# FEDERAL RESERVE BANK OF MINNEAPOLIS

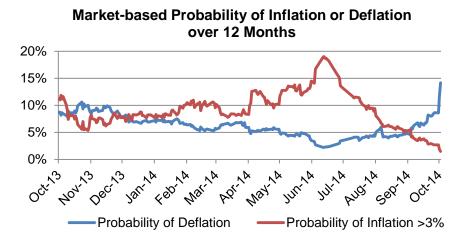
BANKING AND POLICY STUDIES

#### Minneapolis Options Report – October 17<sup>th</sup>

Market uncertainty increased in the last two weeks, as illustrated by increases in the standard deviations of market-based probability densities (MPD) derived from equity, Treasury and oil markets. Expected inflation continued to decline. Market-based probabilities of high inflation descended to multi-year lows. Bank and Insurance company options also indicated higher uncertainty as spot prices fell. The spot price of crude oil fell ten percent, and the dispersion of the market probability density increased by 500 basis points. Expectations also skewed further to the downside for crude oil.

#### Inflation

Consistent with other metrics of inflation expectations such as TIPS-based breakeven rates or inflation swaps, median market inflation expectations over the next 12 months decreased by -38 basis points to 0.99 percent. Similarly, median inflation expectations over the next 5 years fell by -16 basis points to 1.82 percent. Market participants are pricing a higher likelihood of low inflation over the medium run and very low expectations of high inflation. The market-based probability of deflation over the next year was 14 percent and the market-based probability of inflation of less than 1 percent was 50 percent as of October 17th.

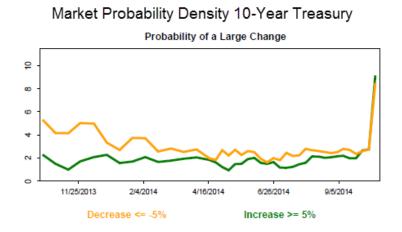


Longer-term market probabilities moved similarly. The probability of inflation over 3 percent over the next 5 years has decreased to 10 percent and probability of inflation less than 1 percent has increased to 20 percent.



#### Interest rates

Treasury yields declined across the yield curve over the last two weeks. The standard deviation of market probability densities for 5 and 10-year Treasury bonds rose and the MPD has skewed towards lower yields. The MPD standard deviation derived from 10-year Treasury futures has increased from 2.5 percent two weeks ago to 3.8 percent. The 10-year Treasury skew was close to neutral two weeks ago and is now at a 12 month high. For these reasons the market-based probabilities of large changes rose. Moreover, the probability of a bond price increase (a lower interest rate) is now greater than a bond price decrease (a higher interest rate).

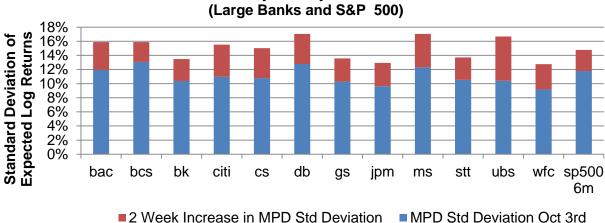


#### Banks and Insurance Companies

Patterns in the MPDs based on equity options for bank and insurance firms were dominated by broad market moves. Equity prices declined and uncertainty, as measured by MPD standard deviation, increased and MPD skew measures dropped. Financial firm share prices generally fared worse than the market as a

whole. The average two week returns on bank and insurance company stocks were lower than the S&P 500. Average returns for large banks declined by -6.3%, insurance companies by -5.1% and the S&P 500 by -4.3%. MPDs were also influenced by earnings reports as many financial companies have reported their third quarter results over the past two weeks.

Over the past two weeks, MPD standard deviations increased by 3.9 percentage points on average. The standard deviation of the MPD derived from options on the S&P 500 index increased by a similar 3 percentage points.



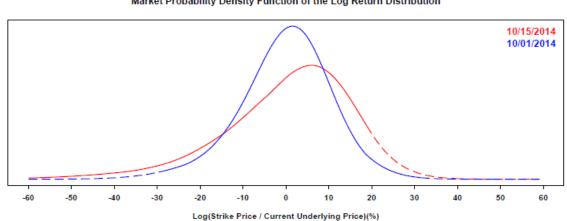
Market Probability Density Standard Deviation (Large Banks and S&P 500)

To a lesser degree, MPD standard deviations derived from options on insurance company equities also increased. The average MPD standard deviation rose 2.3 percentage points. While it is typical to see positive skews in a bottoming market, most skews became more negative in the last two weeks potentially foreshadowing further downward price moves. Generally these shifts occurred with options trading at relatively high volume.

Additional Details:

• The MPD derived from options on of Citigroup share prices examplifies changes to the banking market-based probability densities. Note the increased dispersion and more negative skew. Citigroup had a positive earnings report and exceeded analysts expectations, options trading was

elevated, and above average changes in standard devitation and skew relative to two weeks ago.



Citigroup Market Probability Density Function of the Log Return Distribution

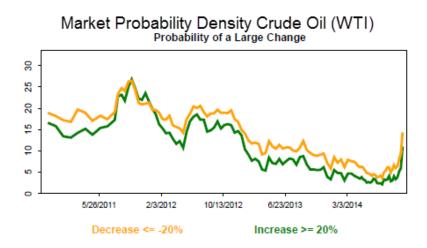
- The stock price of Deutsche Bank declined more than peers and ad the highest levels of uncertainty of large banks. The standard deviation of expected log returns on equity was 17.1 percent, increasing from 13.8 percent two weeks ago.
- Shares prices for Lincoln National, Ameriprise, Prudential and Metlife had outsized declines. Returns decreased near -9% and standard deviations of market-based probabity densitieswere higher than peer insitutions.
- Several major banks and insurance companies announced earnings during the data collection period which sometimes leads to higher volumes. These intitutions include Progressive, Citi, JP Morgan, Wells Fargo, American Express, Bank of America, Key Corp and PNC.

#### Other commodity markets

Commodity market price changes were mixed. Tail risks, as measured by MPD standard deviation, were similarly mixed. Prices for grains and metals increased and standard deviations of market based densities were roughly unchanged.

#### Additional Details:

• Oil prices decreased by -10% over the last two weeks and the standard deviation of the probability distribution derived from crude oil futures increased by 5.3 percentage points to 18.8 percent. The MPD skew has become more negative, indicating greater downward tail risk. The following chart shows the probability of a 20 percent decline, which would currently mean crude oil prices below \$63, is expected with 14% probability.



• Cattle prices declined slightly in the last two weeks after sustained increases. The standard deviation of the probability density for cattle is at a 15-month high, indicating increased tail risk.

Indicator	Latest	2–Week Change	1–Year Trend with min/max points	Long–Term Range with median, IQR, and max/min				
Inflation (1–Year Expiry)								
Median	0.99%	-0.38%	2.2 Jun26 0.99 Oct1	0.99 Last time lower 0.75 +				
MPD Std Dev	0.84%	0.0055%	0.83 Aug28	0.84 0.83 +				
MPD Skew	-0.24	0.061	2.5 Apr17 -0.61 Oct24	-0.24 -0.77 ⊢				
Market Prob of Less Than 1% Inflation	50.63%	17%	50.63 11.88 Jun26	<sup>5</sup> Last time higher Jun2012 5.88 ⊢				
Market Prob of More Than 3% Inflation	1.48%	-2.1%	18.71 1.48 Oct1	48 month low 1.48 1.48 1.48 1.48 1.48 1.48 1.48 1.48				
		Inflatio	on (2–Year Expiry)					
Median	1.37%	-0.33%	2.2 Jun26 1.37 Oct1	1.37 Last time lower 1.13 ⊢				
MPD Std Dev	0.89%	-0.004%	1.11 Oct17 0.89 Aug21	0.89 0.89 1.84 last 47 months				
MPD Skew	-0.06	0.047	0.19 Dec26 -0.22 Jul31	-0.06 -0.4 F				
Market Prob of Less Than 1% Inflation	34.04%	9.8%	34.04 10.74 Jun26	<sup>5</sup> Last time higher Jul2012 10.74 ⊢				
Market Prob of More Than 3% Inflation	4.21%	-3.1%	21.41 Jun26 4.21 Oct1	4.21 4.21 4.21 4.21 4.21 4.21 4.21 4.21				
		Inflatio	on (5–Year Expiry)					
Median	1.82%	-0.16%	2.34 Jul 10 1.82 Oct	1.82 Last time lower 1.64 + 2.83 5 Sep2011 last 46 months				
MPD Std Dev	0.95%	-0.0059%	1.21 Oct17 0.91 Jul24	0.95 0.91 +				
MPD Skew	0.14	0.053	0.21 Dec05 -0.1 Jul31	0.14 -0.22 ⊢ — — — — — — — 1.39 last 46 months				
Market Prob of Less Than 1% Inflation	19.72%	5.1%	19.72 7.13 Jul31	5     Last time higher     19.72       Dec2012     7.13 ⊢				
Market Prob of More Than 3% Inflation	9.83%	-4%	25.22 Jun26 9.83 Oct	9.83 46 month low 9.83 +				

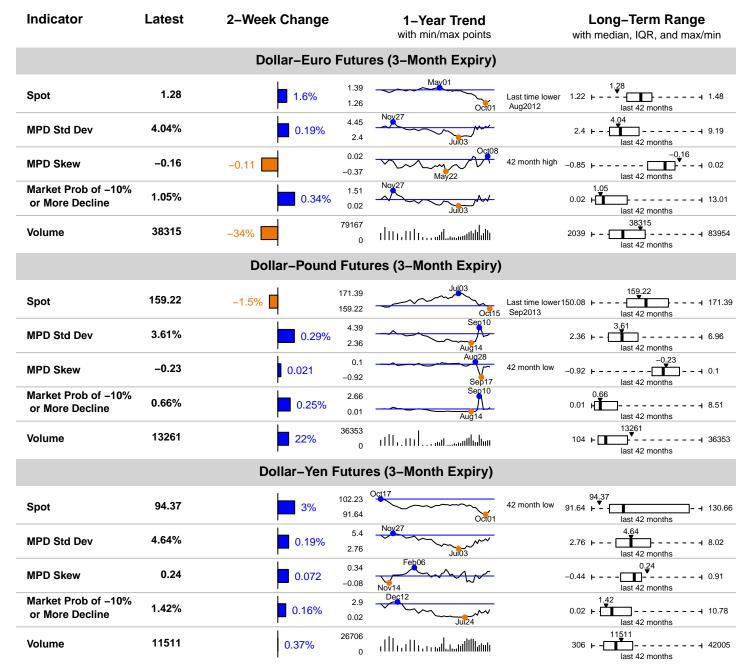
### Inflation MPD Statistics as of October 15, 2014

Indicator	Latest	2–Week Change	1–Year Trend with min/max poin								
	S&P 500 (6–Month Expiry)										
Spot	1862.49	-4.3%	001.57 Sep 733.15 Oct17	1 48 month high 131.42 ⊢ − − Last 48 months							
MPD Std Dev	14.77%	3%	8.87 Jul03	Aug2012     8.87     -     -     -     -     -     -     24.27       Isat 48 months     Isat 48 months     -							
MPD Skew	-1.35	-0.13	-0.98 Nov27 -1.39 May29	last 48 months							
Market Prob of –20% or More Decline	10.32%	3.5%	10.32 3.65 Julo3	C15 Last time higher 10.32   Aug2012 3.65 ⊢ - □ □ □ □							
Volume	183574	120%	03412 0	183574 13428 +							
		S&P 500	(12–Month Expiry)								
Spot	1862.49	-4.3%	001.57 /33.15 Oct17	$\frac{17}{48 \text{ month high}_{1131.42}} + \frac{1862.49}{131.42} + \frac{1}{131.42} + \frac{1}{131.42} + \frac{1}{131.42} + \frac{1}{131.42} + \frac{1}{131.42} + \frac{1}{131.42} + $							
MPD Std Dev	20.16%	2.5%	15.02 Julo3	C115     Last time higher     20.16       Dec2012     10.5							
MPD Skew	-1.13	0.096	-1.05 Dec12 -1.57 May29	-1.13 -1.57 +							
Market Prob of –20% or More Decline	16.05%	2.9%	16.05 10.07	10115     Last time higher     16.05       2     Dec2012     5.51 +							
Volume	20700	1.6%	23271 0	20700 3174 ⊢ 101766 last 48 months							
		iShares US Real E	state Index (3–Month E	Expiry)							
Spot	70.85	2.3%	74.31 Aug21 62.01 Dec12	70.85 50.57 ⊢							
MPD Std Dev	9.69%	2.1%	5.22 Jul 7	C115     Last time higher     9.69       ✓     Oct2013     4.77     ⊢ <b>⊥</b> ✓     Iast 48 months     121.53							
MPD Skew	-0.84	-0.2	-0.52 Dec26 -1.55 Jun05	-2.09 F							
Market Prob of –10% or More Decline	13.97%	3.7%	14.24 Dec12 4.45 Jul17	→ 3.43 ⊢							
Volume	122800	1100%	22800 0 11	122800 705 ⊢□□							

# Equity Index MPD Statistics as of October 15, 2014

Indicator	Latest	2–Week Change		1–Year Trend with min/max points			<b>g–Term Ra</b> ian, IQR, and	-
		5 Year Trea	asury	(3–Month Expiry)				
Spot	120.69	1 7%	120.69 118.05	Oct15 Sep17	1 month high	118.05	last 1 months	120.69 120.69
MPD Std Dev	2.3%	0.81%	2.3 1.41	Oct15	1 month high	1.41 ⊢ -	last 1 months	2.3
MPD Skew	0.36	0.58	0.36 -0.5	Oct15 Sep10	1 month high	-0.5	last 1 months	0.36 0.36
Market Prob of –3% or More Decline	8.74%	5.7%	8.74 2.44	Oct15	1 month high	2.44 ⊢	last 1 months	8.74 8.74
Volume	377550	180%	377550 0			104047	]	377550 377550
		10 Year Tre	asury	(3–Month Expiry)				
Spot	128.59	2.4%	128.59 122.97	Apr03	12 month high	<sup>1</sup> 122.97 ⊢ – –[	last 12 months	128.59 1 128.59
MPD Std Dev	3.8%	1.3%	3.8 2.17	Oct15	12 month high	2.17 ⊢ -	last 12 months	3.8 3.8
MPD Skew	0.25	0.21	0.25 -0.75	Oct15 Nov14	12 month high	<sup>1</sup> -0.75 <b>⊢</b>		0.25 0.25
Market Prob of –5% or More Decline	8.48%	5.9%	8.48 1.62	Jun19	12 month high	<sup>1</sup> 1.62 <b>⊢ -∏-</b>	last 12 months	8.48 8.48
Volume	954197	34%	954197 0			5226 F	last 12 months	954197 954197

### Bond and Interest Rates MPD Statistics as of October 15, 2014



#### Exchange Rate MPD Statistics as of October 15, 2014

Indicator	Latest	2–Week Change		1–Year Trend with min/max points	Long–Term Range with median, IQR, and max/min				
Gold (6–Month Expiry)									
Spot	1245.79	2.4%	1352.4 1206.82	Mar06 Octo8	1245.79 48 month low 1206.82 +				
MPD Std Dev	11.63%	0.2%	14.83 9.39	Jul 10	11.63 9.39 + 1.63 last 48 months				
MPD Skew	-0.25	0.11	0.02 -0.49	Aug28 Oct31	-0.25 -0.71 +				
Market Prob of –20% or More Decline	5.41%	0.033%	9.3 2.39	Sep04	2.39 F				
Volume	4137	-23%	31121 0		4137 691 μ∐ – – – – – – – – – – – – – 93550 last 48 months				
		Silve	r (6–M	onth Expiry)					
Spot	17.52	1.2%	17.12	Oct17 Oct08	48 month low 17.52 17.12				
MPD Std Dev	19.33%	-0.36%	22.29 13.16	Sep10	19.33 13.16 ⊢ – — – – – – – – – – 40.41 last 48 months				
MPD Skew	-0.4	0.17	0.15 -0.57	Jul10 Oct01	-0.4 Last time lower −0.63 ⊢ − − − − − − − − − − − − − 0.15 Jun2013 last 48 months				
Market Prob of –20% or More Decline	14.15%	-0.1%	18.02 <sup>(</sup> 6.54	Aug28	14.15 6.54 ⊢ – – – – – – – – – 32.41 last 48 months				
Volume	625	-91%	9415 0	นเนา	625 134 ┝ I I				
		West Texas Intern	nediate	e Crude (6–Month Ex	piry)				
Spot	79.17	-10%	102.41 79.17	Jun19 Oct15	79.17 48 month low 79.17				
MPD Std Dev	18.77%	5.2%	18.77 10.25	Jul24	Last time higher 18.77 Dec2012 10.25 +				
MPD Skew	-0.54	-0.13	-0.1 -0.61	Jun19 Nov14	-0.54 -0.81 ⊢				
Market Prob of –20% or More Decline	14.32%	6.3%	14.32 3.65	Oct15 Jul24	Last time higher Dec2012 3.65 + - 14.32 last 48 months				
Volume	877	-97%	85645 0		877 165 1				

# Metal and Energy Commodity MPD Statistics as of October 15, 2014

Indicator	Latest	2–Week Change		1–Year Trend with min/max points	Long–Term Range with median, IQR, and max/min			
Corn (6–Month Expiry)								
Spot	361.25	7.9%	513.25 334.65	May08 Oct01	361.25 48 month low 334.65 +			
MPD Std Dev	16.22%	-0.13%	21.43 12.43	Jan23	16.22 12.43 + last 48 months			
MPD Skew	-0.01	-0.23	0.31 -0.19	Jun26 Sep24	-0.01 48 month low -0.19 +			
Market Prob of –20% or More Decline	10.36%	-0.1%	18.97 5.73	Jan23	10.36 5.73 ⊢			
Volume	56922	26%	216660 0		56922 6059 ⊢ ▲			
		Soybea	ans (6·	-Month Expiry)				
Spot	969.88	3.8%	1331.75 934.57	Feb20 Oct01	969.88 48 month low 934.57 +			
MPD Std Dev	14.59%	0.68%	15.76 10.93	Apr17 Jan23	14.59 10.93 ⊢			
MPD Skew	-0.21	0.27	0.17 -0.5	Apr03 Sep24	48 month low $-0.5 + $			
Market Prob of –20% or More Decline	9.18%	0.91%	10.49 4.07	Apr17 Jan23	9.18 4.07 ⊢ – – ↓ 18 last 48 months			
Volume	34302	-2.6%	238213 0	lut	34302 679 <b>μ⊥</b> – – – – – – – – – – – – – 326132 last 48 months			
		Whea	at (6—N	Ionth Expiry)				
Spot	518.49	5.2%	743.75 492.25	May08 Sep24	518,49 48 month low 492.25 +			
MPD Std Dev	15.31%	-0.16%	21.56 12.95	Dec12	15,31 12.95 +			
MPD Skew	0.17	0.029	0.35 0.03	Oct17 Jun12	0.17 0.01 F - 10.54 last 48 months			
Market Prob of –20% or More Decline	10.09%	-0.34%	19.59 5.67	Mar20 Dec12	10.09 5.67 F			
Volume	5458	-21%	46977 0		5458 362 F 1			
	Cattle (3–Month Expiry)							
Spot	160.11	-2.1%	166.87 129.05	Oct08	160.11 15 month high 129.05 + - 166.87 last 15 months			
MPD Std Dev	9.42%	1.1%	9.42 3.6	Jan09	9.42 15 month high 3.6 r - 1 9.42 last 15 months			
MPD Skew	-0.54	-0.0072	-0.17 -0.94	Jan09	-0.94 +			
Market Prob of –5% or More Decline	26.53%	2.1%	26.53 8.46	Jan09	26.53 15 month high 8.46 ⊢ 26.53 last 15 months			
Volume	6486	-60%	33850 0		6486 1263 ⊢			

# Agricultural Commodity MPD Statistics as of October 15, 2014

Indicator	Latest	2-Week Change		1–Year Trend /ith min/max points		Long–Term Range with median, IQR, and max/min				
	MPD Standard Deviation (3–Month Expiry)									
American Express	13.33%	3.1%	3.33 7.82	Aug28	Last time higher Jun2012	7.82 F - 24.05 last 48 months				
Bank of America	15.89%	3.9%	5.89 0.22	Oct15		10.22 ⊢ 44.07 last 48 months				
BB&T	12.4%	3.9%	12.4 7.29	Jul03	Last time higher Jul2012	7.29 F 27.58 last 48 months				
Barclays	15.89%	2.8%	8.84	ap23 Sep24		15.89 11.86 F 1.25 last 48 months				
Bank of NY Mellon	13.49%	3.1%	3.49 7.88	Oct15	Last time higher Nov2012	7.88 ⊢				
Citigroup	15.52%	4.6%	5.52 8.52	Jul24	Last time higher Dec2012	8.52 F - 33.38 last 48 months				
Capital One	12.94%	3.8%	2.94 7.72	Oct15	Last time higher Jun2013	12.94 7.72 ⊢				
Credit Suisse	15.02%	4.2%	5.53 9.84	May15 May01		9.84 + - 15.02 9.84 + - 14 34.13 last 48 months				
Deutsche Bank	17.05%	4.3%	7.05 1.33 Nov2		Last time higher Jul2013	17.05 11.33 • 1 41.68 last 48 months				
Fifth Third	13.66%	2.1%	5.13 8.21	Jun19 May01		13,66 8.21 ⊢ 1,30.73 last 48 months				
Goldman Sachs	13.57%	3.3%	3.57 8.23	Juio3	Last time higher Jun2013	13.57 8.23 ⊢ — — – – – – – – – – – – – – – 31.2 last 48 months				
JP Morgan	12.95%	3.3%	2.95 7.41	Jui24	Last time higher Dec2012	7.41 F - 30.37 last 48 months				
Keycorp	14.47%	2%	4.47 9.76	Oct15	Last time higher Dec2012	9.76 ⊢ ☐				
Morgan Stanley	17.04%	4.7%	7.04 0.11	Oct15	Jun2013	10.11 F 1.77 last 48 months				
PNC Financial	10.91%	2%	0.91 7.45	Oct15	Last time higher Jul2013	10.91 7.45 н Талана				
Regions Financial	12.39%	0.085%	5.36 Dec 0.57	Sep 10		12.39 10.57 + 39.37 last 48 months				
SunTrust	14.6%	3.3%	14.6 8.87	Aug21	Last time higher Jan2013	8.87 F 34.43 last 48 months				
State Street	13.7%	3.2%	13.7 8.73	Oct15 Sep04	Last time higher Jun2013	8.73 ⊢				
UBS	16.68%	6.3%	9.02 8.7	Mar06 Sep24	48 month low	8.7 ⊢				
US Bancorp	13.1%	4%	13.1 6.58	Öct15	Last time higher Jun2012	6.58 ⊢ 46.01 last 48 months				
Wells Fargo	12.75%	3.6%	2.75 7.16	Oct15 Jun05	Last time higher Dec2012	12.75 7.16 ⊢ ☐				

Indicator	Latest	2-Week Change		1–Year Trend with min/max points	Long–Term Range with median, IQR, and max/min
		MPD Ske	ew (3-	-Month Expiry)	
American Express	-0.74	-0.2	-0.21 -0.74	Jul31 Oct15	
Bank of America	-0.7	-0.36	-0.02 -0.7		-0.7 Last time lower -1.17 +
BB&T	-0.81	-0.14	-0.34 -1.54	Aug07 Nov14	-1.54 +
Barclays	-0.51	0.15	1.94 -1.11	Jan23 Sep24	-0.51 Last time lower −1.97 ⊢
Bank of NY Mellon	-1.08	-0.28	0.14 -1.09	Aug07	-1.08 -1.56 +
Citigroup	-0.89	-0.46	-0.23 -0.89	Jan23 Oct15	-0,89 Last time lower -1.23 +
Capital One	-0.53	-0.21	-0.24 -0.83	Aug07 Oct08	-0.53 Last time lower -1.38 +
Credit Suisse	0.4	0.66	0.72 -2	Apr24	-2.07 F 0.72 last 48 months
Deutsche Bank	-0.1	0.48	0.35 -0.95	Jup26	-0.1 -1.31 +
Fifth Third	-1.42	-0.83	0.3 -1.42		-1.42 Last time lower -1.45 + 0.3
Goldman Sachs	-0.97	-0.16	-0.36 -0.97	Jun05	-0.97 Last time lower -1.38 +
JP Morgan	-0.77	-0.11	-0.33 -0.77	Jul17	-0.77 Last time lower -1.44 +
Keycorp	-0.15	0.4	0.28 -1.36	May15	-0.15 -2.24 F
Morgan Stanley	-0.78	-0.14	-0.26 -0.87	Aug07 Oct08	-0.78 Last time lower -1.2 +
PNC Financial	-0.43	0.086	-0.39 -1.29	Sep04	-0.43 -1.51 + 0.07 last 48 months
Regions Financial	0.68	0.86	0.68 -1.04	Oct15 May15	0.68 48 month high1.94 ⊨ 0.68 last 48 months
SunTrust	-0.68	-0.17	-0.34 -1.05	Jul31 May08	-1.16 +
State Street	-0.71	-0.49	-0.13 -0.79	Aug14	Last time lower -1.28 +
UBS	0.45	0.7	0.45 -3.36	Oct15 Oct17	Last time higher 0.45 Oct2012 -3.36 + 0.97 last 48 months
US Bancorp	-1.18	-0.46	-0.31 -1.3	Jul31 May15	-1.45 +0.31 last 48 months
Wells Fargo	-1.06	-0.26	-0.42 -1.06	Dec26	Last time lower -1.73 +

Indicator	Latest	2–Week Change		1-Year Trend with min/max points		Long–Term Range with median, IQR, and max/min				
Market Probability of –20% or More Decline (3–Month Expiry)										
American Express	7.79%	3.6%	7.79 1.53	Aug28	Last time higher Jun2012	7.79 1.53 F				
Bank of America	10.91%	5.4%	10.91 3.13	Juio3	Last time higher Feb2013	10.91 3.13 ⊢				
BB&T	8.19%	5.8%	8.19 1.82	Oct15	Last time higher Jun2012	8.19 1.82 H 34.9 last 48 months				
Barclays	12.82%	6.4%	16.71 5.5	Jan23	48 month low	12.82 5.5 F				
Bank of NY Mellon	8.35%	4%	8.35 1.72	Juli31	Last time higher Jun2013	8.35 1.72 F - 21.34 last 48 months				
Citigroup	9.93%	5.3%	9.93 1.93	Jui24	Last time higher Dec2012	9.93 1.93				
Capital One	7.94%	5.4%	7.94 1.64	Oct15	Last time higher Jun2013	7.94 1.64 F - 21.29 last 48 months				
Credit Suisse	9.65%	4.7%	12.84 3.77	May15		9.65 3.77 ⊢ - □ 28.61 last 48 months				
Deutsche Bank	13.76%	6.6%	13.76 4.99	Nov27	Last time higher Jun2013	4.99 F - 29.63 last 48 months				
Fifth Third	7.47%	1.9%	9.25 0.99	Jun 19 May01		0.99 +				
Goldman Sachs	8.27%	3.8%	8.27 1.79	Jun05	Last time higher Oct2013	8.27 1.79 F - 21.46 last 48 months				
JP Morgan	6.95%	3.2%	6.95 1.31	Jul24	Last time higher Dec2012	6.95 1.31 F - 20.52 last 48 months				
Keycorp	8.51%	2.8%	8.51 2.82		Last time higher Sep2013	8.51 2.82 F - 27.26 last 48 months				
Morgan Stanley	13.03%	6.8%	13.03 3.79	Aug21	Last time higher Jun2013	13.03     3.79 ⊢     last 48 months				
PNC Financial	5.13%	2.4%	5.41 1.43	Feb06		5.13 1.43 F - 17.91 last 48 months				
Regions Financial	5.62%	-0.28%	11.22 4.26	Oct17 Sep10		5.62 3.64 + 29.69 last 48 months				
SunTrust	10.15%	4.6%	10.15 1.73	May08	Last time higher Jan2013	10.15 1.73 F - 26.4 last 48 months				
State Street	8.74%	5.4%	8.74 2.23	Oct15 Sep04	Last time higher Jun2013	8.74 2.23 F - 19.69 last 48 months				
UBS	12.36%	8.8%	18.15 2.28	Mar06	48 month low	12.36 2.28 + - 12.36 last 48 months 27.33				
US Bancorp	6.91%	3.9%	6.91 0.74	Jui24	Last time higher Nov2012	6.91 0.74 F 18.85 last 48 months				
Wells Fargo	7.53%	4.1%	7.53 1.3	Jun05	Last time higher Dec2012	7.53 1.3 F 20.71 last 48 months				

Indicator	Latest	2–Week Change		1–Year Trend with min/max points	Long–Term Range with median, IQR, and max/min
		Volum	e (3–ľ	Month Expiry)	
American Express	9508	33%	11926 0	the contraction in the state of	9508 623 ⊢ →
Bank of America	69827	55%	132589 0		69827 7419 ⊢
BB&T	611	33%	6490 0		611 190
Barclays	3011	240%	11011 0		3011 29 ⊮ – – – – – – – – – – – – – – – – – –
Bank of NY Mellon	1185	67%	15678 0	·····	1185 59 н 🗖
Citigroup	34133	340%	78527 0	1	34133 1104 <b>⊢Ш</b> ––––––––––––– – 284278 last 48 months
Capital One	1344	190%	9311 0		1344 189 11
Credit Suisse	150	140%	4011 0		150 0 Internet
Deutsche Bank	8737	200%	25112 0	1	62 HT
Fifth Third	194	-90%	15351 0		194 28 <b></b> 19324 last 48 months
Goldman Sachs	9411	110%	21840 0	1111111111.000000000000000000000000000	9411 296 ⊢ - ☐
JP Morgan	16031	210%	52517 0	1turutkamaalidaaaa	16031 943 ⊢ ☐
Keycorp	2580	2500%	2780 0	Haran Haral Oboration and	2580 66 76270 last 48 months
Morgan Stanley	48955	250%	48955 0	IIIIII	48955 327 ⊢ 1
PNC Financial	365	-69%	4810 0		365 118 +
Regions Financial	1959	89%	4635 0	ป.ป.ป.ปปปปปลามปนไห	1959 20 ⊢ ⊡
SunTrust	1932	160%	4232 0	1.11.11.1.1n.data.aludatud	1932 61 F last 48 months
State Street	995	310%	5339 0	· · · · · · · · · · · · . httm://www.anate.t	995 42 ⊢ III
UBS	304	330%	2766 0		304 6 μ
US Bancorp	1067	57%	5746 0	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	1067 172 F
Wells Fargo	62697	350%	121351 0		62697 950 ⊢ — – – – – – – – – – – – – – – – – – –

Indicator	Latest	2–Week Change		1–Year Trend with min/max points	Long–Term Range with median, IQR, and max/min
		MPD Standard	Devia	tion (3–Month Expiry)	
Aflac	12.28%	2.2%	12.28 7.29	Oct15 Last tim Jun201	
AIG	15.15%	4.3%	15.15 8.7	Oct <sup>15</sup> Last time Jun201: Sep04	
Allstate	9.83%	1.6%	10.37 5.83	Dec12 Aug28	5.83 н - 12.82 last 48 months
Ameriprise	15.19%	3.8%	15.19 9.71	Oct15 Last time Jan201 Sep17	
Chubb	9.43%	1.6%	9.43 6.43	Jui24	
Hartford Financial	13.93%	3.8%	13.93 8.68	Jui31	3 8.68 ⊢ - last 48 months 34.59
Lincoln National	16.63%	3.3%	16.63 10.28	Oct15 Last time Jun201 Aug28	
Met Life	16.24%	4%	16.24 10.08	Jul24	
Principal Financial	12.69%	-2.1%	19.04 8.31	Julio	12.69 8.02 н - Царанан 34.89 last 48 months
Progressive	8.6%	-2%	11.32 6.2	Jano9	8.6 6.2 н – Цазт 48 months 24.84
Prudential	16.3%	4.3%	16.3 10.11	Jui24	

# Insurance Company MPD Statistics as of October 15, 2014

Indicator	Latest	2-Week Change	1–Year Trend with min/max points	Long–Term Range with median, IQR, and max/min
		MPD Ske	ew (3–Month Expiry)	
Aflac	-0.89	_0.52	-0.32 Jun19 -0.94 Oct17	-0.89 -1.24 + 0.32 last 48 months
AIG	-0.75	_0.27	-0.28 Jul31 -0.91 Oct17	-0.75 -1.25 + • • • • • • • • • • • • • • • • •
Allstate	-1.02	-0.12	-0.31 -1.19	-1.02 -1.39 н
Ameriprise	-1.44	-0.91	-0.32 -1.59 Jan09	-1.44 -4.03 ⊢
Chubb	-0.76	_0.04	-0.21 Aug14 -1.02 Oct17	-0.76 -1.56 ⊨0.21 last 48 months
Hartford Financial	-0.48	0.23	-0.16 Jul 7 -0.96 Sep 17	-0.48 Last time lower -1.07 н
Lincoln National	-0.63	-0.21	0.15 May01 -0.96 Oct31	-0.63 -1.59 + 0.15 last 48 months
Met Life	-0.67	_0.076	-0.31 Aug07 -0.89 Oct17	-1.52 <b>⊢ </b>
Principal Financial	0.21	0.37	0.21 -2.95 NOV27	<sup>5</sup> Last time higher 0.21 Jul2012 −2.95 ⊢ − − − − − − − − − − − − 0.24 last 48 months
Progressive	0	1.3	0.36 -2.37 Jap23 May15	-3.54 ⊢ 0.71 last 48 months
Prudential	-0.68	-0.23	-0.36 -0.94 Feb06	-1.45 <b>⊢ </b>

# Insurance Company MPD Statistics as of October 15, 2014

Indicator	Latest	2-Week Change		1–Year Trend with min/max points	Long–Term Range with median, IQR, and max/min
	Mar	rket Probability of -20	)% or	More Decline (3–Month Expir	y)
Aflac	8.55%	4.9%	8.55 1.39	Oct15 Last time high Juli03 Apr2013	er 8,55 1.39 ⊢
AIG	11.59%	7.2%	11.59 2.44	Oct15 Last time high Nov2012 Sep10	er 11.59 2.44 + - 1.59 last 48 months
Allstate	3.57%	1.1%	4.86 0.56	Dec12 May22	3.57 0.56 ⊢ - 18.62 last 48 months
Ameriprise	9.25%	4.1%	9.69 3.48	Feb06	9.25 3.48 ⊢ □ □
Chubb	3.37%	1.4%	3.37 0.64	Aug14	er 3.37 0.64 F
Hartford Financial	7.78%	3.4%	10.32 2.19	Feb06 Juli31	2.19 +
Lincoln National	11.23%	3.7%	11.23 3.85	Oct15 Last time high Sep2013 Aug28	3.85 ⊢
Met Life	11.04%	4.3%	11.04 3.79	Oct15 Last time high Jun2013 Jul24	er 11.04 3.79 ⊢ 20.81 last 48 months
Principal Financial	6.59%	-4.7%	18.82 0.43		6.59 0.43 ⊢ – – – – – – – – – – – – 28.98 last 48 months
Progressive	1.99%	-6.8%	8.74 0	Oct01 Last time high Dec26	er 1.99 0 + 1 39.73 last 48 months
Prudential	12.07%	5.7%	12.07 3.99	Oct15 Last time high Vov2012 Jul24	er 12.07 3.99 +

# Insurance Company MPD Statistics as of October 15, 2014

Insurance Company MPD Statistics as of October 15, 20	)14
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Indicator	Latest	2-Week Change		1-Year Trend with min/max points	Long–Term Range with median, IQR, and max/min		
Volume (3–Month Expiry)							
Aflac	1070	-50%	13324 0	111.1.1	1070 450 +		
AIG	2554	-71%	38744 0	ուս և Մուսիսնուկեսու	2554 432 + 103998 last 48 months		
Allstate	862	110%	5708 0	1	862 76 1		
Ameriprise	326	160%	1114 0		326 5 ⊢□□□		
Chubb	216	130%	2541 0	1	216 43 ∎		
Hartford Financial	4035	600%	13441 0		4035 198 μ 🗖		
Lincoln National	1047	250%	8403 0		1047 51 <b>μ⊡−</b>		
Met Life	3748	290%	14685 0		3748 319 أأ		
Principal Financial	310	840%	310 0	اسلمام معالالت الالم	310 2 ₽		
Progressive	12	-94%	474 0		0 <b>1</b> 2 0 <b>1</b> 2 1 4283 1 ast 48 months		
Prudential	12141	850%	13225 0	taulatatanal	12141 222 ⊢ 🔲		