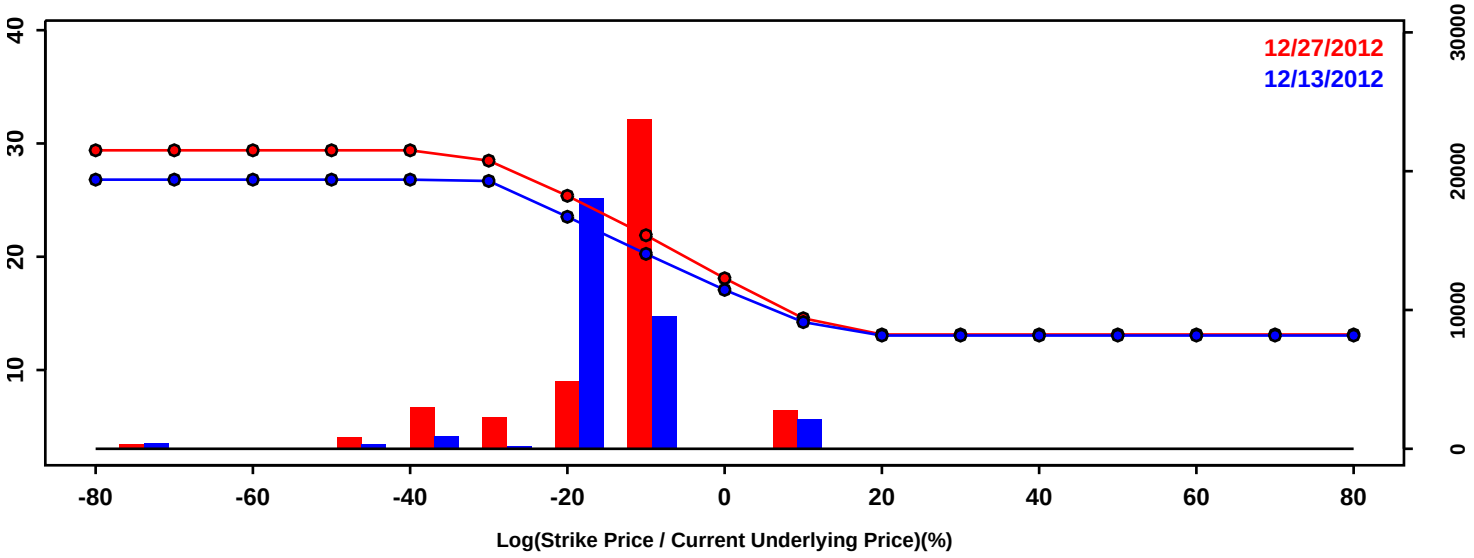
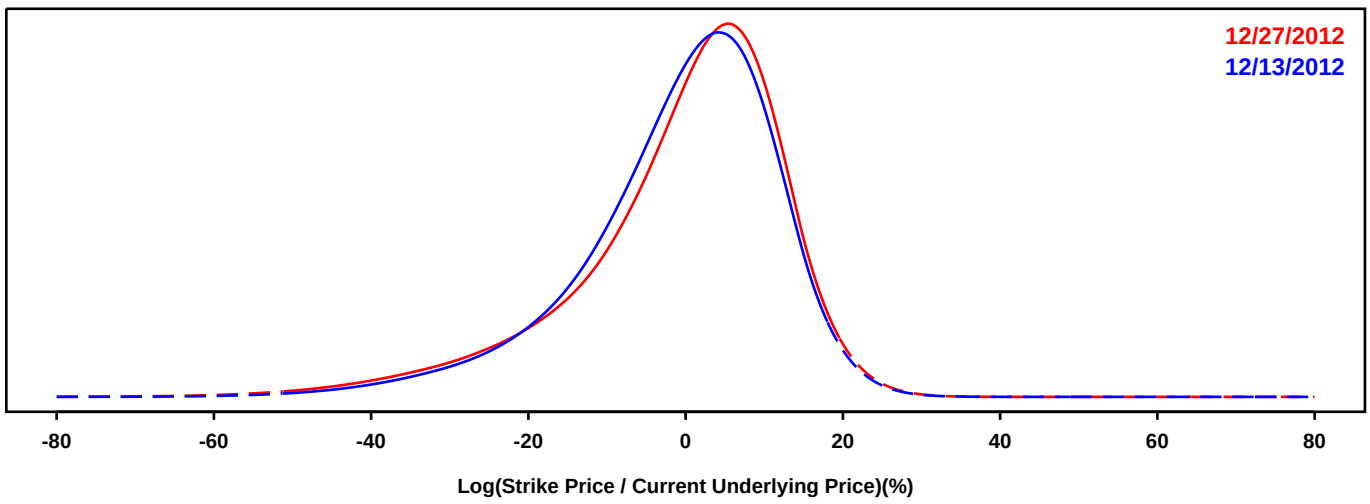
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- S&P 500

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

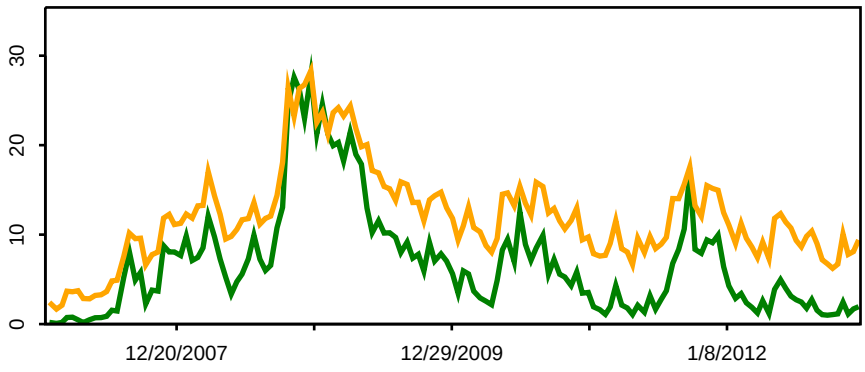
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



Decrease <=20% Increase >= 20%

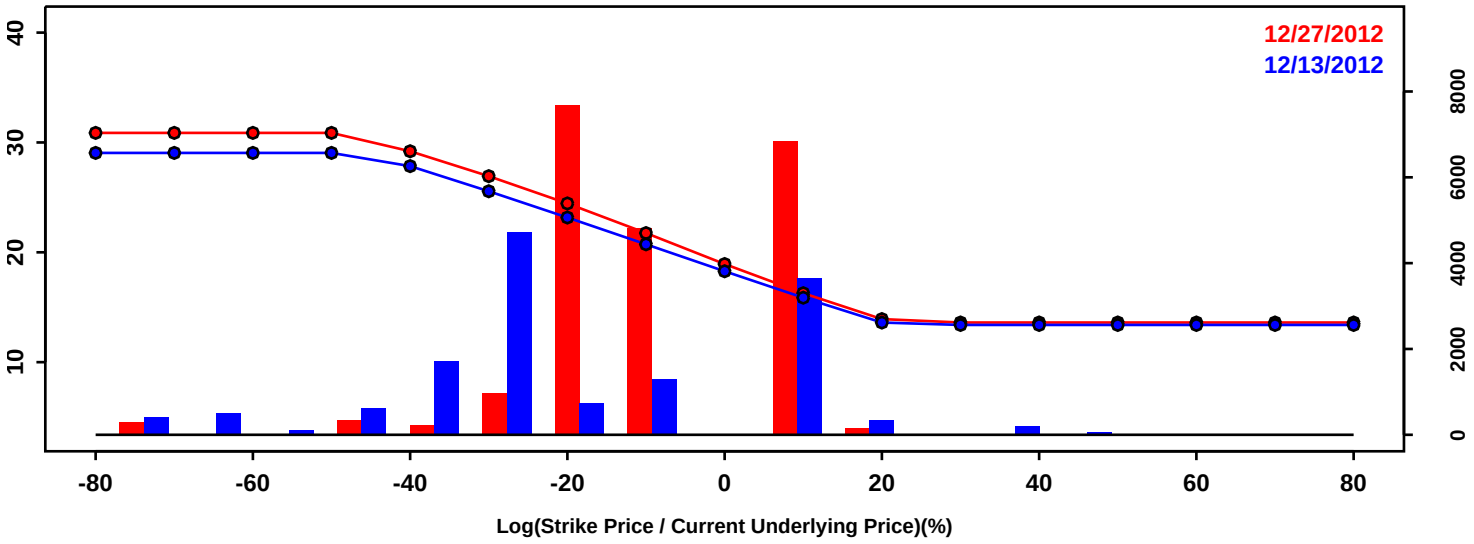
Statistics of the Log Return Distributions

	12/13/2012	12/27/2012	Change
10th Pct	-17.66%	-19.17%	-1.51%
50th Pct	1.04%	1.89%	0.85%
90th Pct	12.94%	13.49%	0.55%
Mean	-0.92%	-0.76%	0.15%
Std Dev	12.69%	13.65%	0.96%
Skew	-0.98	-1.16	-0.18
Kurtosis	1.58	1.94	0.36

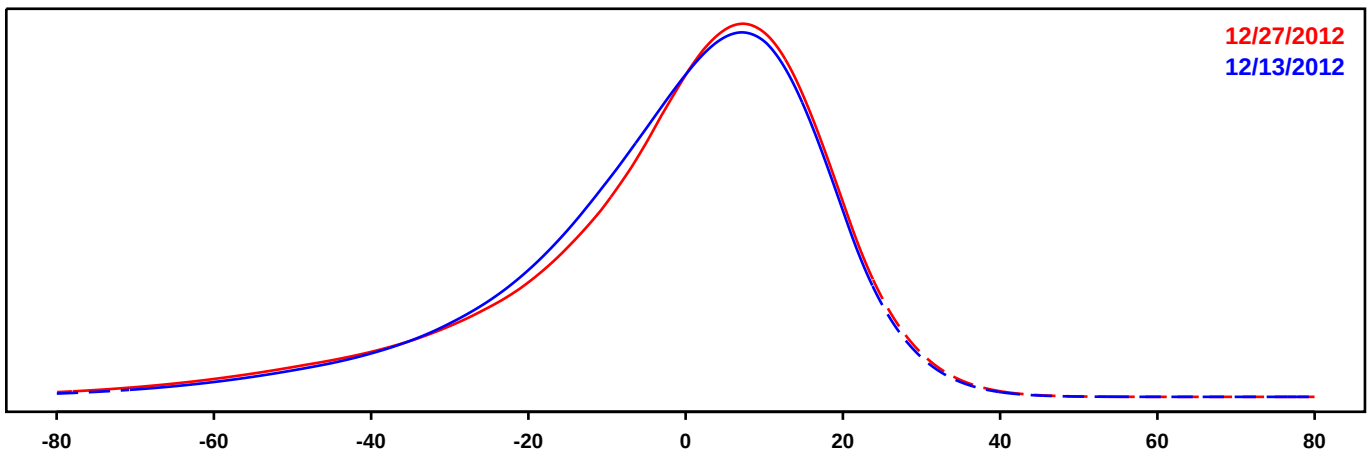
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- S&P 500

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

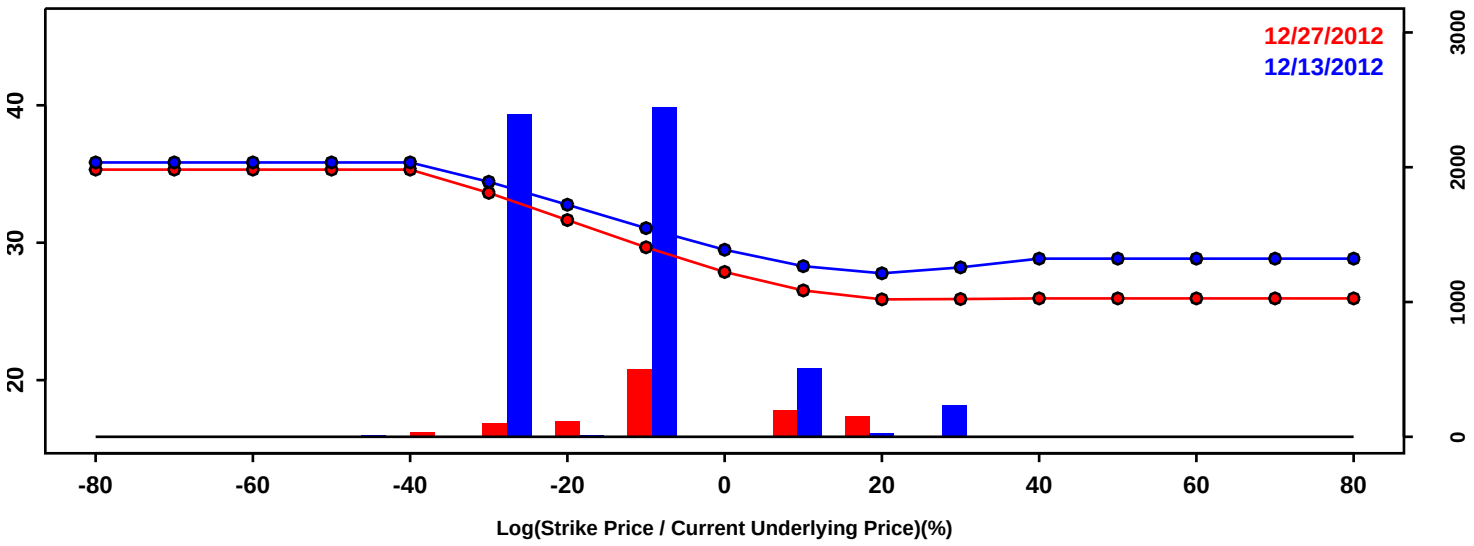
Statistics of the Log Return Distributions

	12/13/2012	12/27/2012	Change
10th Pct	-28.52%	-30.11%	-1.59%
50th Pct	1.36%	2.10%	0.74%
90th Pct	18.80%	19.28%	0.48%
Mean	-2.19%	-2.10%	0.09%
Std Dev	19.64%	20.63%	0.99%
Skew	-1.07	-1.19	-0.12
Kurtosis	1.66	1.94	0.29

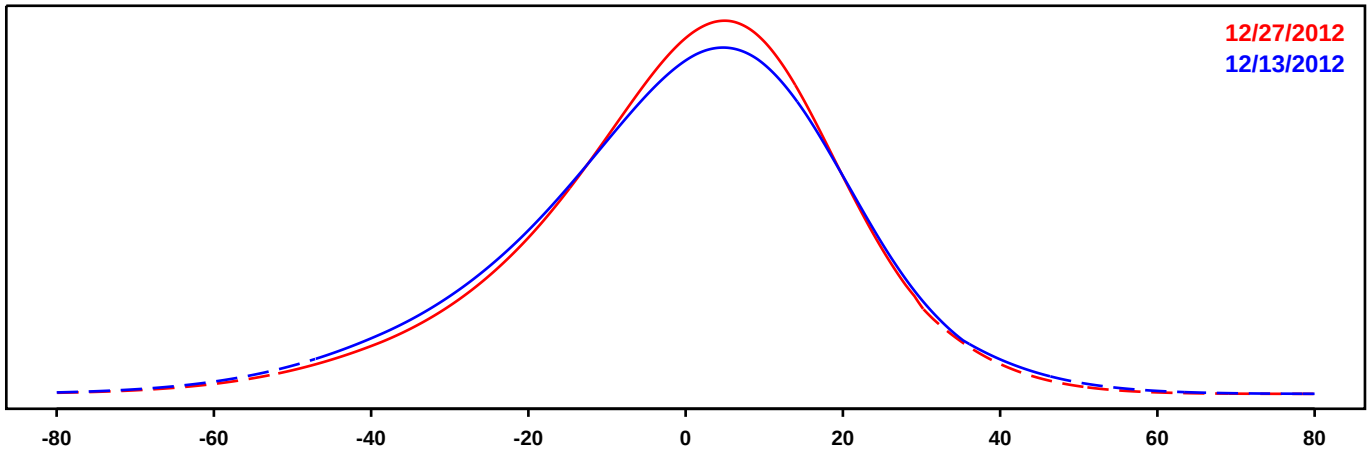
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CRUDE OIL FUTURES (WTI)

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

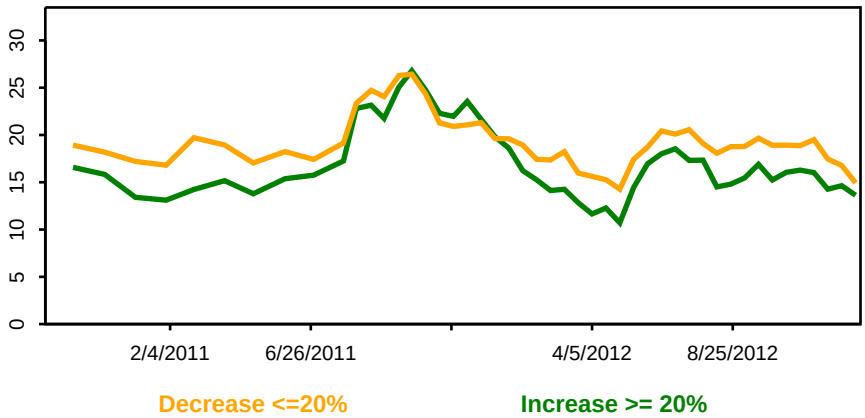
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



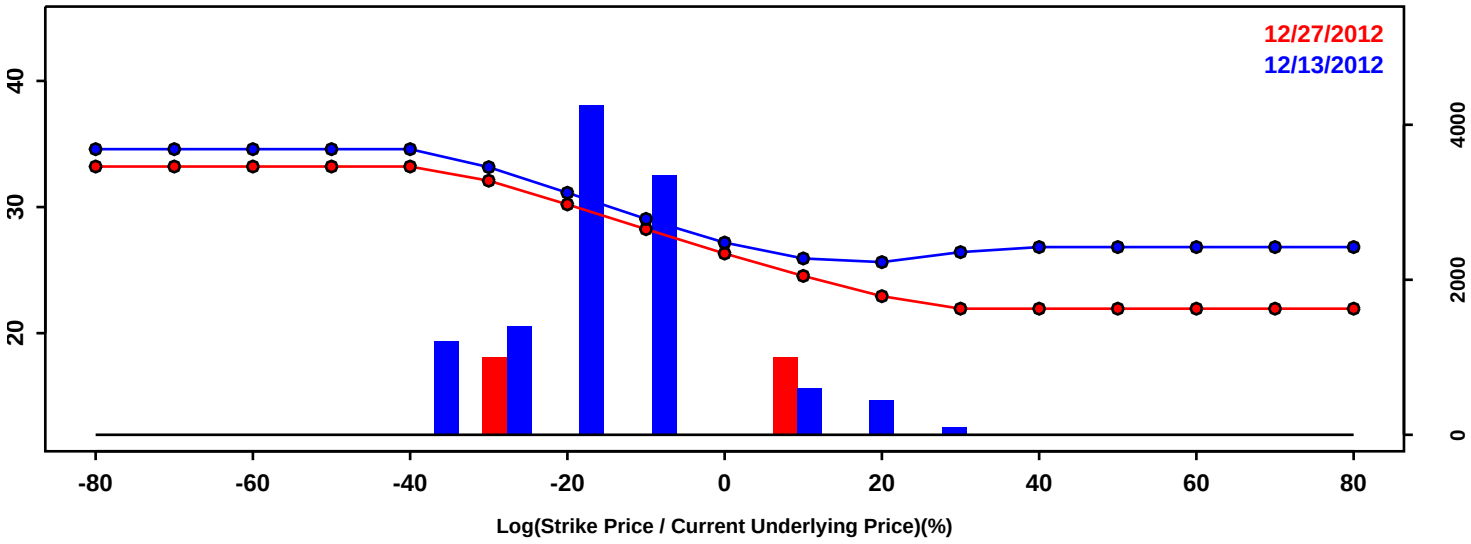
Statistics of the Log Return Distributions

	12/13/2012	12/27/2012	Change
10th Pct	-28.30%	-26.13%	2.17%
50th Pct	1.23%	1.71%	0.47%
90th Pct	24.01%	23.04%	-0.98%
Mean	-0.55%	-0.09%	0.46%
Std Dev	20.95%	19.78%	-1.17%
Skew	-0.42	-0.48	-0.07
Kurtosis	0.51	0.64	0.13

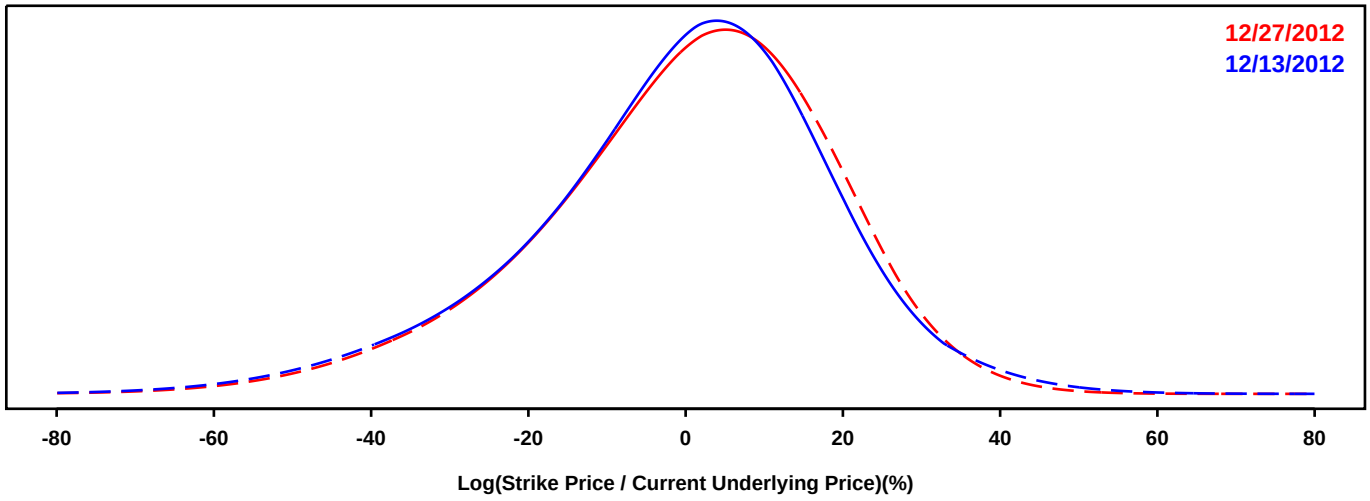
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CRUDE OIL FUTURES (Brent)

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

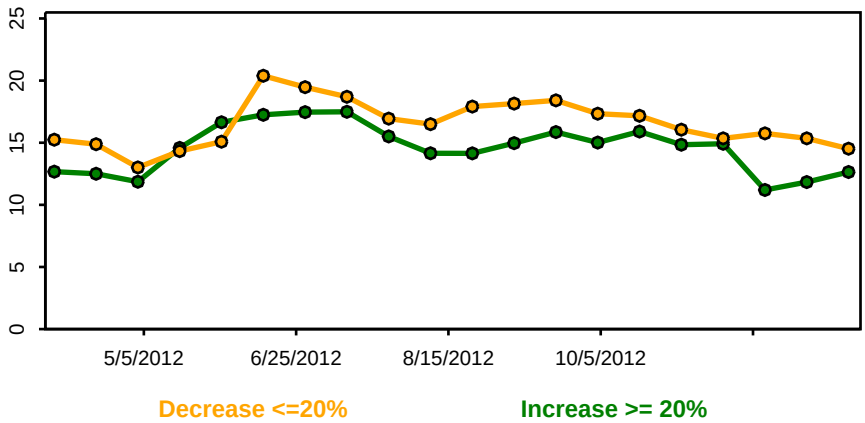
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



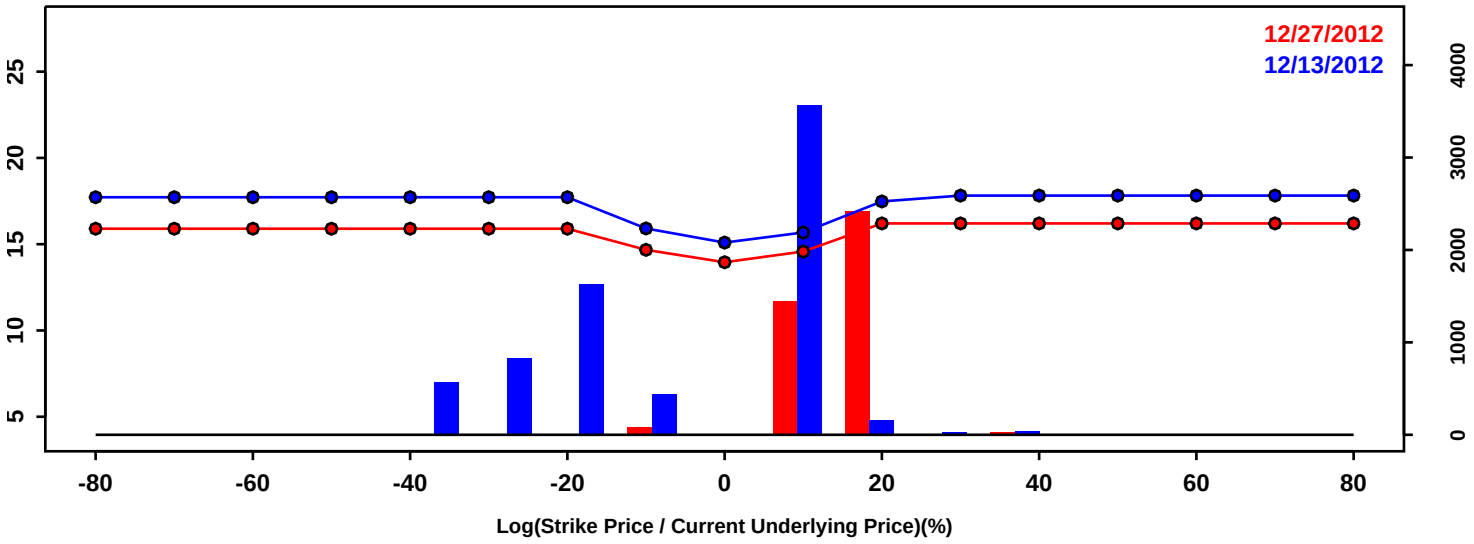
Statistics of the Log Return Distributions

	12/13/2012	12/27/2012	Change
10th Pct	-26.61%	-25.47%	1.13%
50th Pct	1.03%	1.74%	0.71%
90th Pct	21.59%	22.00%	0.41%
Mean	-0.85%	-0.20%	0.65%
Std Dev	19.44%	18.87%	-0.57%
Skew	-0.50	-0.56	-0.06
Kurtosis	0.70	0.50	-0.20

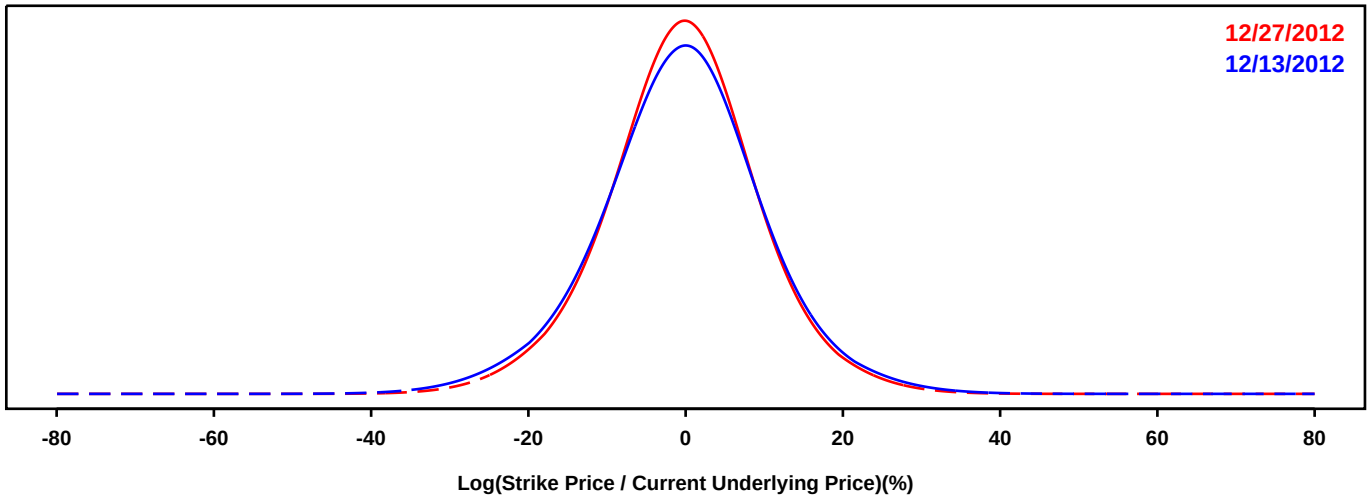
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- GOLD FUTURES

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

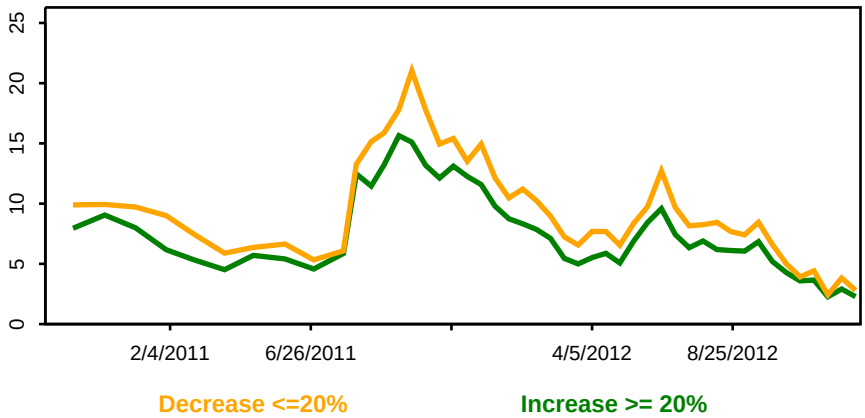
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



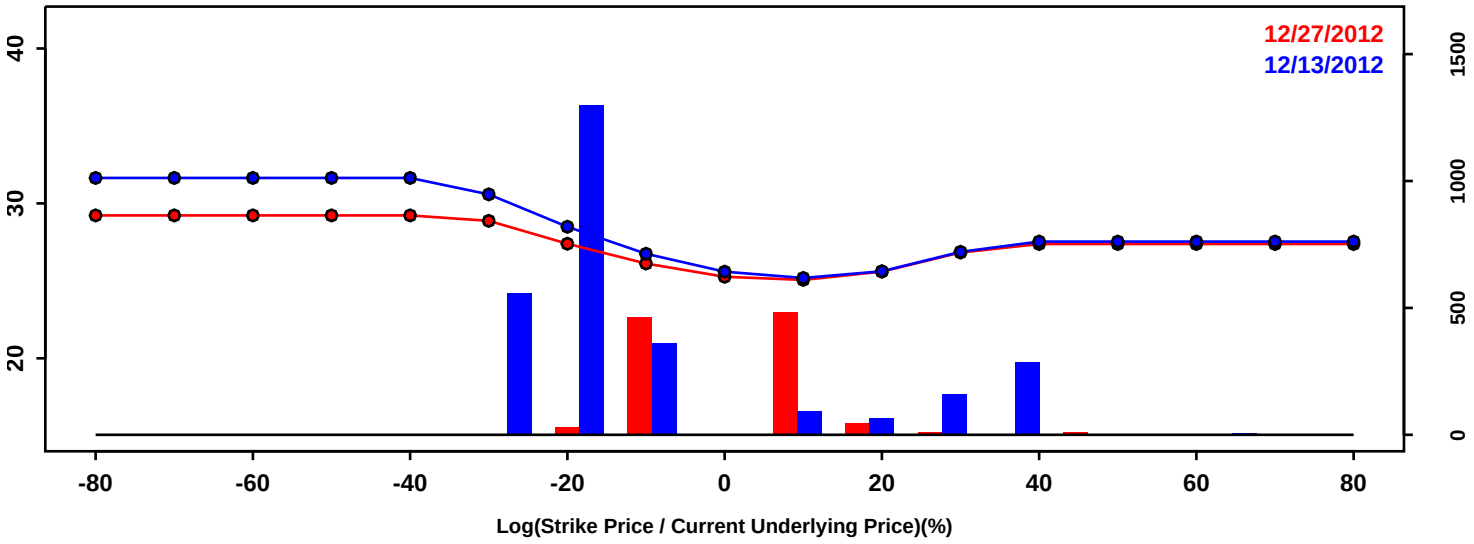
Statistics of the Log Return Distributions

	12/13/2012	12/27/2012	Change
10th Pct	-13.71%	-12.62%	1.09%
50th Pct	-0.33%	-0.24%	0.08%
90th Pct	12.49%	11.75%	-0.74%
Mean	-0.44%	-0.32%	0.12%
Std Dev	10.65%	9.84%	-0.81%
Skew	-0.06	-0.03	0.03
Kurtosis	0.67	0.58	-0.10

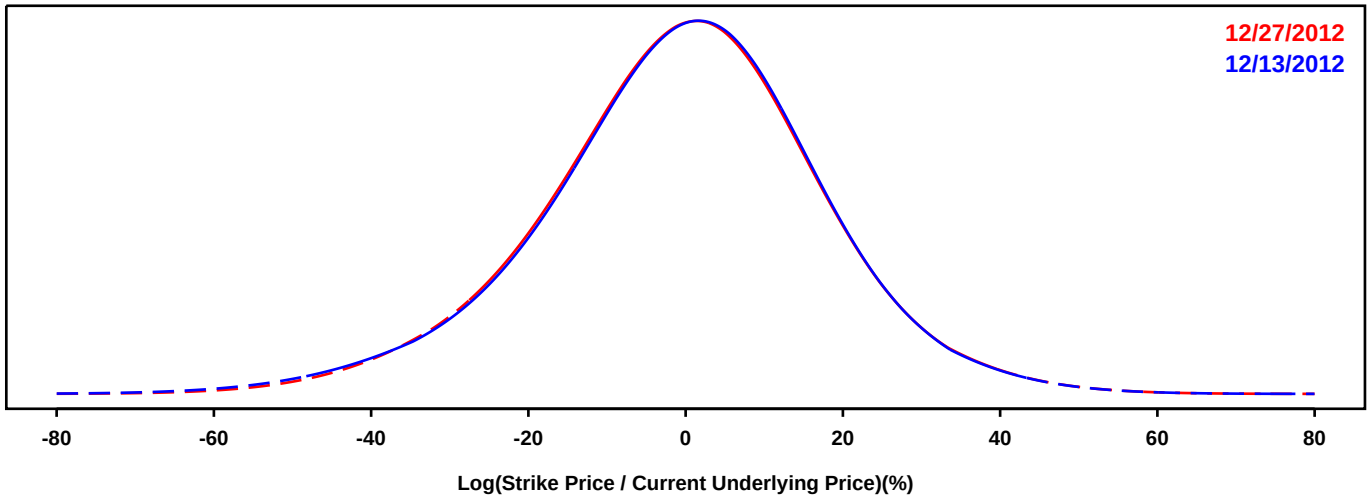
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- SILVER FUTURES

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

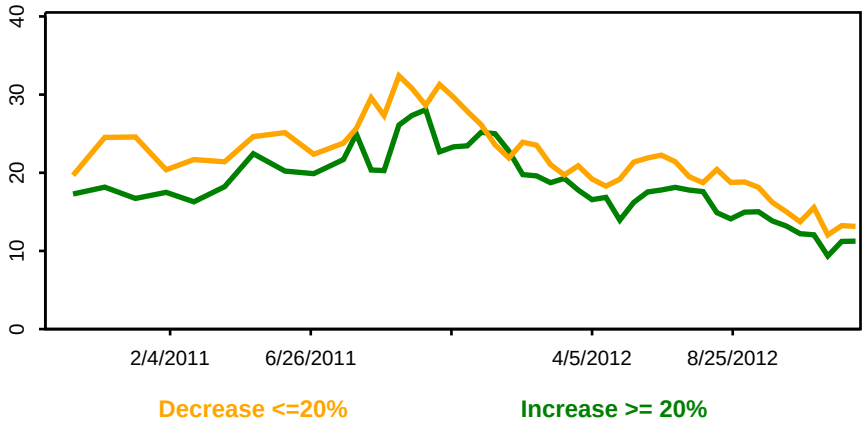
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



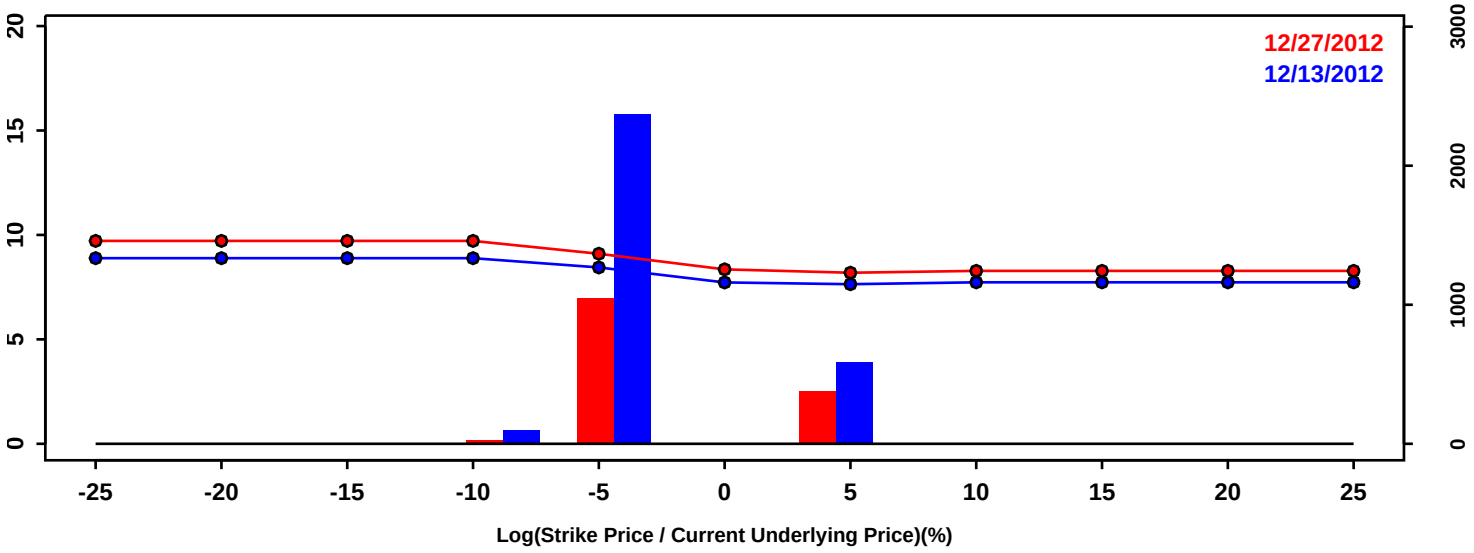
Statistics of the Log Return Distributions

	12/13/2012	12/27/2012	Change
10th Pct	-23.60%	-23.28%	0.32%
50th Pct	0.26%	0.11%	-0.15%
90th Pct	21.16%	21.17%	0.02%
Mean	-0.55%	-0.48%	0.08%
Std Dev	18.13%	17.85%	-0.28%
Skew	-0.26	-0.17	0.10
Kurtosis	0.66	0.48	-0.18

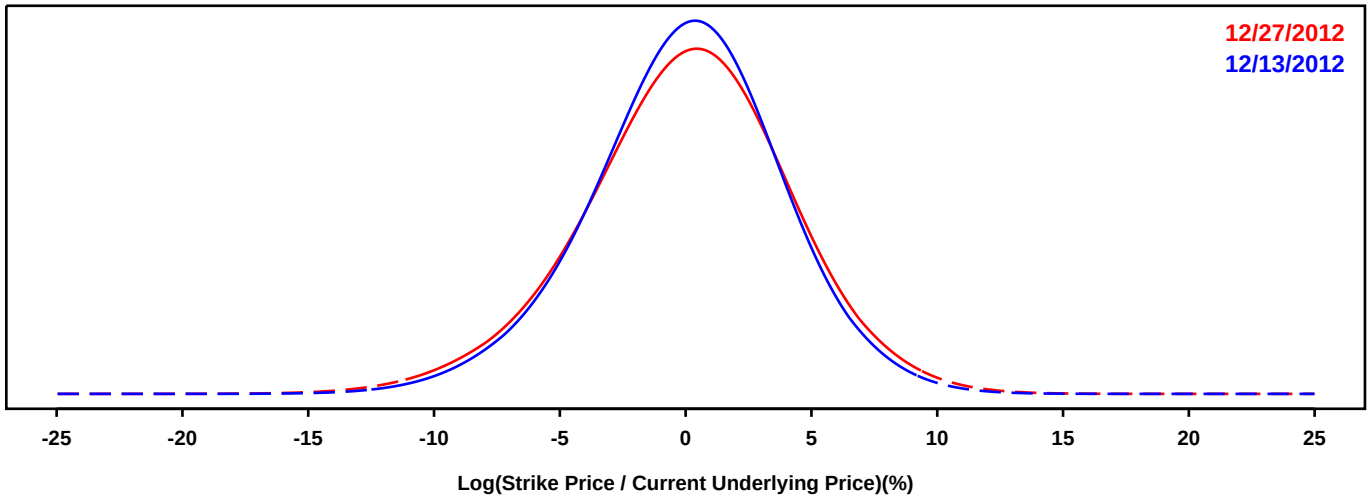
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- DOLLAR-EURO EXCHANGE RATE FUTURES

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

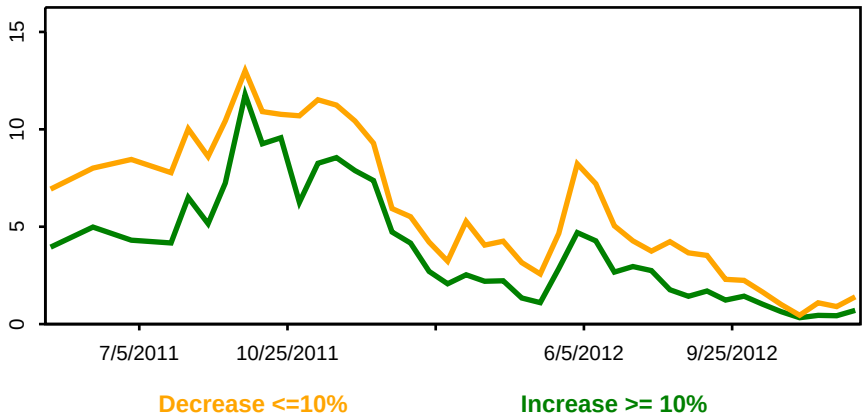
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



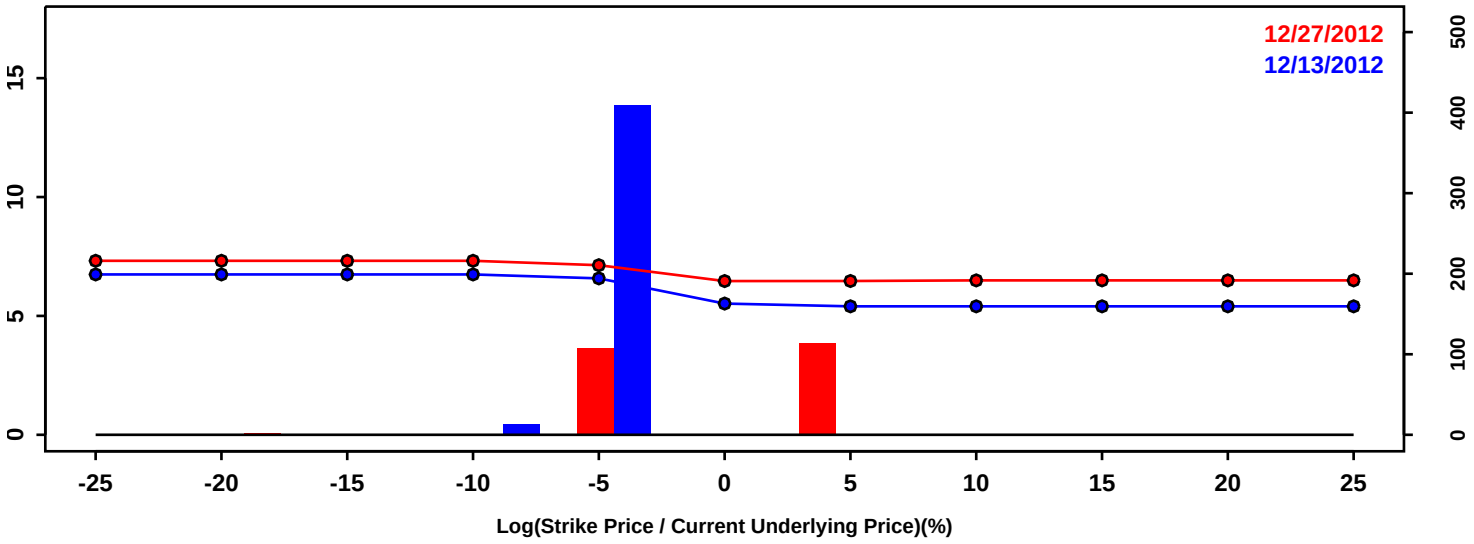
Statistics of the Log Return Distributions

	12/13/2012	12/27/2012	Change
10th Pct	-4.95%	-5.31%	-0.36%
50th Pct	0.14%	0.15%	0.01%
90th Pct	4.77%	5.17%	0.40%
Mean	0.03%	0.05%	0.02%
Std Dev	3.86%	4.17%	0.31%
Skew	-0.19	-0.21	-0.02
Kurtosis	0.33	0.35	0.01

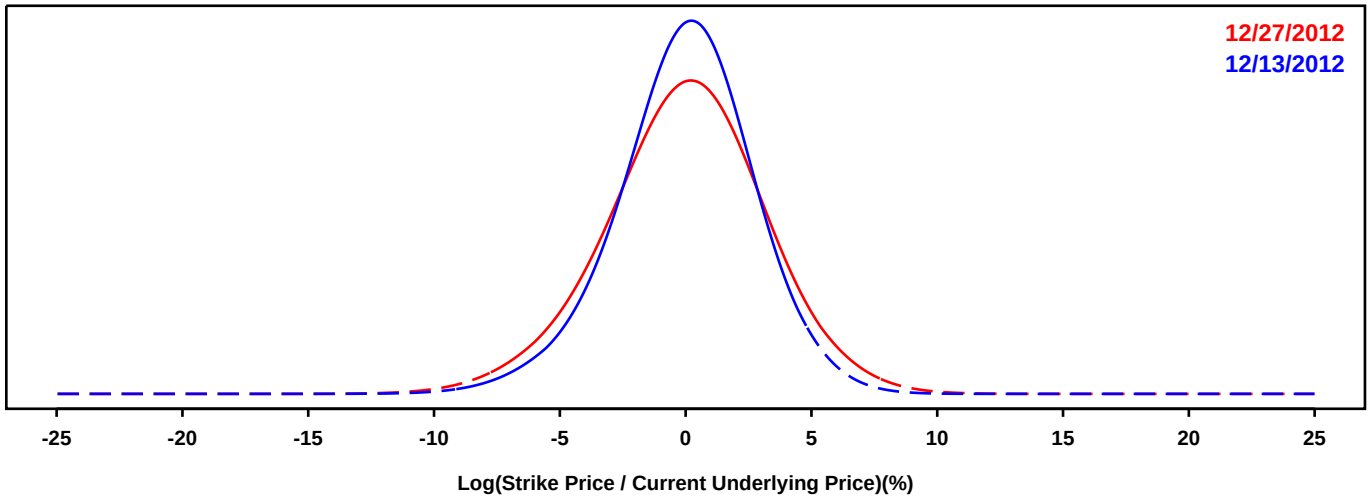
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- DOLLAR-POUND EXCHANGE RATE FUTURES

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

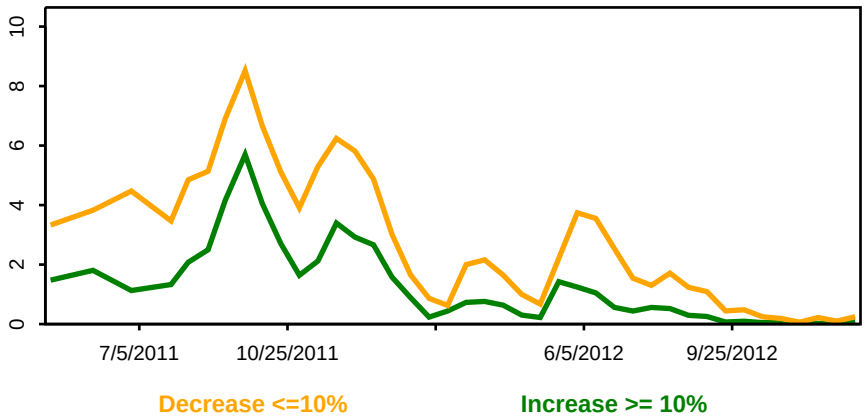
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



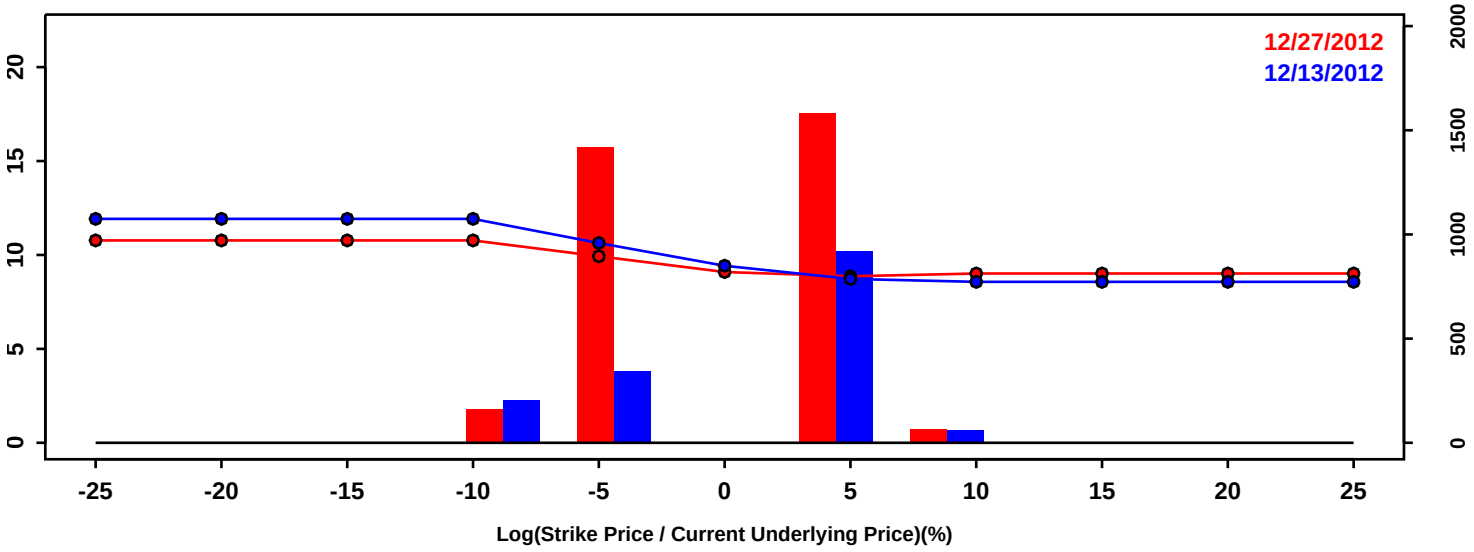
Statistics of the Log Return Distributions

	12/13/2012	12/27/2012	Change
10th Pct	-3.56%	-4.15%	-0.60%
50th Pct	0.09%	0.05%	-0.04%
90th Pct	3.35%	3.96%	0.61%
Mean	-0.00%	-0.01%	-0.00%
Std Dev	2.76%	3.23%	0.47%
Skew	-0.26	-0.16	0.10
Kurtosis	0.46	0.29	-0.17

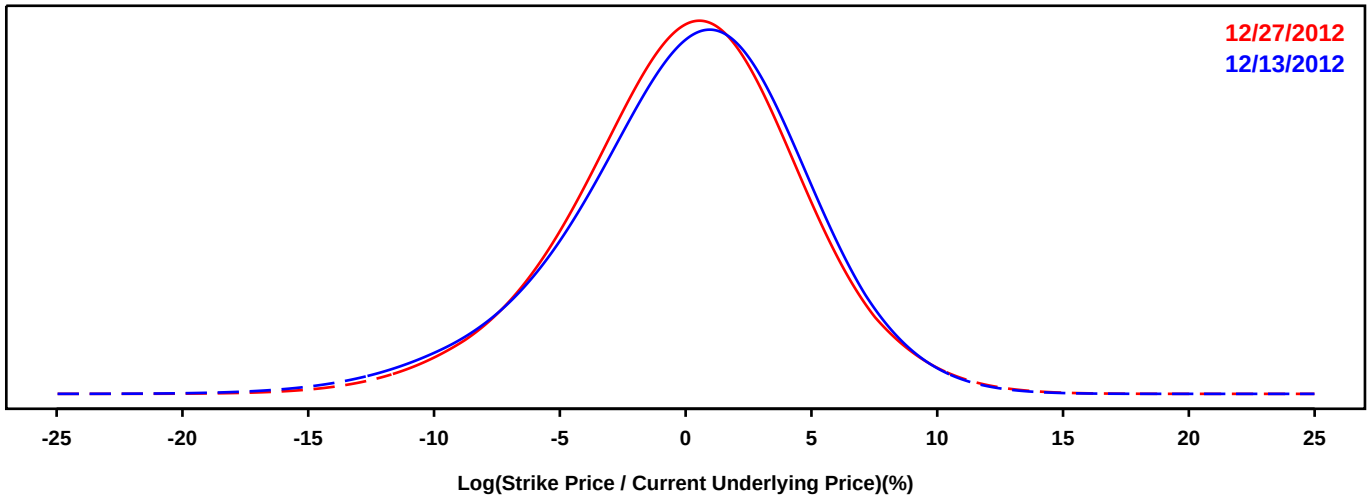
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- YEN-DOLLAR EXCHANGE RATE FUTURES

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

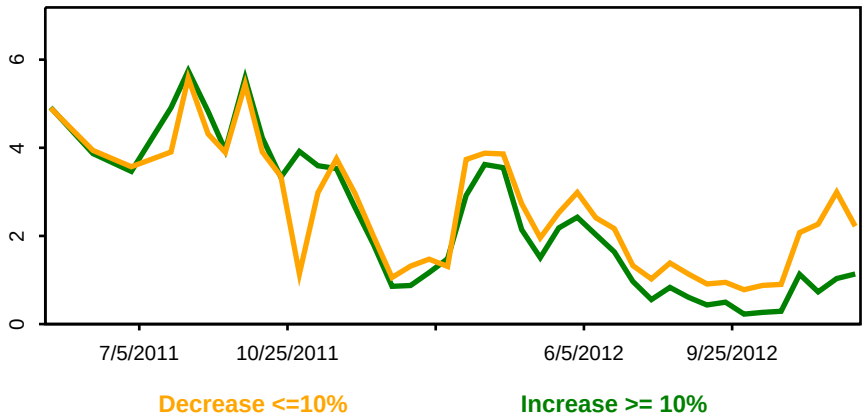
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



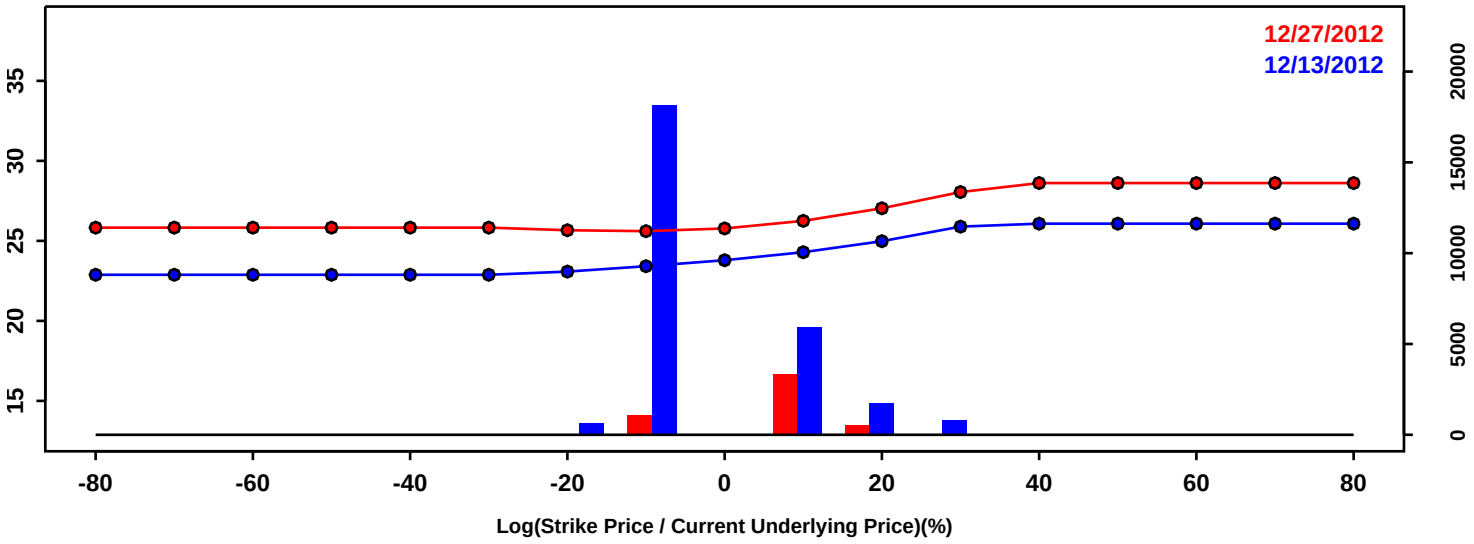
Statistics of the Log Return Distributions

	12/13/2012	12/27/2012	Change
10th Pct	-6.16%	-5.84%	0.33%
50th Pct	0.37%	0.20%	-0.17%
90th Pct	5.69%	5.55%	-0.13%
Mean	0.05%	0.02%	-0.03%
Std Dev	4.73%	4.54%	-0.19%
Skew	-0.44	-0.25	0.19
Kurtosis	0.56	0.41	-0.15

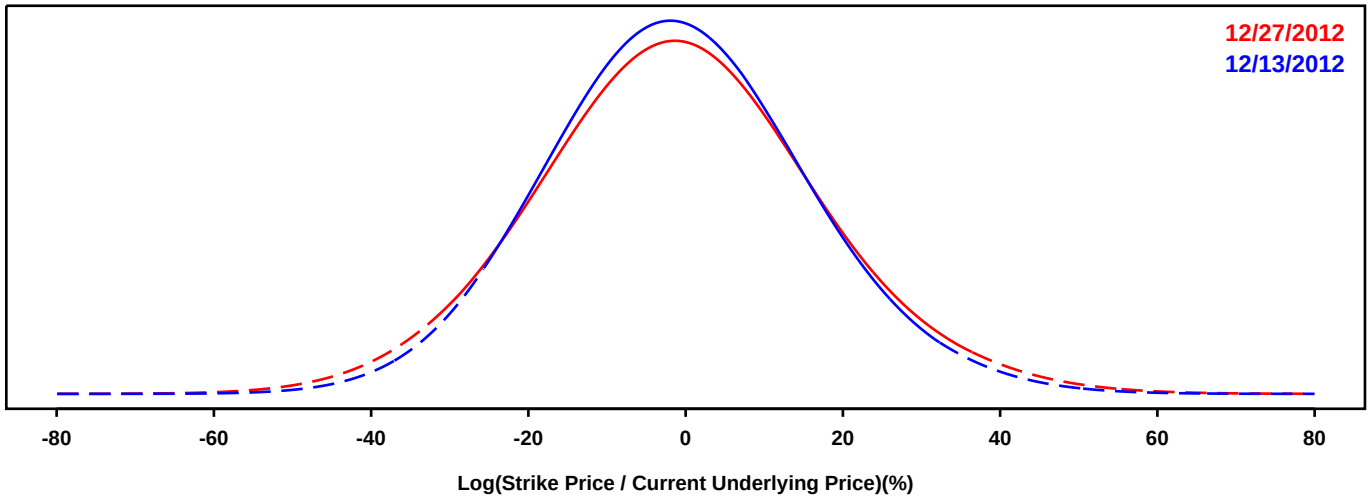
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- CORN FUTURES

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

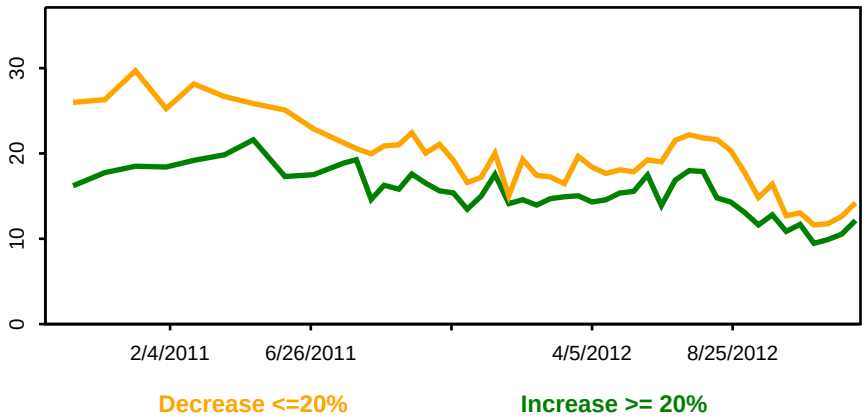
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



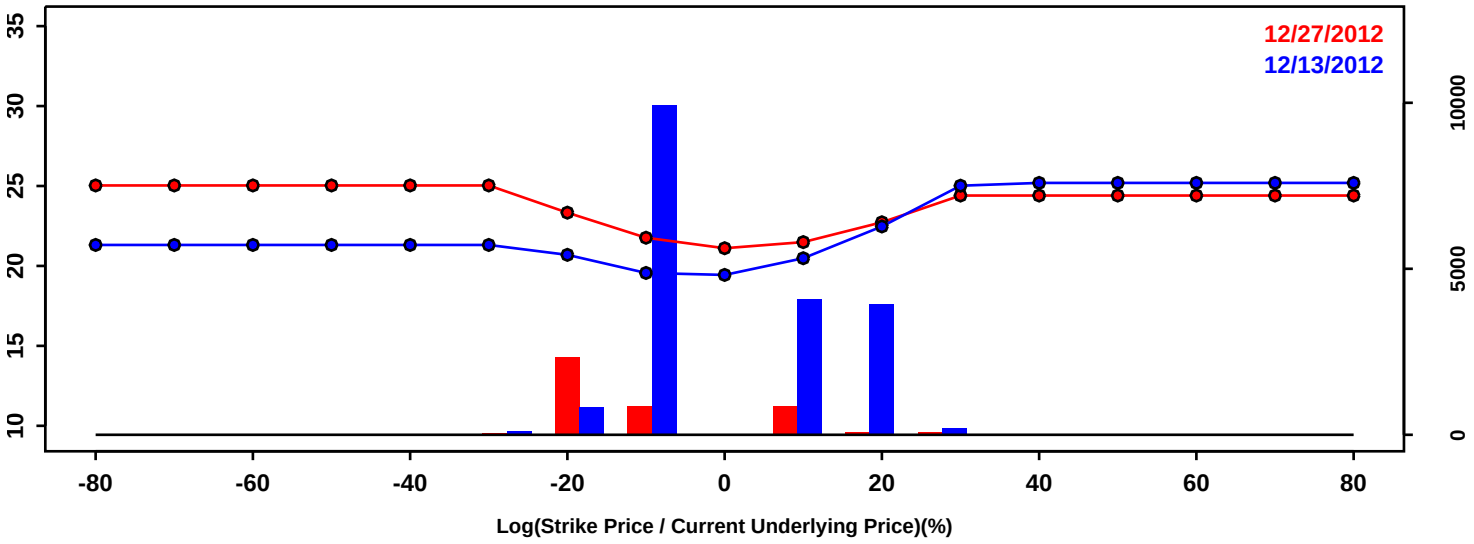
Statistics of the Log Return Distributions

	12/13/2012	12/27/2012	Change
10th Pct	-22.18%	-23.78%	-1.60%
50th Pct	-1.36%	-1.16%	0.20%
90th Pct	20.51%	22.24%	1.73%
Mean	-1.01%	-0.86%	0.15%
Std Dev	16.78%	18.18%	1.41%
Skew	0.13	0.10	-0.03
Kurtosis	0.12	0.23	0.11

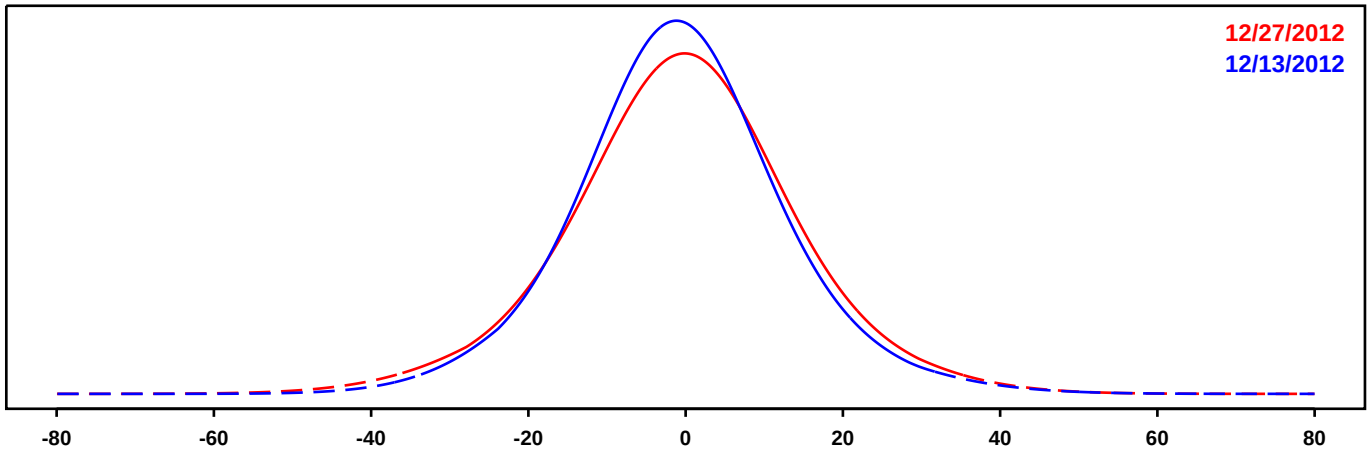
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- SOYBEAN FUTURES

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

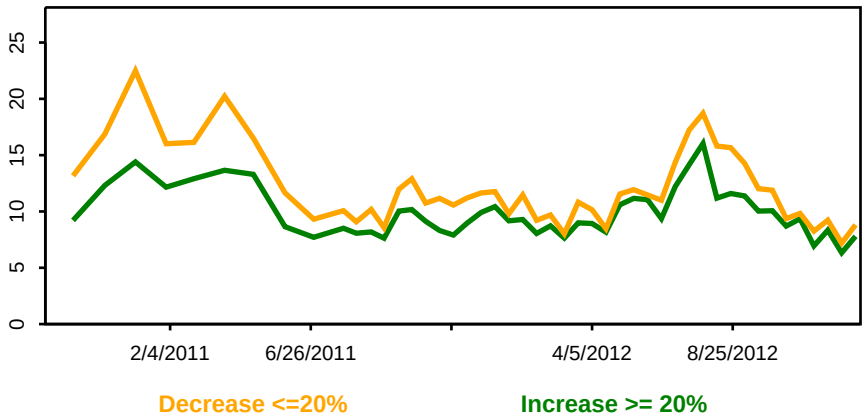
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



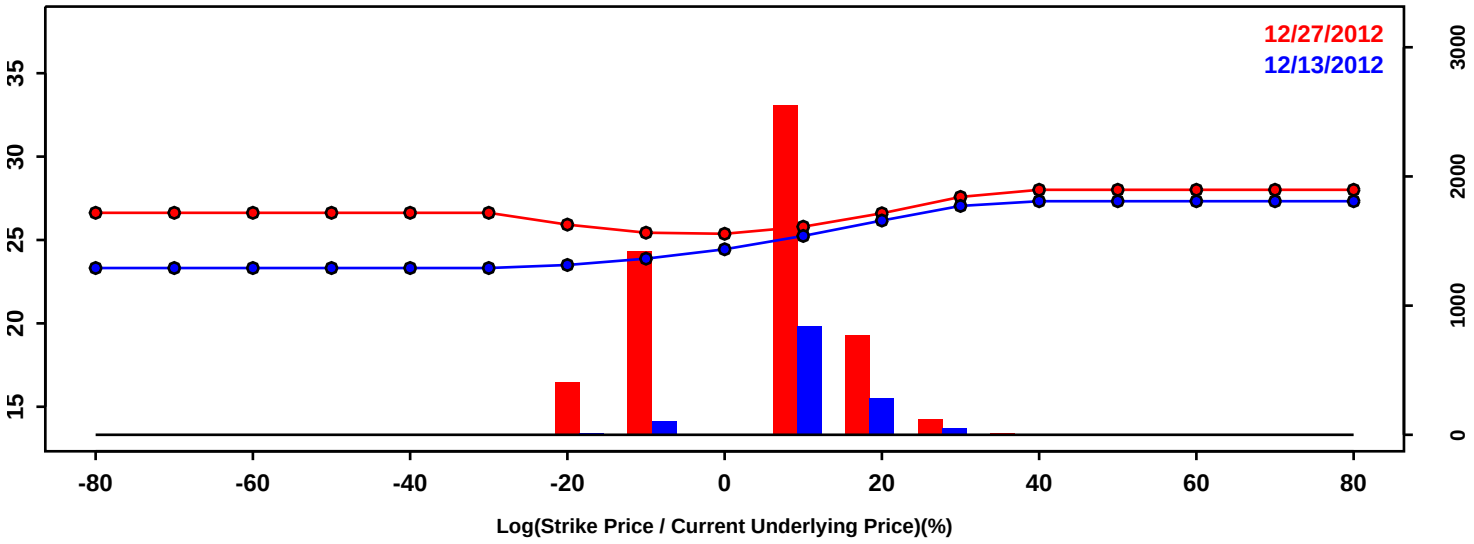
Statistics of the Log Return Distributions

	12/13/2012	12/27/2012	Change
10th Pct	-17.37%	-18.81%	-1.44%
50th Pct	-0.94%	-0.27%	0.67%
90th Pct	16.07%	17.80%	1.73%
Mean	-0.68%	-0.39%	0.29%
Std Dev	13.63%	14.87%	1.23%
Skew	0.14	-0.06	-0.20
Kurtosis	0.78	0.68	-0.10

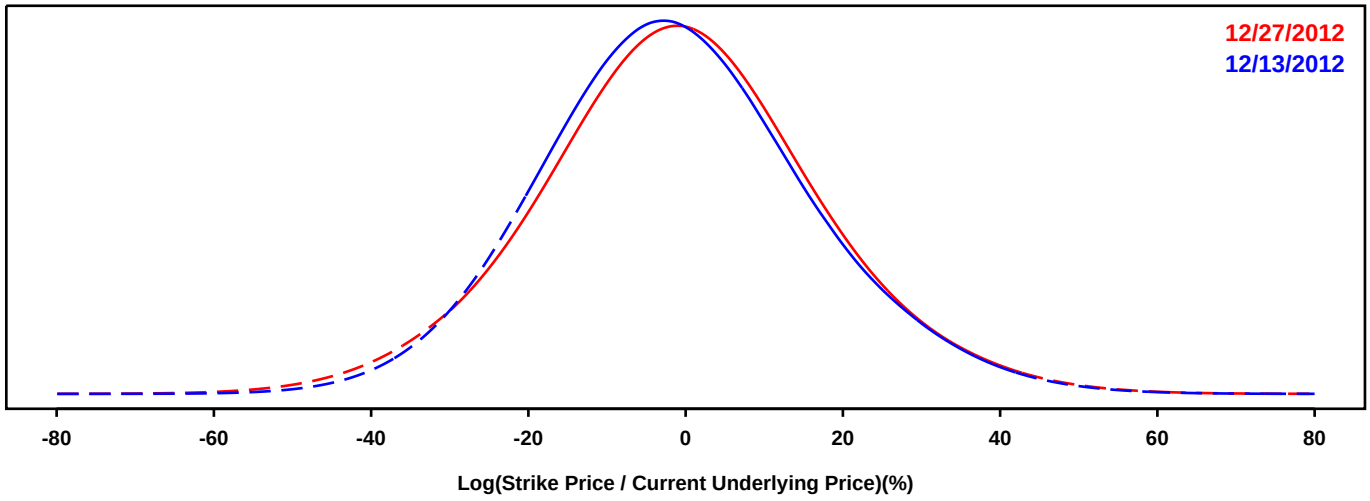
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- WHEAT FUTURES

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

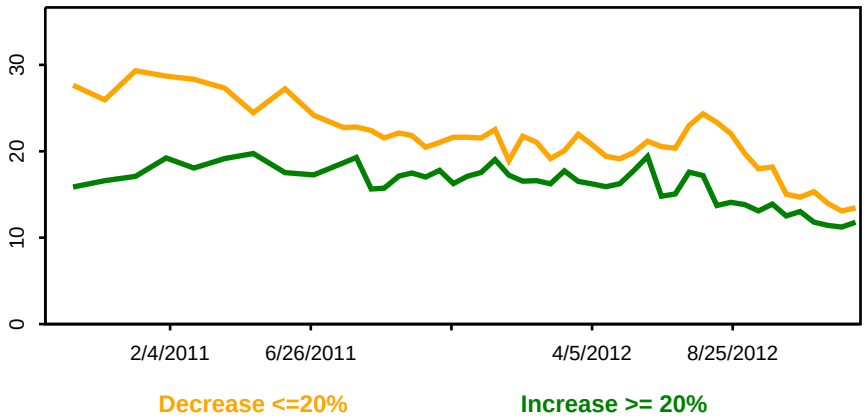
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change



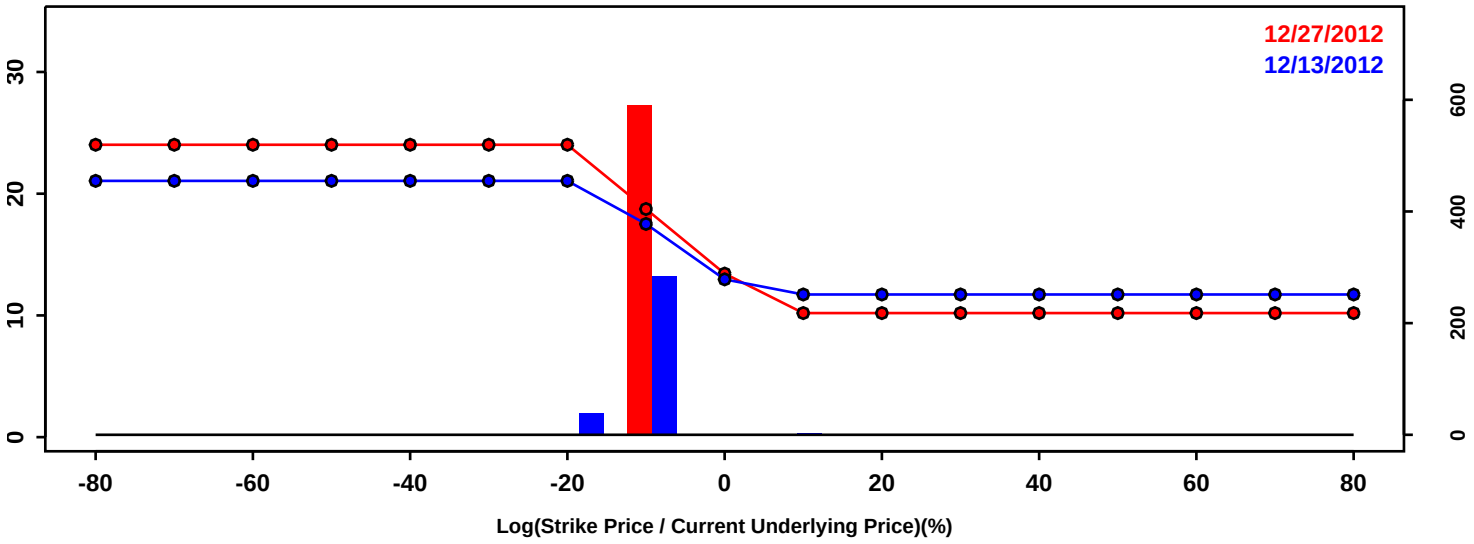
Statistics of the Log Return Distributions

	12/13/2012	12/27/2012	Change
10th Pct	-22.56%	-23.25%	-0.69%
50th Pct	-1.73%	-0.88%	0.85%
90th Pct	21.30%	21.87%	0.57%
Mean	-1.08%	-0.74%	0.35%
Std Dev	17.27%	17.90%	0.64%
Skew	0.20	0.05	-0.15
Kurtosis	0.20	0.32	0.12

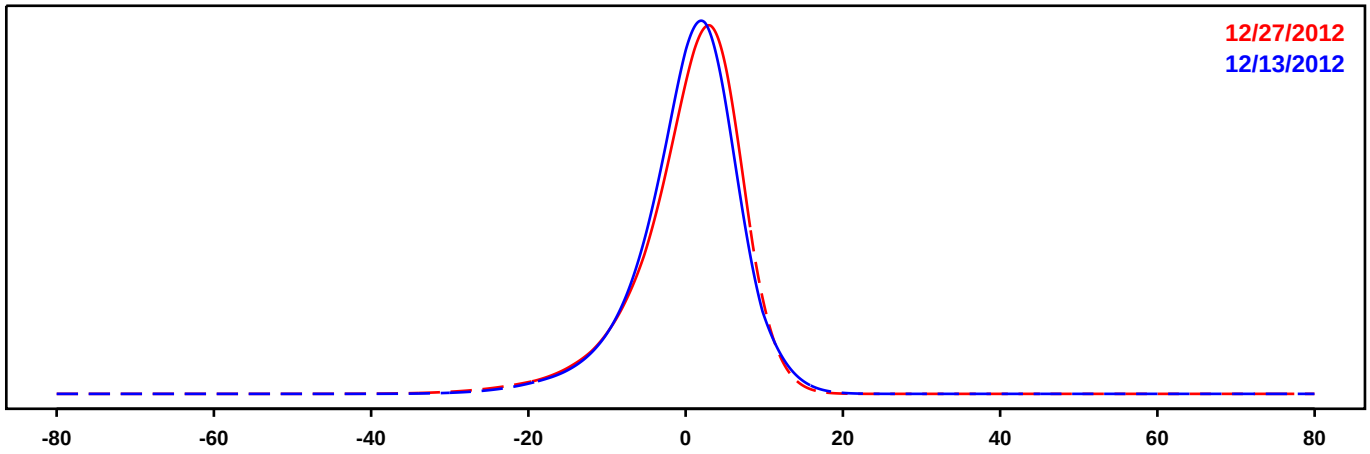
RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- iSHARES DOW JONES US REAL ESTATE

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

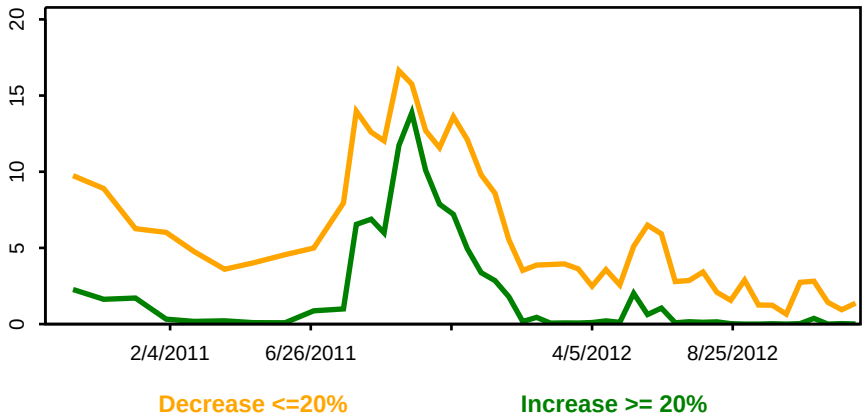
Implied Volatilities (lines--left axis) and Volume (bars--right axis)



Risk Neutral PDF of the Log Return Distribution



Probability of a Large Change

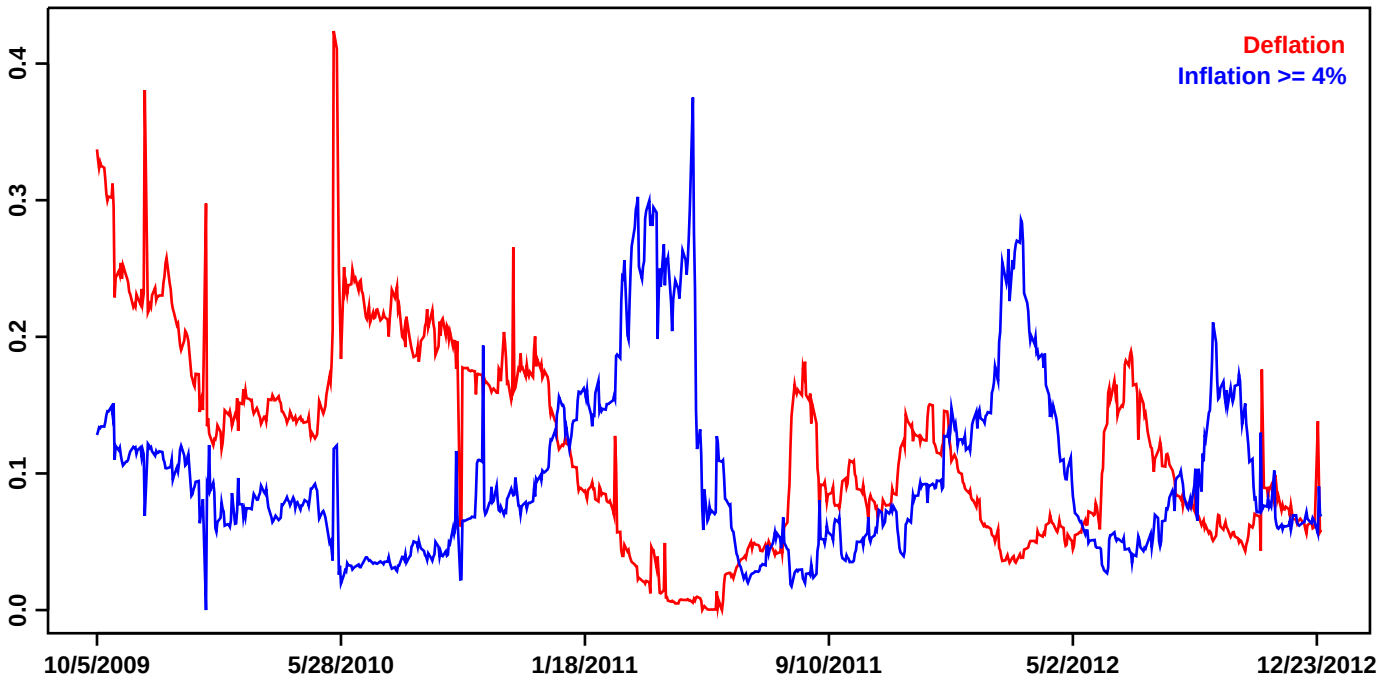


Statistics of the Log Return Distributions

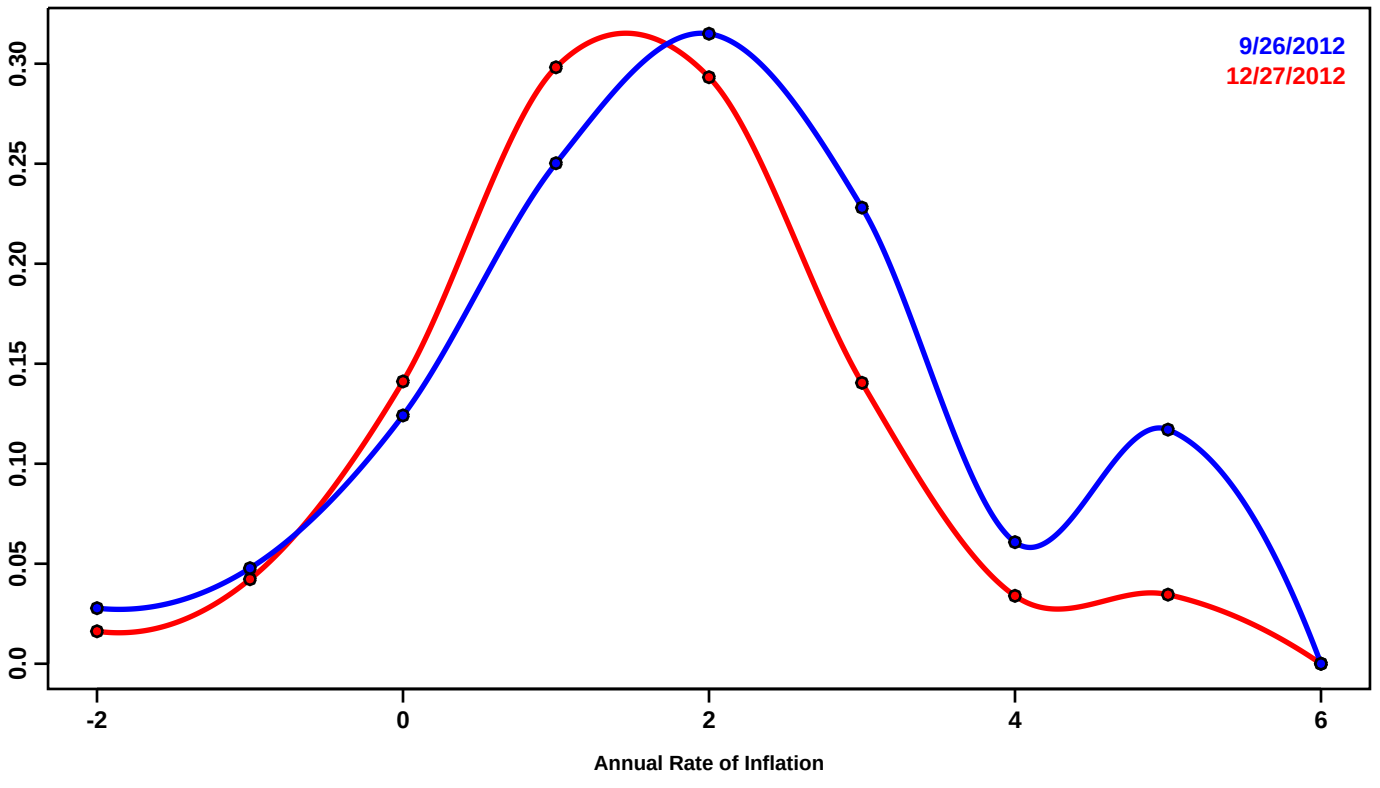
	12/13/2012	12/27/2012	Change
10th Pct	-7.75%	-8.12%	-0.36%
50th Pct	1.06%	1.51%	0.45%
90th Pct	7.60%	7.78%	0.18%
Mean	0.40%	0.50%	0.10%
Std Dev	6.48%	6.79%	0.31%
Skew	-0.82	-1.14	-0.32
Kurtosis	1.84	2.52	0.68

RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- Inflation Caps & Floors

Probabilty of Deflation and High Inflation over the Next Year



Risk Neutral Density Function for Inflation over the Next Year



RISK NEUTRAL PROBABILITY DENSITY FUNCTIONS -- Inflation Caps & Floors