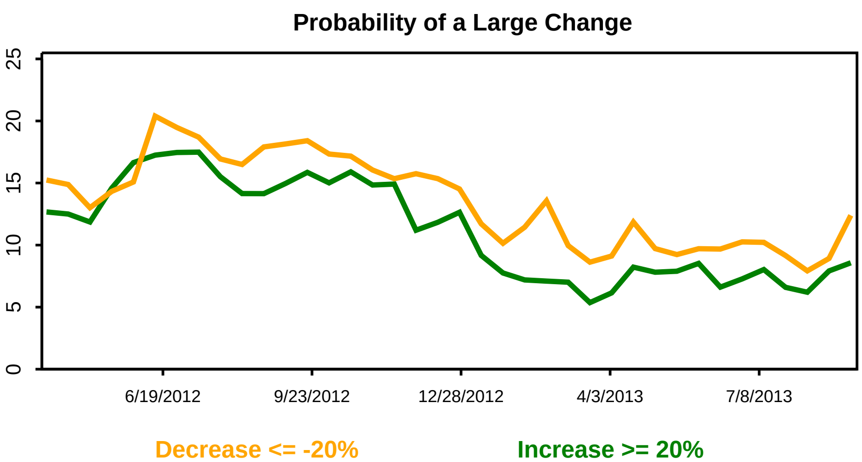
	08/22/2013	09/05/2013	Change
10th Pct	-20.86%	-22.73%	-1.87%
50th Pct	1.23%	0.76%	-0.47%
90th Pct	18.77%	18.88%	0.12%
Mean	-0.02%	-0.68%	-0.66%
Std Dev	15.96%	16.90%	0.94%
Skew	-0.44	-0.47	-0.03
Kurtosis	0.66	0.80	0.14

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.





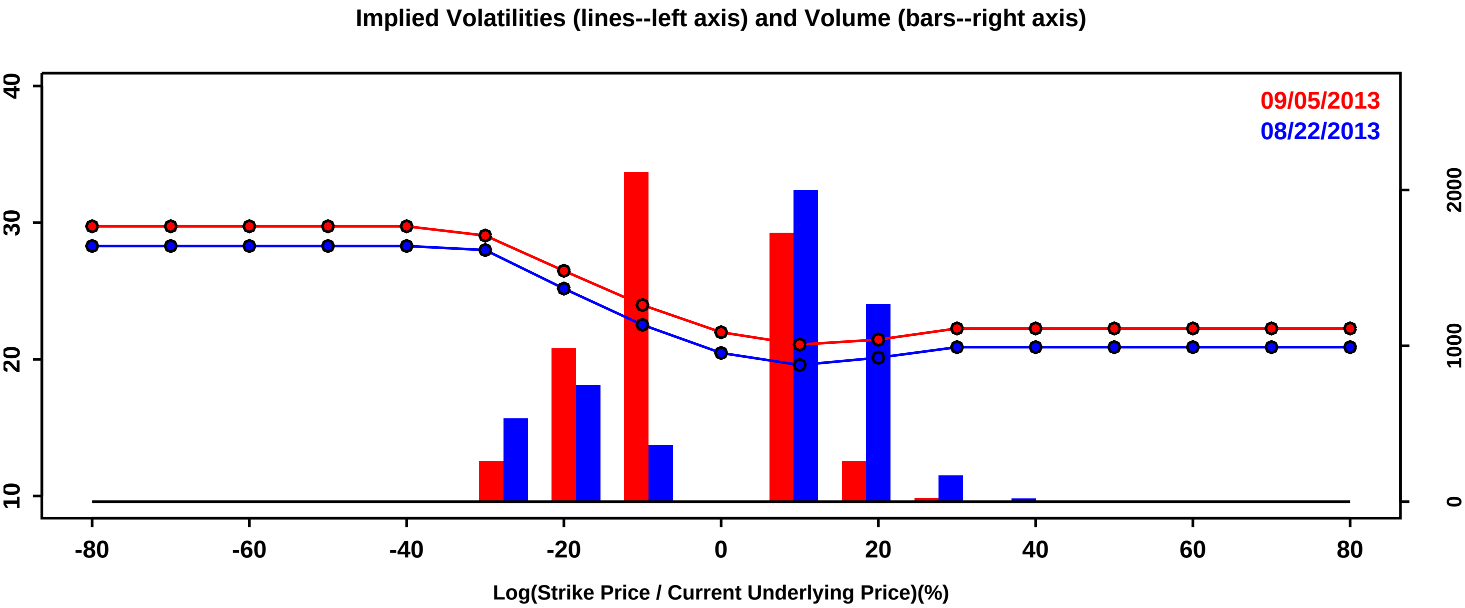


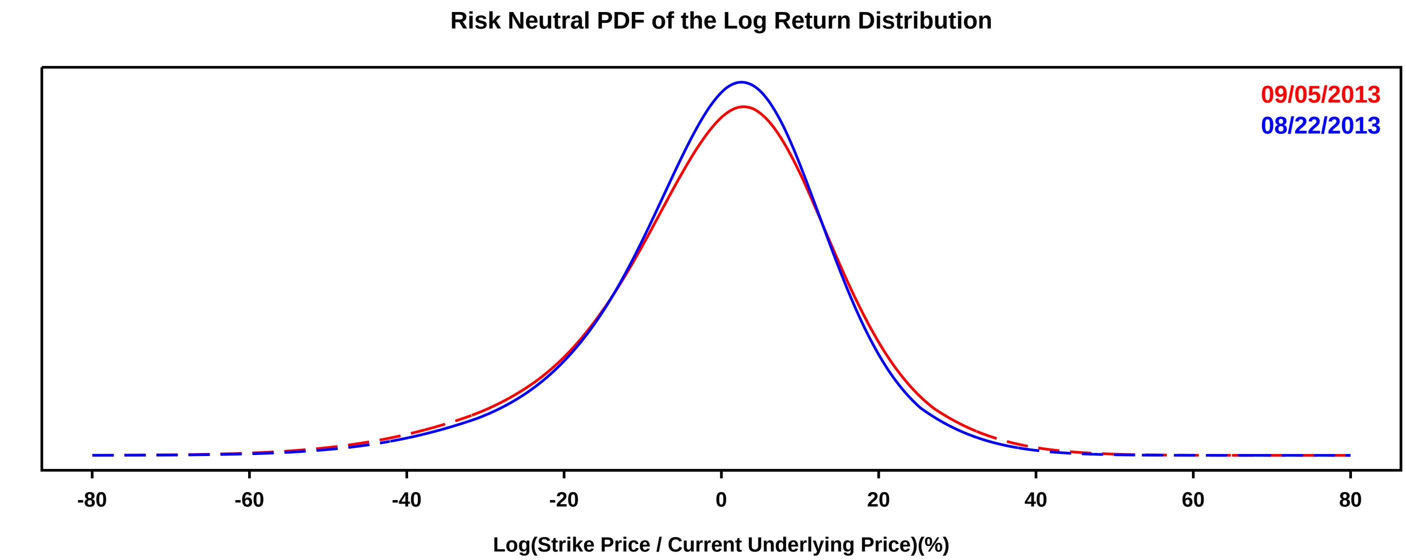
Statistics of the Log Return Distributions

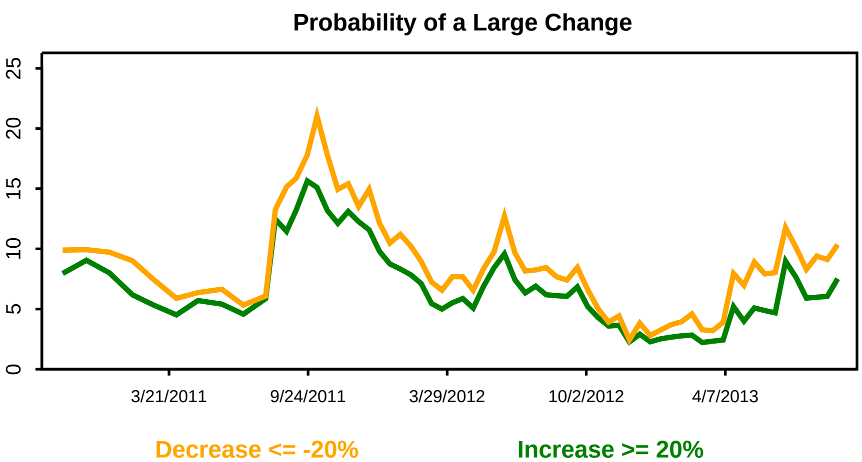
	08/22/2013	09/05/2013	Change
10th Pct	-18.82%	-22.90%	-4.09%
50th Pct	0.94%	0.77%	-0.17%
90th Pct	18.12%	18.68%	0.56%
Mean	0.28%	-0.71%	-0.99%
Std Dev	14.95%	16.82%	1.87%
Skew	-0.26	-0.46	-0.20
Kurtosis	0.65	0.80	0.15

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.







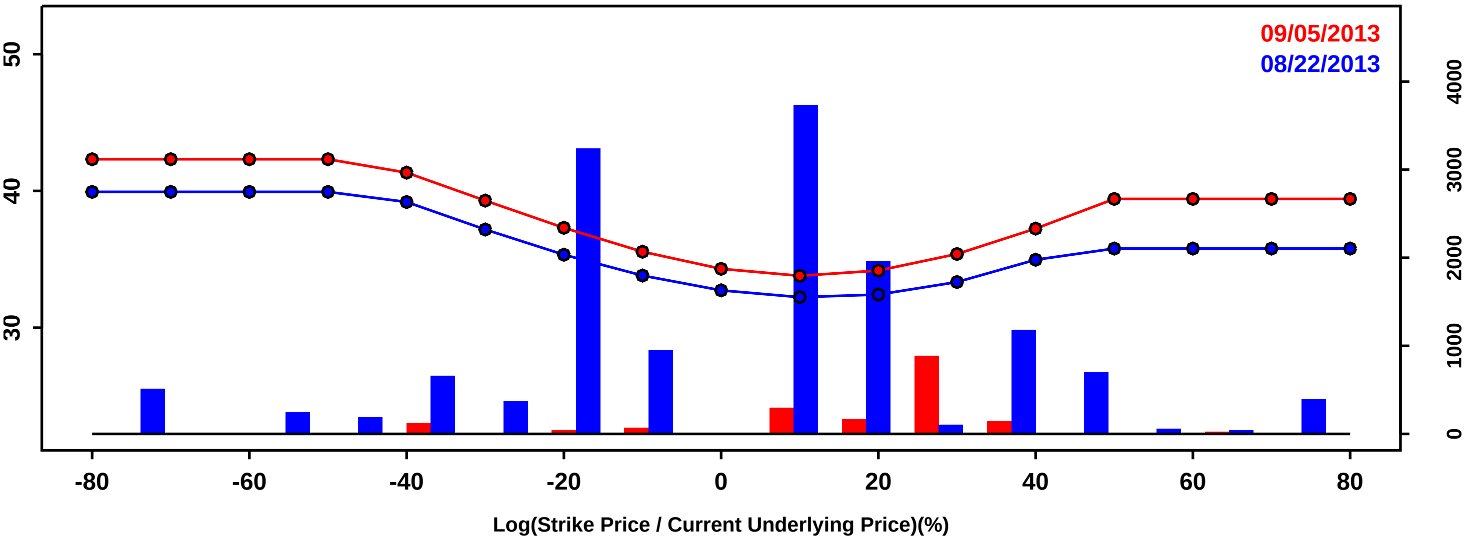
Statistics of the Log Return Distributions

	08/22/2013	09/05/2013	Change
10th Pct	-18.98%	-20.42%	-1.44%
50th Pct	0.82%	0.95%	0.14%
90th Pct	16.41%	17.75%	1.33%
Mean	-0.36%	-0.34%	0.03%
Std Dev	14.59%	15.67%	1.09%
Skew	-0.53	-0.50	0.02
Kurtosis	1.08	1.00	-0.08

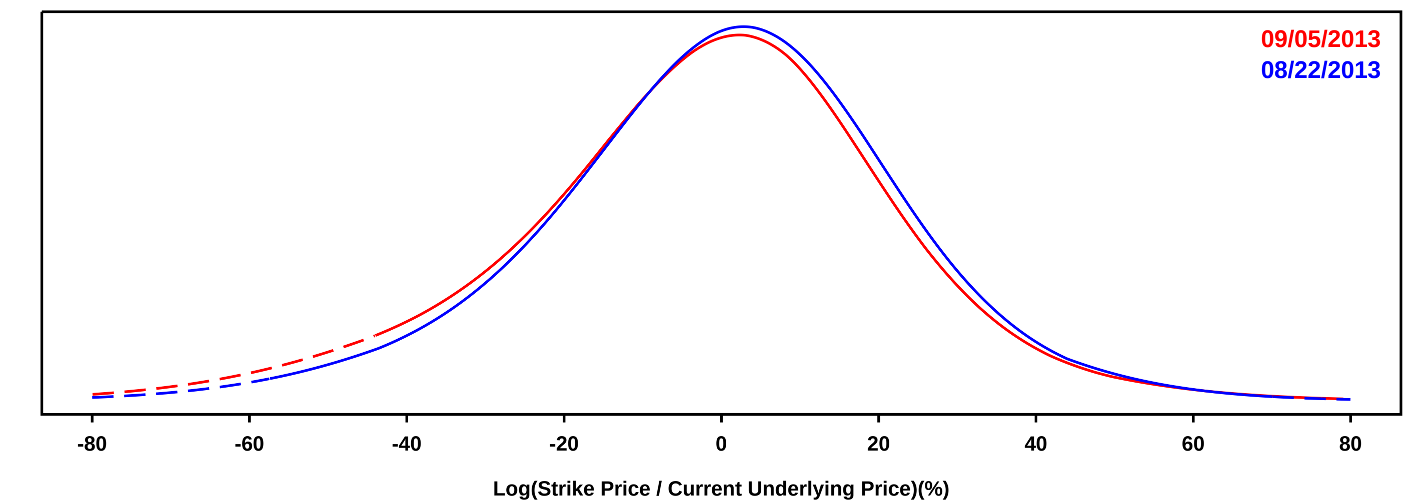
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- SILVER FUTURES

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

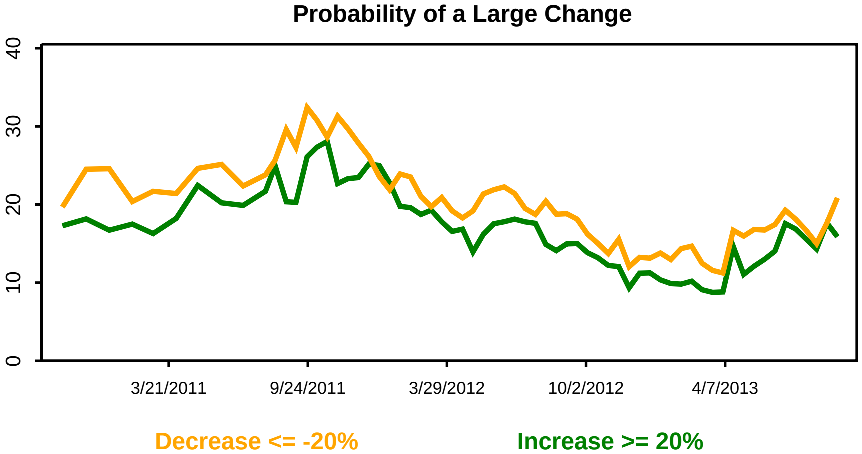
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



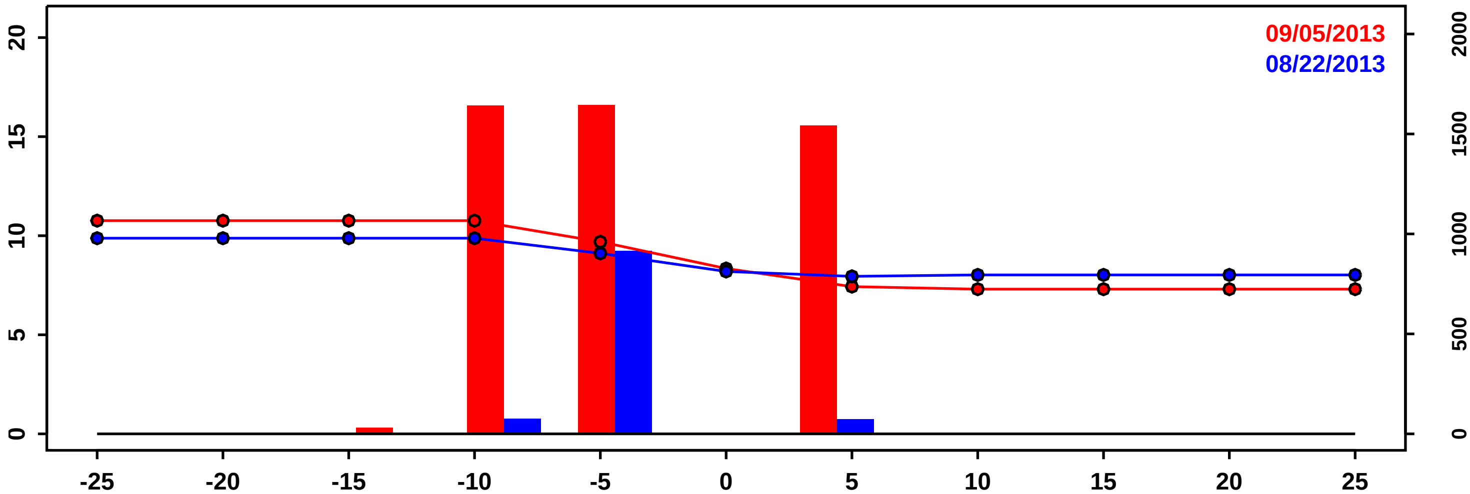
Statistics of the Log Return Distributions

	08/22/2013	09/05/2013	Change
10th Pct	-29.34%	-33.81%	-4.47%
50th Pct	0.99%	-0.74%	-1.73%
90th Pct	27.58%	26.23%	-1.35%
Mean	-0.00%	-2.32%	-2.32%
Std Dev	23.05%	24.39%	1.34%
Skew	-0.24	-0.33	-0.09
Kurtosis	0.65	0.74	0.09

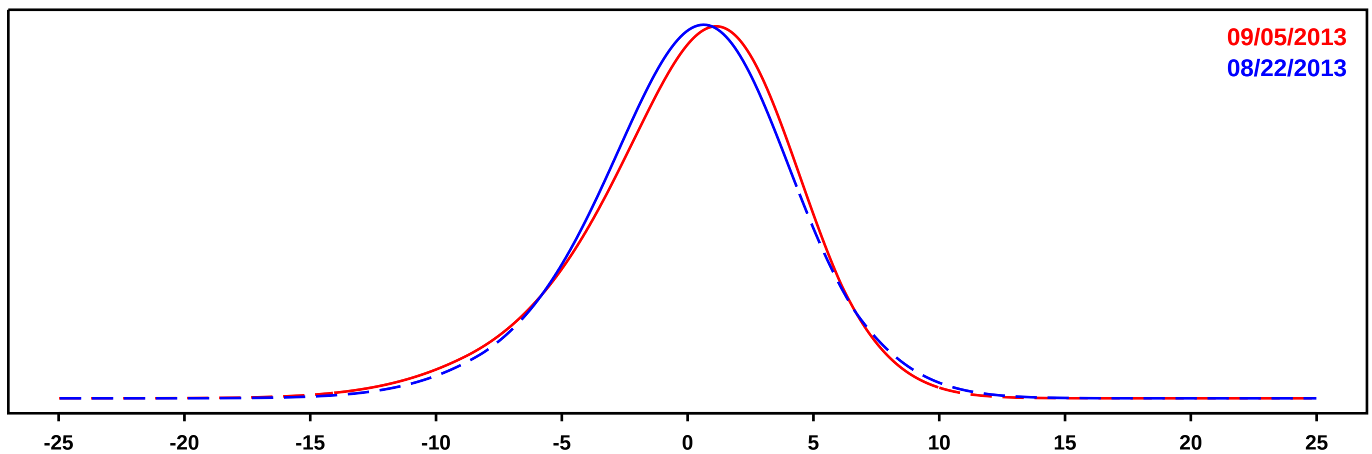
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- DOLLAR-EURO EXCHANGE RATE FUTURES

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

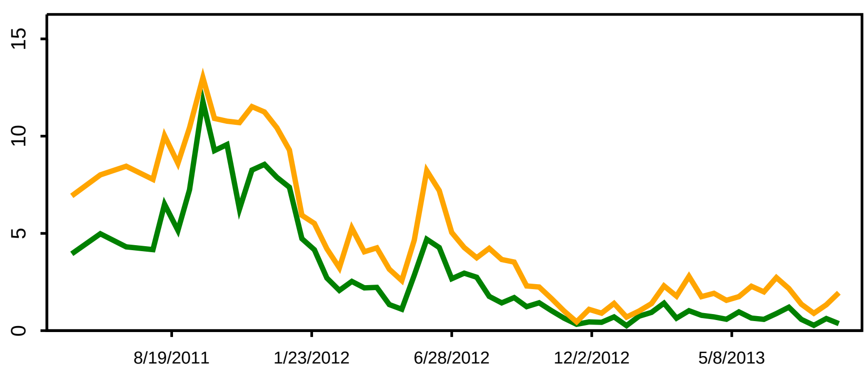
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



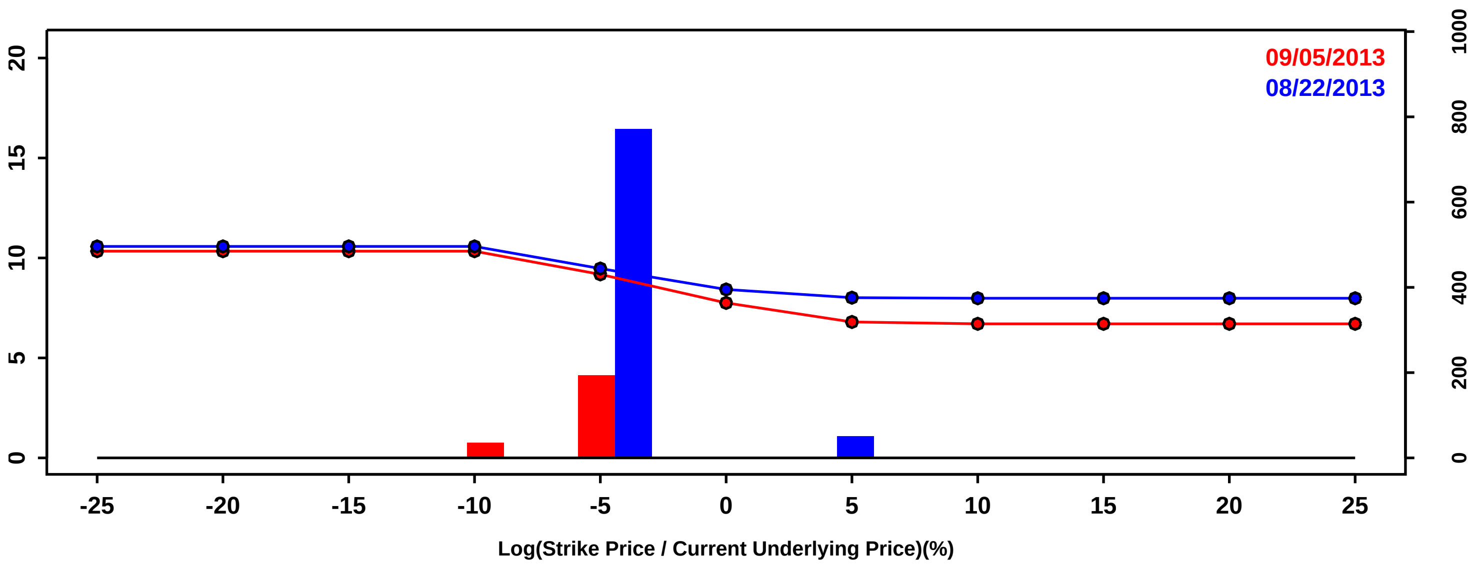
Statistics of the Log Return Distributions

	08/22/2013	09/05/2013	Change
10th Pct	-5.04%	-5.44%	-0.40%
50th Pct	0.34%	0.45%	0.10%
90th Pct	5.17%	5.03%	-0.14%
Mean	0.20%	0.09%	-0.11%
Std Dev	4.08%	4.20%	0.12%
Skew	-0.26	-0.52	-0.26
Kurtosis	0.44	0.60	0.17

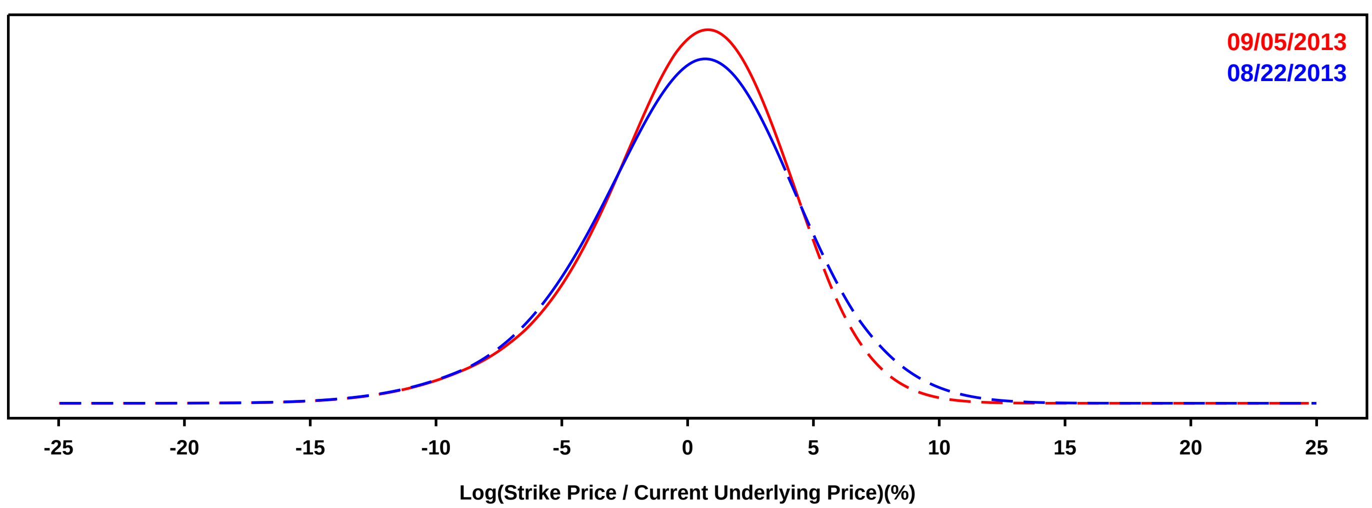
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- DOLLAR-POUND EXCHANGE RATE FUTURES

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

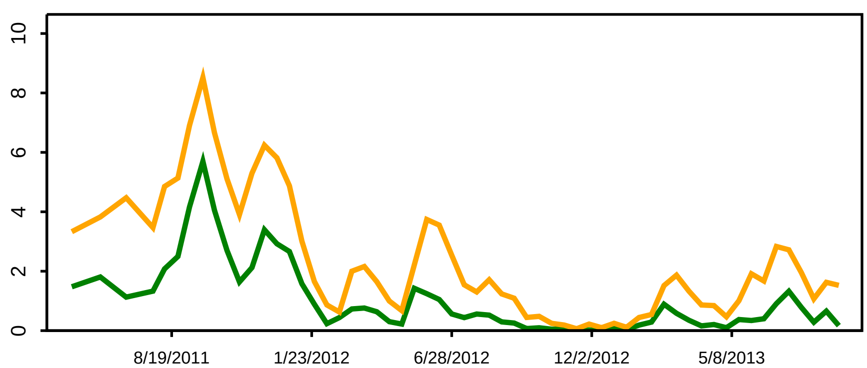
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



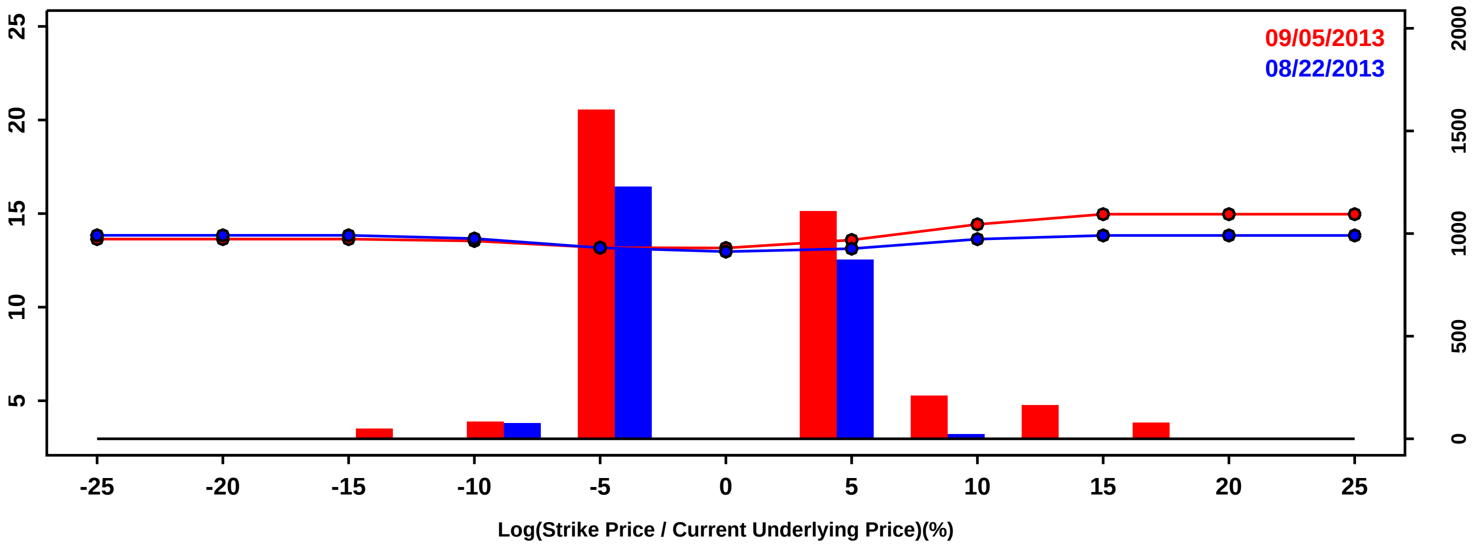
Decrease <= -10% [stronger $]   Increase >= 10% [weaker $]

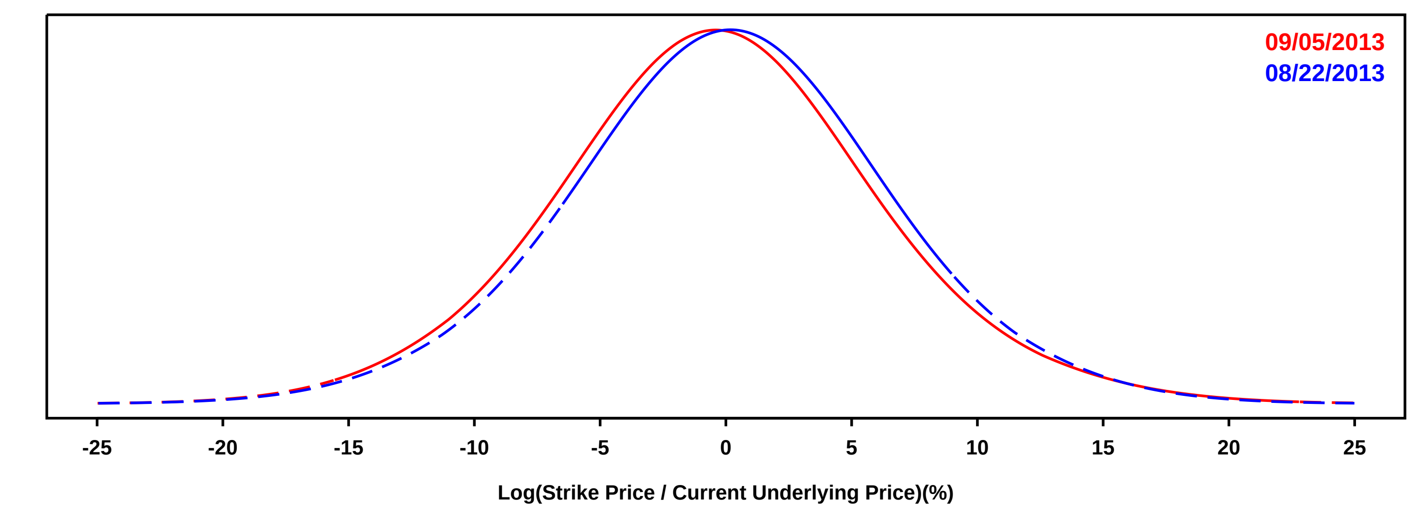
Statistics of the Log Return Distributions

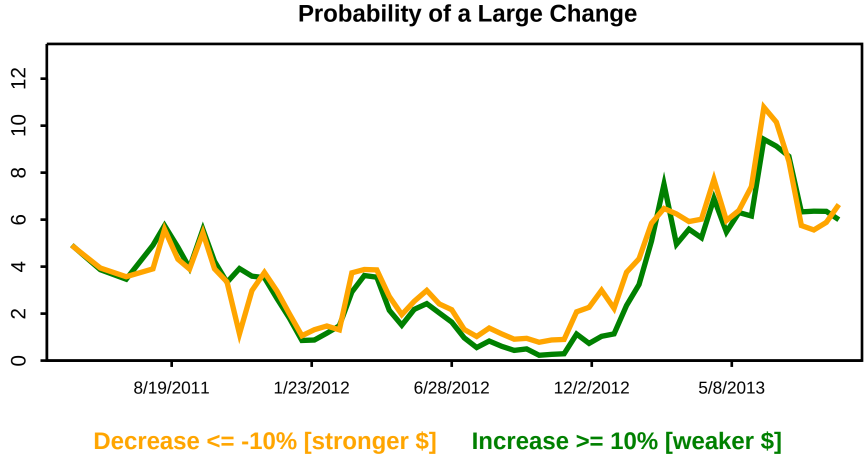
	08/22/2013	09/05/2013	Change
10th Pct	-5.15%	-5.06%	0.09%
50th Pct	0.34%	0.31%	-0.03%
90th Pct	5.28%	4.65%	-0.63%
Mean	0.22%	0.04%	-0.18%
Std Dev	4.20%	3.91%	-0.29%
Skew	-0.33	-0.53	-0.21
Kurtosis	0.50	0.69	0.19

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.





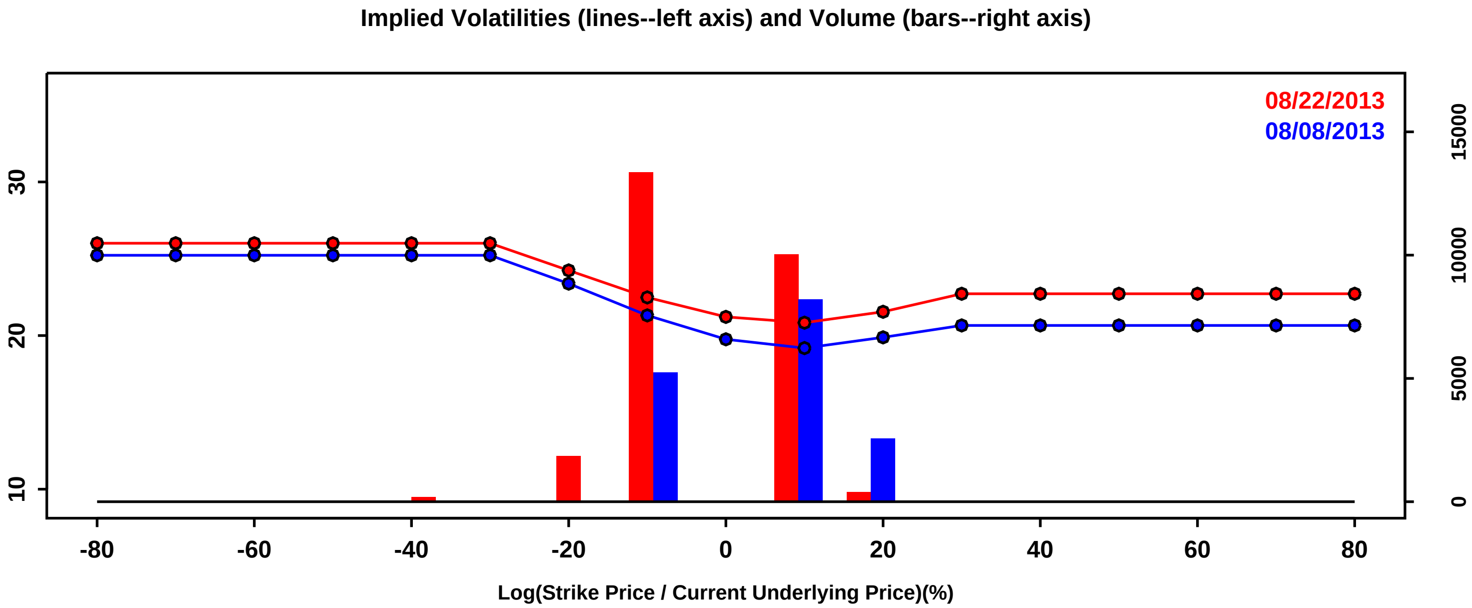


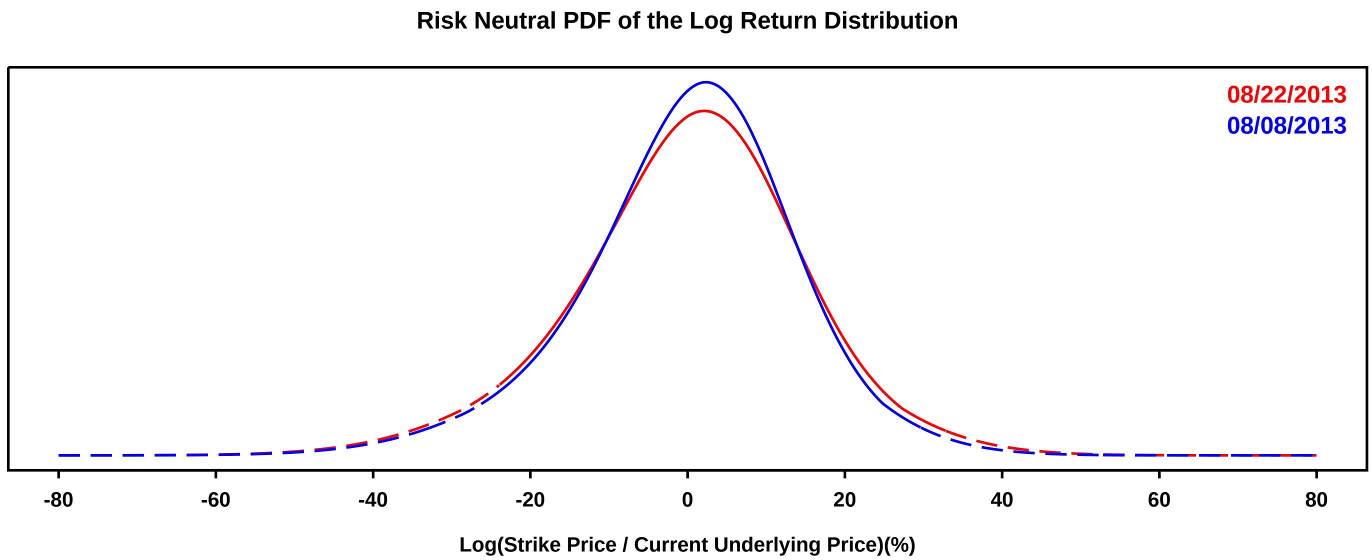
Statistics of the Log Return Distributions

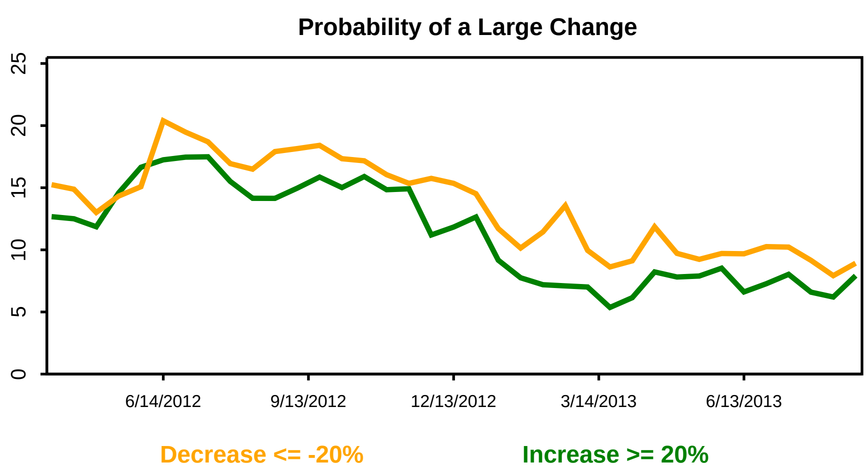
	08/22/2013	09/05/2013	Change
10th Pct	-7.95%	-8.49%	-0.55%
50th Pct	0.23%	-0.36%	-0.59%
90th Pct	8.37%	7.99%	-0.38%
Mean	0.23%	-0.26%	-0.49%
Std Dev	6.47%	6.56%	0.09%
Skew	-0.00	0.09	0.09
Kurtosis	0.26	0.35	0.08

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

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







Statistics of the Log Return Distributions

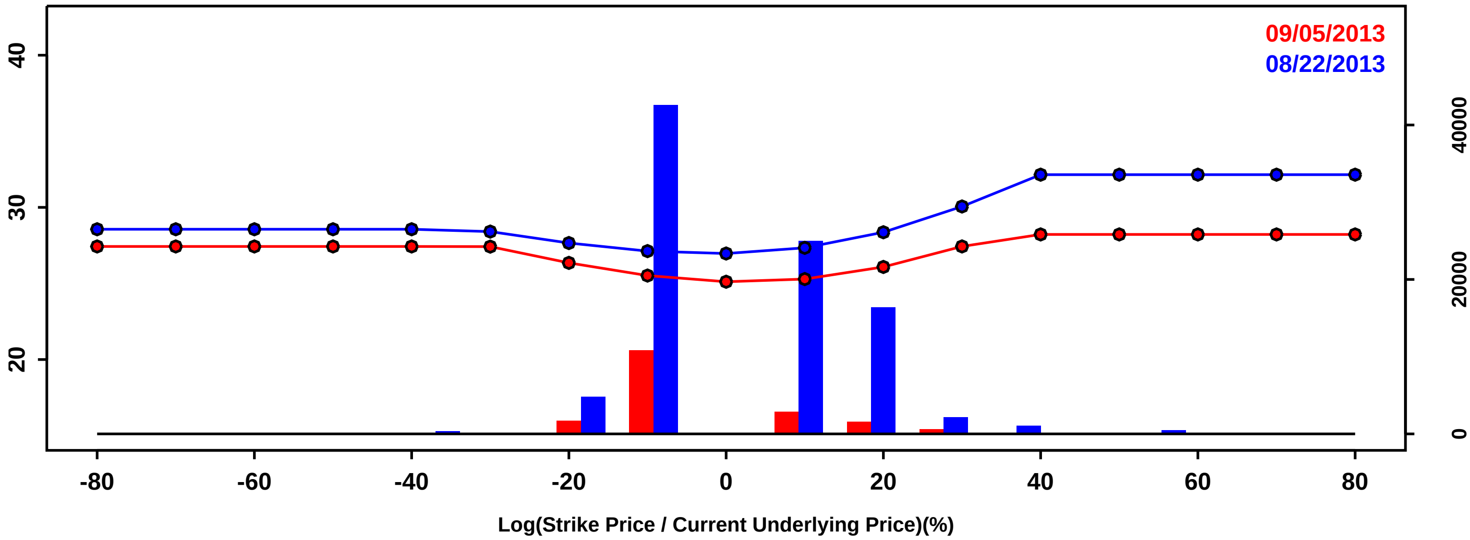
	08/08/2013	08/22/2013	Change
10th Pct	-17.70%	-18.82%	-1.12%
50th Pct	0.99%	0.94%	-0.05%
90th Pct	16.59%	18.12%	1.53%
Mean	0.17%	0.28%	0.12%
Std Dev	13.94%	14.95%	1.01%
Skew	-0.35	-0.26	0.09
Kurtosis	0.75	0.65	-0.11

FRB of Minneapolis Updated with data through 09/05/2013

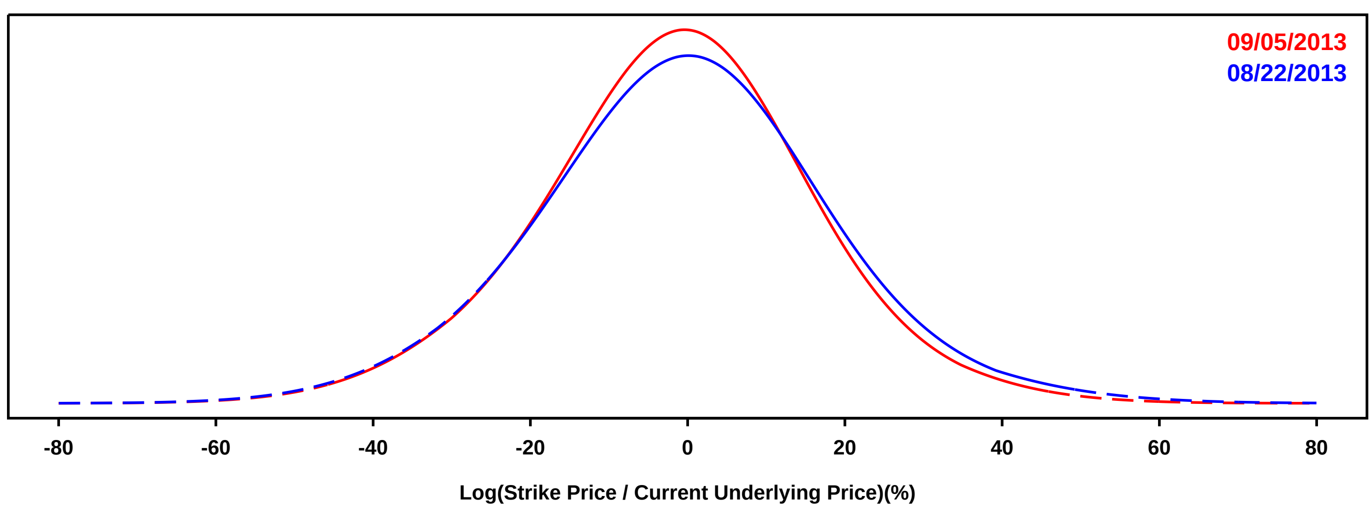
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CORN FUTURES

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

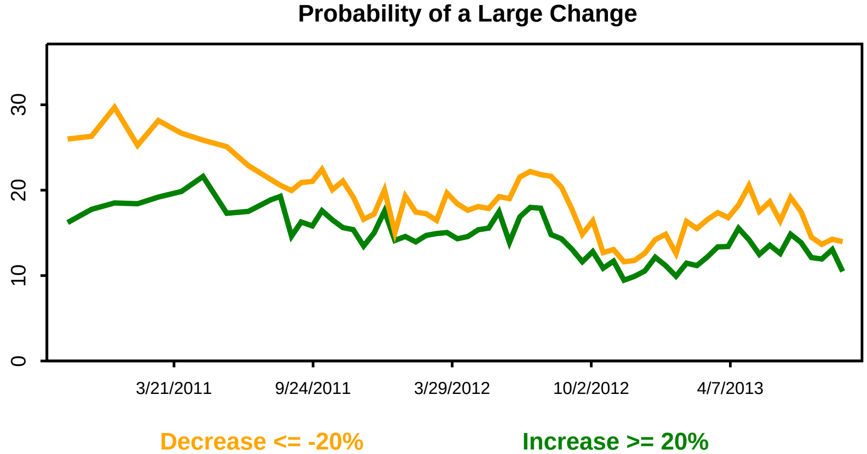
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



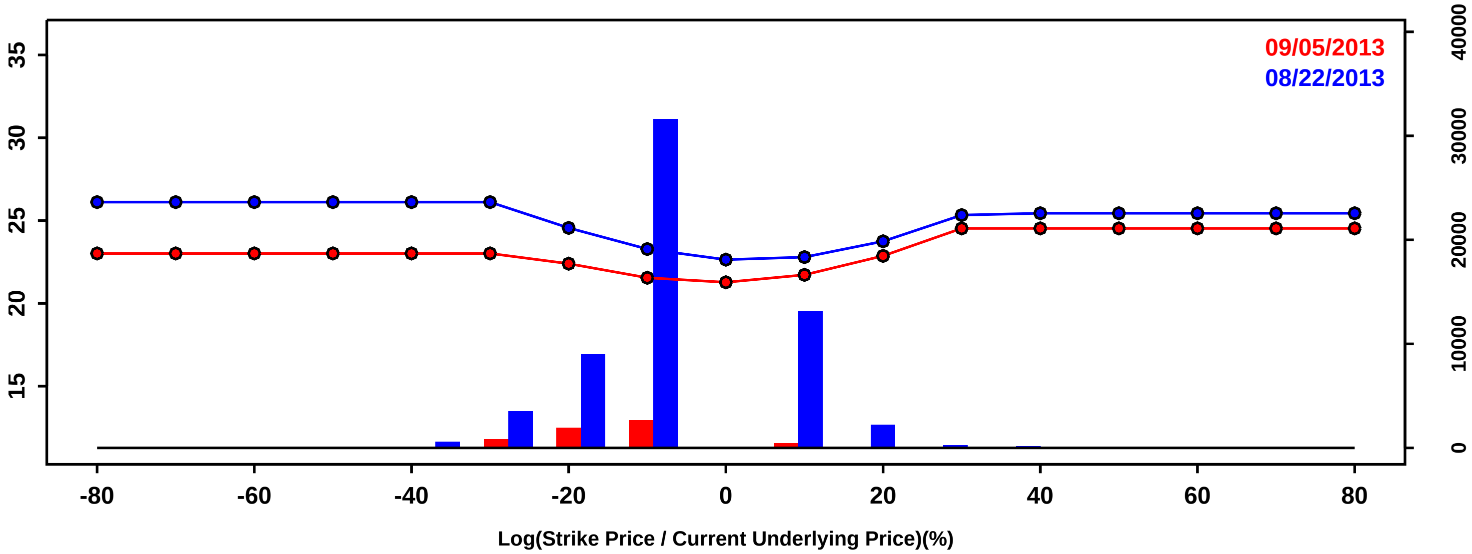
Statistics of the Log Return Distributions

	08/22/2013	09/05/2013	Change
10th Pct	-24.23%	-23.87%	0.36%
50th Pct	-0.31%	-1.08%	-0.76%
90th Pct	23.12%	20.49%	-2.63%
Mean	-0.33%	-1.35%	-1.02%
Std Dev	18.98%	17.72%	-1.26%
Skew	0.05	-0.05	-0.10
Kurtosis	0.45	0.40	-0.05

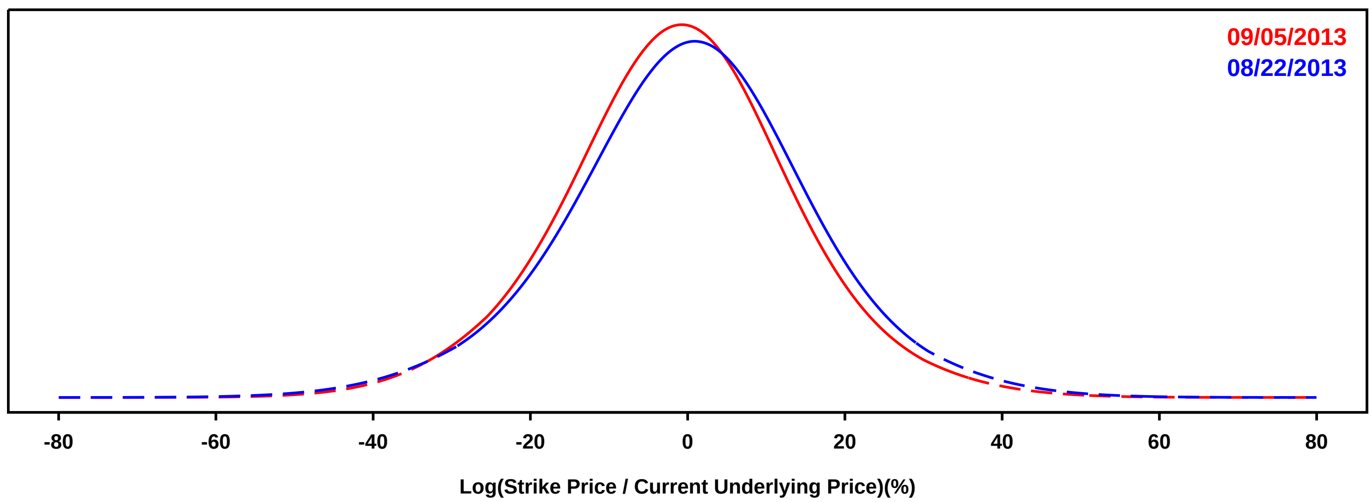
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- SOYBEAN FUTURES

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

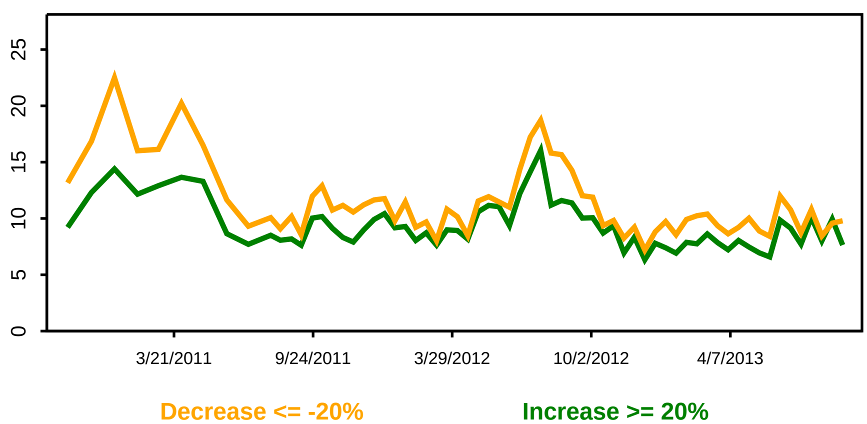
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change

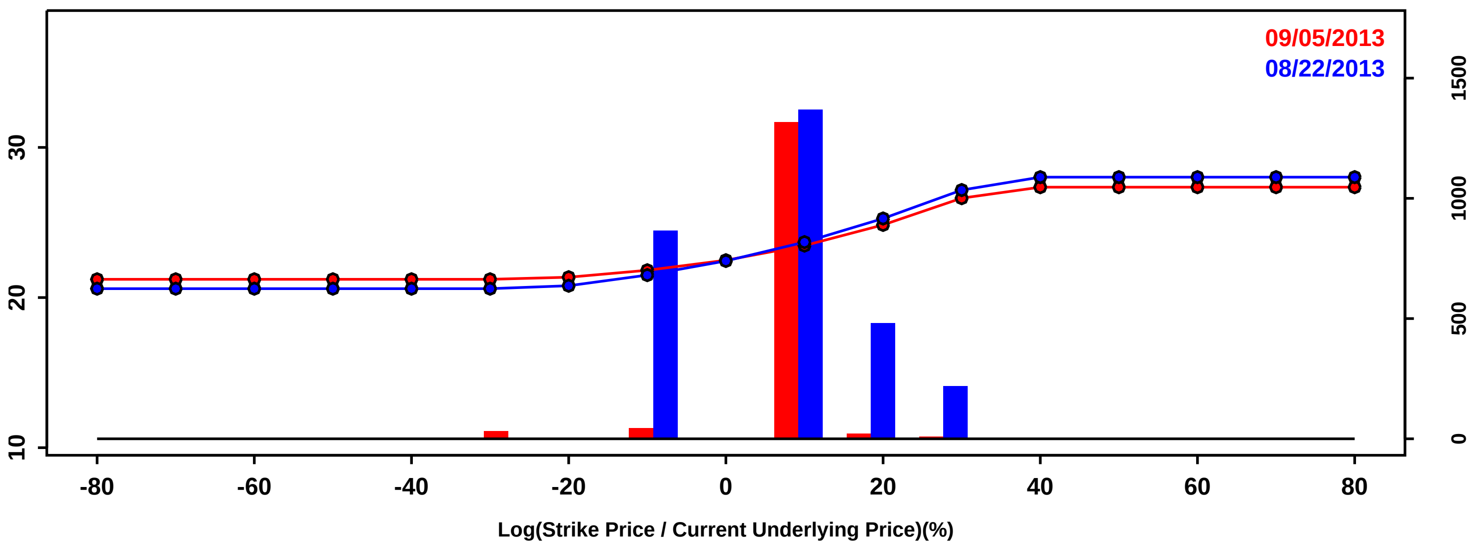


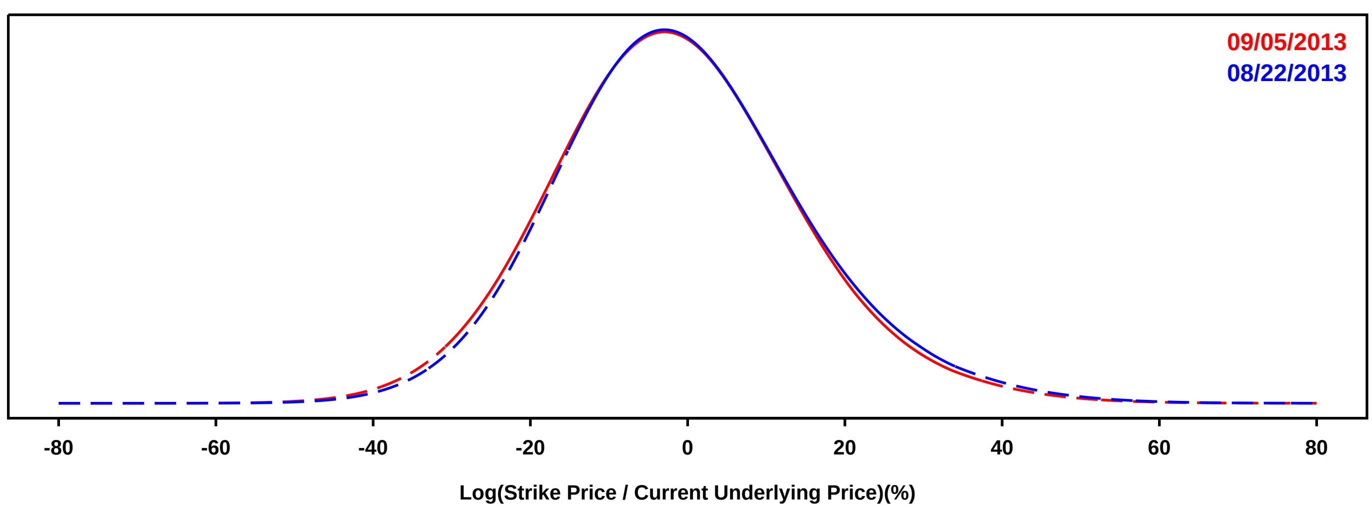
Statistics of the Log Return Distributions

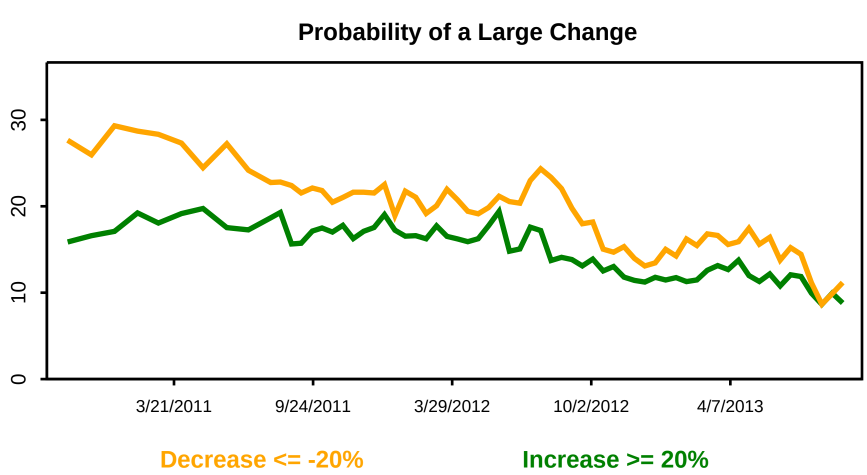
	08/22/2013	09/05/2013	Change
10th Pct	-19.54%	-19.85%	-0.32%
50th Pct	0.53%	-0.98%	-1.51%
90th Pct	19.95%	17.58%	-2.37%
Mean	0.41%	-0.99%	-1.40%
Std Dev	15.93%	14.99%	-0.94%
Skew	-0.06	0.02	0.07
Kurtosis	0.55	0.45	-0.10

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.







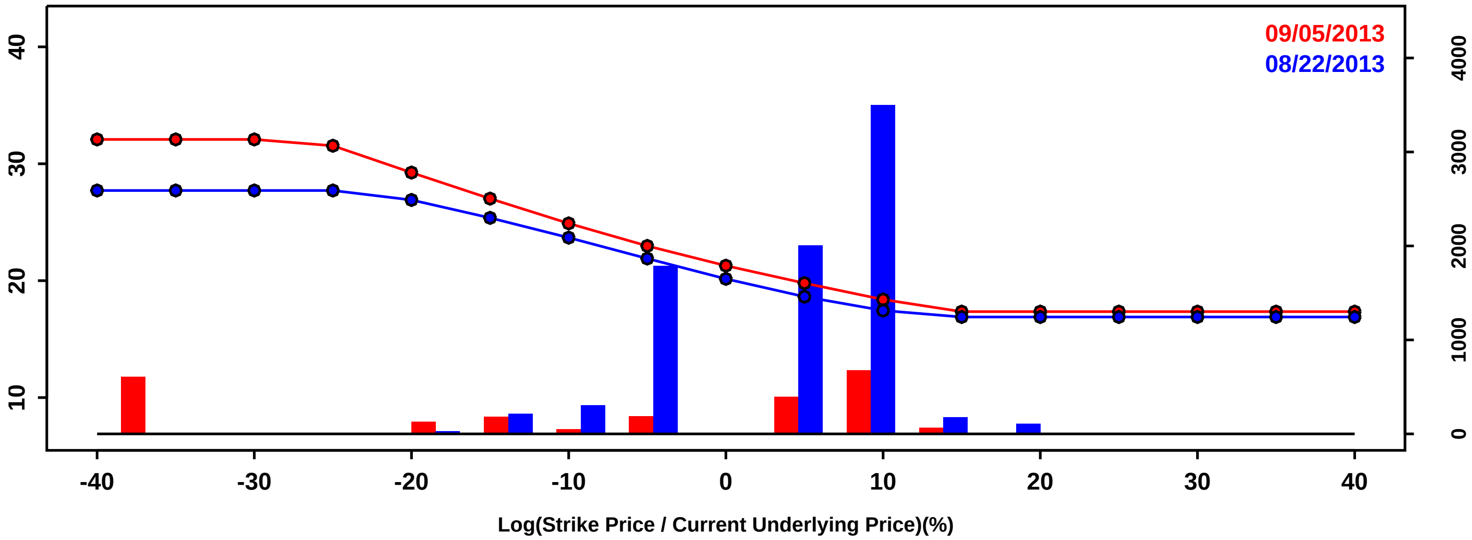
Statistics of the Log Return Distributions

	08/22/2013	09/05/2013	Change
10th Pct	-19.94%	-20.99%	-1.04%
50th Pct	-1.46%	-2.02%	-0.56%
90th Pct	19.97%	18.71%	-1.26%
Mean	-0.53%	-1.43%	-0.89%
Std Dev	15.89%	15.77%	-0.12%
Skew	0.35	0.25	-0.10
Kurtosis	0.43	0.35	-0.07

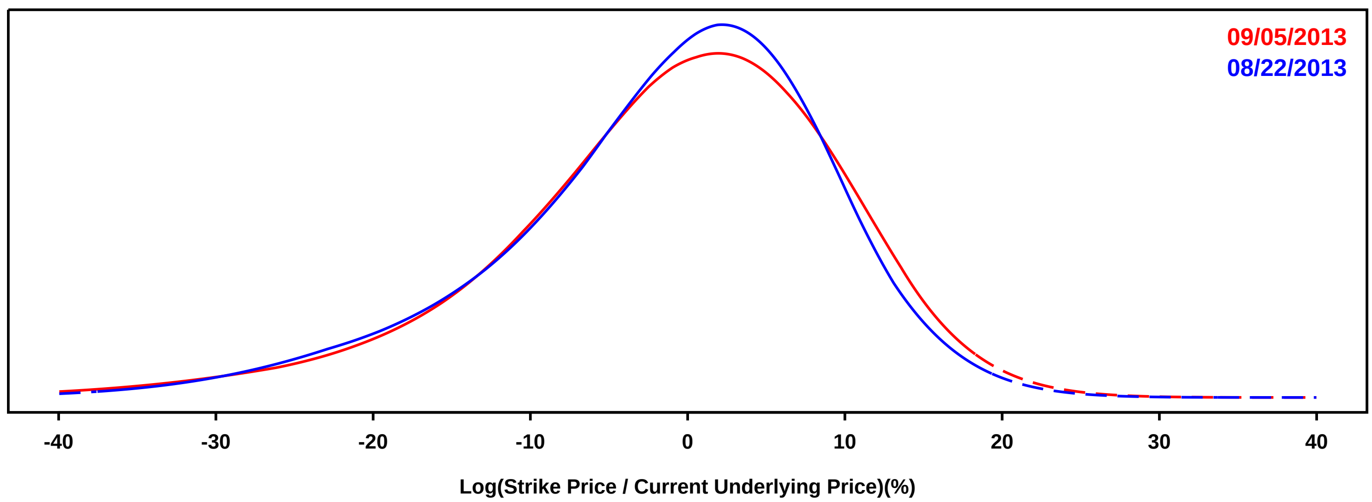
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- iSHARES DOW JONES US REAL ESTATE

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

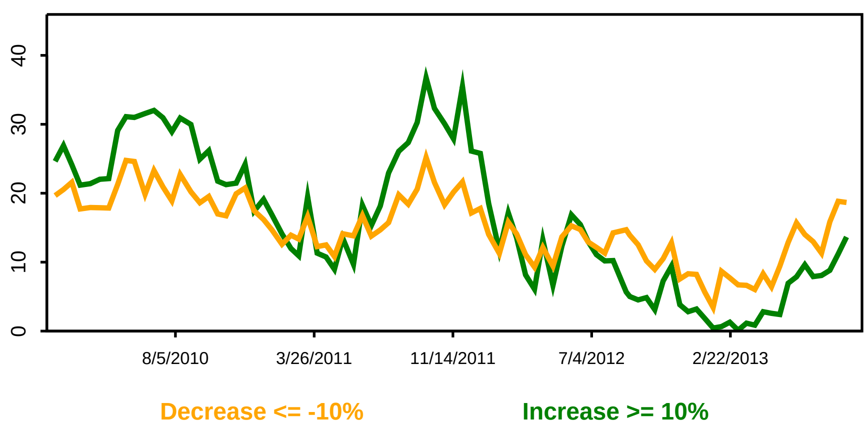
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change

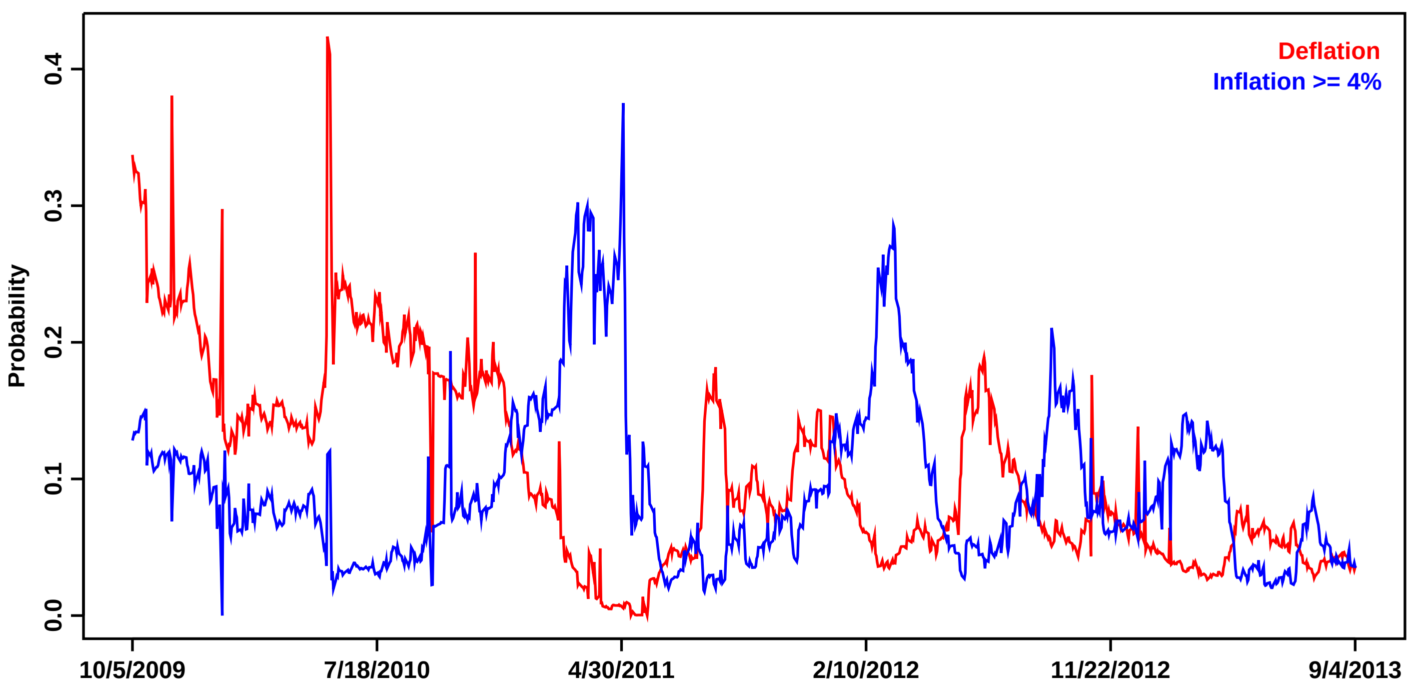


Statistics of the Log Return Distributions

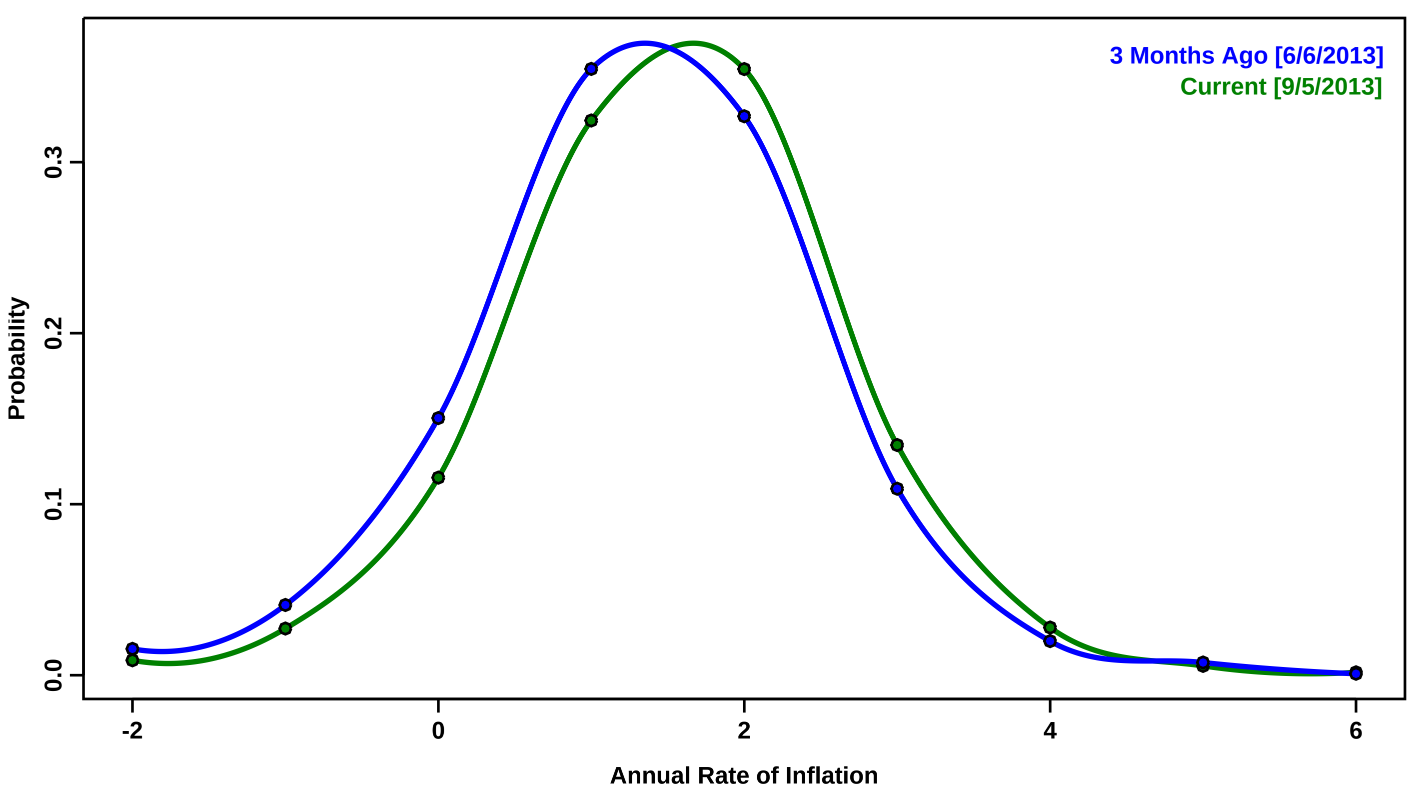
	08/22/2013	09/05/2013	Change
10th Pct	-15.78%	-15.59%	0.19%
50th Pct	-0.08%	0.04%	0.12%
90th Pct	10.47%	11.50%	1.02%
Mean	-1.47%	-1.20%	0.27%
Std Dev	10.57%	11.09%	0.52%
Skew	-0.72	-0.78	-0.05
Kurtosis	0.84	1.19	0.35

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