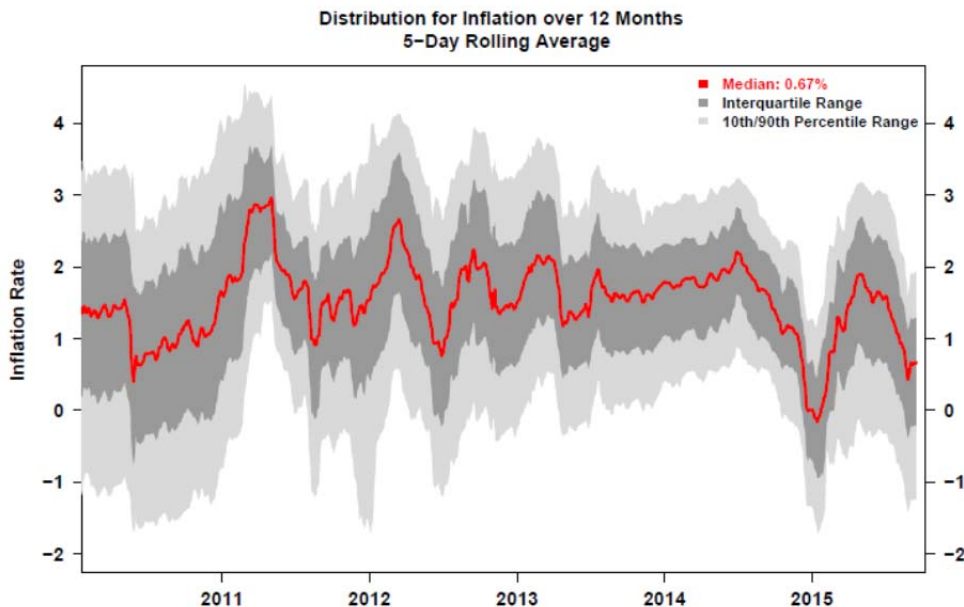


## Minneapolis Options Report – September 18<sup>th</sup>

Market-implied inflation expectations across all tenors (1-, 2-, and 5-year periods) were flat over the past two weeks. MPD skew for the 3-month LIBOR (5-year expiry) fell sharply from recent highs posted in August, indicating diminished bias towards higher short rates. The MPD standard deviations for treasuries, equities, currency pairs, and metal/energy commodities decreased from elevated levels seen during the period of high market volatility in late-August and early-September, implying a general decrease in investor uncertainty.

### *Inflation*

Median expectations for inflation from market-based probability distributions (MPDs) were largely unchanged over the past two weeks. The 1-year tenor shows this leveling off clearly (see figure below). The current mean values are 0.69%, 1.04% and 1.43% for the 1-, 2-, and 5-year tenors, respectively. The market-based probability of extremely low inflation (less than 1%) remained unchanged and near its 4-year high across tenors.



### *Interest Rates*

5- and 10-year Treasury note prices fell over the last two weeks, implying higher yields. The 10-year Treasury MPD skew dropped and became negative, signaling a bias towards lower prices (higher rates). Market-implied uncertainty, as indicated by the MPD standard deviation, for both Treasuries declined, as well. MPD skew for the 3-month LIBOR (5-year expiry) fell sharply (down 0.79 points to 0.78) from recent highs posted in August, indicating diminished bias towards higher short rates. It remains low compared to its 48-month range (See figure below).

### Short Interest Rates MPD Statistics as of September 16, 2015

Indicator	Latest	2-Week Change	1-Year Trend with min/max points	Long-Term Range with median, IQR, and max/min
<b>3 Month LIBOR (5-Year Expiry)</b>				
MPD Std Dev	1.74%	-0.24%		
MPD Skew	0.78	-0.79		

#### Equity Markets

The S&P 500 increased 2.4% over the past two weeks. The MPD standard deviations for 6- and 12-month expiries decreased from elevated levels seen during the period of high market volatility in late-August and early-September, implying a decrease in market-implied uncertainty.

#### Banks and Insurance Companies

The 17 domestic bank company stocks we follow outperformed the S&P 500 index, with an average return of 2.9%. The 11 insurance companies we follow underperformed the index, with a return of 2.1%. Investor uncertainty surrounding banking and insurance company equities, as implied by their MPD standard deviations, moved in unison with the market, falling for a majority of the institutions.

#### Additional details:

- Over the past two weeks, the options volume on PGR jumped nearly tenfold, well above its 75<sup>th</sup> percentile.
- The MPD skew for BCS moved from positive to negative, implying a shift in market bias toward lower future prices.

#### Other Assets

- Uncertainty surrounding WTI crude prices, as implied by the MPD standard deviation, decreased but remained near its four-year high. The probability of a -20% or more decline also dropped (down 1.9% to 25.8%) but remained close to its 4-year high.
- MPD skews for gold and silver rose with gold's MPD skew maintained its upward trend for 9 consecutive weeks; however, both remained negative. This implied less investor bias toward lower future prices.
- Returns from the iShares Real Estate index, as well as decreases in market-implied uncertainty, tracked the S&P 500.
- The dollar weakened against the pound and maintained its strength against the yen and euro. MPD standard deviations for the USD-Euro and USD-Yen pairs were down considerably from late-August highs, suggesting lower market-implied uncertainty.

## Inflation MPD Statistics as of September 16, 2015

Indicator	Latest	2-Week Change	1-Year Trend with min/max points	Long-Term Range with median, IQR, and max/min
<b>Inflation (1-Year Expiry)</b>				
Median	0.69%	0.048%		
MPD Std Dev	1.15%	0.023%		
MPD Skew	-0.51	-0.0063		
Market Prob of Less Than 1% Inflation	62.31%	-2%		
Market Prob of More Than 3% Inflation	0.83%	0.18%		
<b>Inflation (2-Year Expiry)</b>				
Median	1.04%	0.031%		
MPD Std Dev	1.27%	0.013%		
MPD Skew	0.1	-0.03		
Market Prob of Less Than 1% Inflation	48.42%	-1.1%		
Market Prob of More Than 3% Inflation	6.02%	0.34%		
<b>Inflation (5-Year Expiry)</b>				
Median	1.43%	-0.0028%		
MPD Std Dev	1.16%	0.0016%		
MPD Skew	0.28	0.0048		
Market Prob of Less Than 1% Inflation	33.63%	0.087%		
Market Prob of More Than 3% Inflation	8.51%	0.014%		


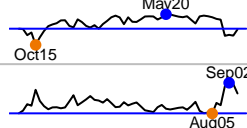


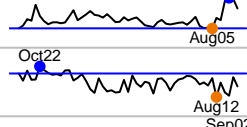
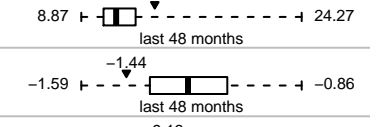

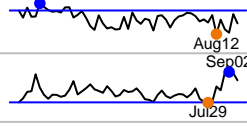
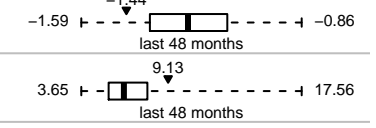

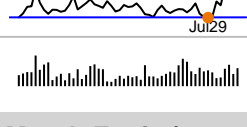
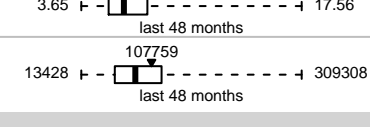




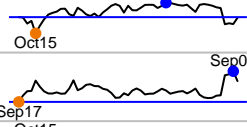
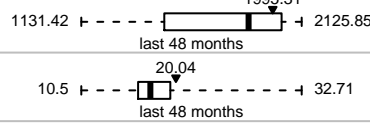

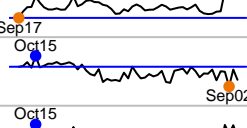
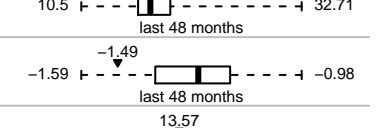

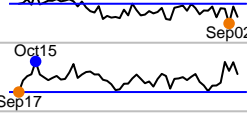
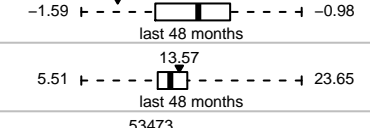

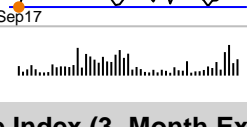
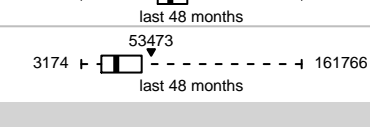


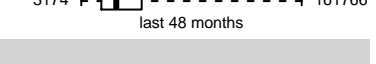

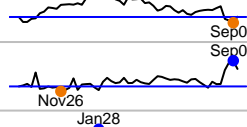
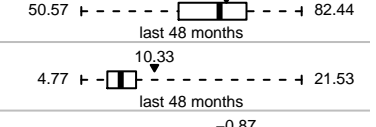

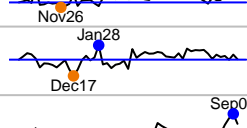
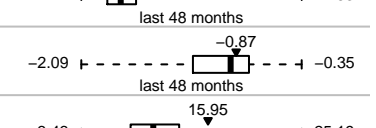

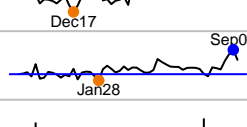
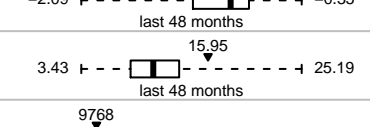


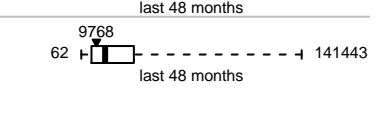


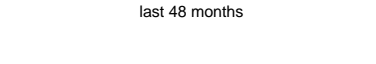
## Medium-to-Long Bond Price MPD Statistics as of September 16, 2015

Indicator	Latest	2-Week Change	1-Year Trend with min/max points	Long-Term Range with median, IQR, and max/min
<b>5 Year Treasury (3-Month Expiry)</b>				
Spot	119.2	-0.27%		
MPD Std Dev	1.79%	-0.023%		
MPD Skew	-0.3	-0.096		
Market Prob of -3% or More Decline	5.21%	-0.043%		
Volume	41461			
<b>10 Year Treasury (3-Month Expiry)</b>				
Spot	126.52	-0.5%		
MPD Std Dev	2.87%	-0.067%		
MPD Skew	-0.04	-0.061		
Market Prob of -5% or More Decline	4.49%	-0.15%		
Volume	127632			

## Short Interest Rates MPD Statistics as of September 16, 2015

Indicator	Latest	2-Week Change	1-Year Trend with min/max points	Long-Term Range with median, IQR, and max/min
<b>3 Month LIBOR (3-Year Expiry)</b>				
Median	1.35%	0.046%		
MPD Std Dev	1.28%	0.031%		
MPD Skew	0.92	0.034		
Market Prob of Less Than 0.5% LIBOR	17.48%	-1%		
Market Prob of More Than 1% + Spot	50.34%	1.4%		
<b>3 Month LIBOR (5-Year Expiry)</b>				
Median	1.78%	0.15%		
MPD Std Dev	1.74%	-0.24%		
MPD Skew	0.78	-0.79		
Market Prob of Less Than 1% LIBOR	30.16%	-2%		
Market Prob of More Than 2% + Spot	41.62%	1.1%		

## Equity Index MPD Statistics as of September 16, 2015

Indicator	Latest	2-Week Change	1-Year Trend with min/max points	Long-Term Range with median, IQR, and max/min
<b>S&amp;P 500 (6-Month Expiry)</b>				
Spot	1995.31	 2.4%		
MPD Std Dev	14%	 -2.2%		
MPD Skew	-1.44	 0.13		
Market Prob of -20% or More Decline	9.13%	 -1.7%		
Volume	107759	 -16%		
<b>S&amp;P 500 (12-Month Expiry)</b>				
Spot	1995.31	 2.4%		
MPD Std Dev	20.04%	 -1.6%		
MPD Skew	-1.49	 0.1		
Market Prob of -20% or More Decline	13.57%	 -0.62%		
Volume	53473	 -47%		
<b>iShares US Real Estate Index (3-Month Expiry)</b>				
Spot	71.55	 2.4%		
MPD Std Dev	10.33%	 -1.2%		
MPD Skew	-0.87	 0.02		
Market Prob of -10% or More Decline	15.95%	 -2.5%		
Volume	9768	 -25%		

## Exchange Rate MPD Statistics as of September 16, 2015

Indicator	Latest	2-Week Change	1-Year Trend with min/max points	Long-Term Range with median, IQR, and max/min
<b>Dollar-Euro Futures (3-Month Expiry)</b>				
Spot	1.13	0%		
MPD Std Dev	5.54%	-0.33%		
MPD Skew	-0.21	0.11		
Market Prob of -10% or More Decline	4.32%	-1.1%		
Volume	20632	14%		
<b>Dollar-Pound Futures (3-Month Expiry)</b>				
Spot	154.81	1.2%		
MPD Std Dev	4.08%	0.045%		
MPD Skew	-0.05	0.038		
Market Prob of -10% or More Decline	1.09%	-0.068%		
Volume	7319	9.5%		
<b>Dollar-Yen Futures (3-Month Expiry)</b>				
Spot	83	-0.37%		
MPD Std Dev	5.46%	-0.15%		
MPD Skew	0.15	0.014		
Market Prob of -10% or More Decline	3.46%	-0.51%		
Volume	6893	-64%		

## Metal and Energy Commodity MPD Statistics as of September 16, 2015

Indicator	Latest	2-Week Change	1-Year Trend with min/max points	Long-Term Range with median, IQR, and max/min
<b>Gold (6-Month Expiry)</b>				
Spot	1119.84	-1.3%		
MPD Std Dev	12.11%	-0.3%		
MPD Skew	-0.2	0.091		
Market Prob of -20% or More Decline	5.85%	-0.6%		
Volume	5666	300%		
<b>Silver (6-Month Expiry)</b>				
Spot	14.94	1.5%		
MPD Std Dev	21.02%	-0.31%		
MPD Skew	-0.27	0.1		
Market Prob of -20% or More Decline	17.6%	-0.056%		
Volume	1325	150%		
<b>West Texas Intermediate Crude (6-Month Expiry)</b>				
Spot	49.61	0.22%		
MPD Std Dev	30%	-1.4%		
MPD Skew	-0.43	-0.04		
Market Prob of -20% or More Decline	25.75%	-1.9%		
Volume	16767	-65%		



## Agricultural Crop Commodity MPD Statistics as of September 16, 2015

Indicator	Latest	2-Week Change	1-Year Trend with min/max points	Long-Term Range with median, IQR, and max/min
<b>Corn (6-Month Expiry)</b>				
Spot	397.55	<span style="color: blue;">4.9%</span>		
MPD Std Dev	17.45%	<span style="color: orange;">-1.8%</span>		
MPD Skew	0.11	<span style="color: orange;">-0.11</span>		
Market Prob of -20% or More Decline	13.91%	<span style="color: orange;">-3.3%</span>		
Volume	54679	<span style="color: blue;">14%</span>		
<b>Soybeans (6-Month Expiry)</b>				
Spot	893.34	<span style="color: blue;">1.6%</span>		
MPD Std Dev	13.19%	<span style="color: orange;">-0.75%</span>		
MPD Skew	-0.13	<span style="color: orange;">-0.013</span>		
Market Prob of -20% or More Decline	7.42%	<span style="color: orange;">-1.1%</span>		
Volume	17615	<span style="color: blue;">160%</span>		
<b>Wheat (6-Month Expiry)</b>				
Spot	495.43	<span style="color: blue;">1.8%</span>		
MPD Std Dev	18.11%	<span style="color: blue;">0.25%</span>		
MPD Skew	0.27	<span style="color: orange;">-0.036</span>		
Market Prob of -20% or More Decline	15.15%	<span style="color: blue;">0.45%</span>		
Volume	8209	<span style="color: blue;">200%</span>		

## Agricultural Livestock Commodity MPD Statistics as of September 16, 2015

Indicator	Latest	2-Week Change	1-Year Trend with min/max points	Long-Term Range with median, IQR, and max/min
<b>Cattle (6-Month Expiry)</b>				
Spot	139.94	-2.3%		
MPD Std Dev	10.87%	0.17%		
MPD Skew	-0.36	0.081		
Market Prob of -5% or More Decline	29.9%	0.77%		
Volume	8705	-41%		
<b>Hogs (6-Month Expiry)</b>				
Spot	66.87	-2.6%		
MPD Std Dev	17.26%	-1.1%		
MPD Skew	-0.6	0.053		
Market Prob of -20% or More Decline	13.05%	-1.3%		
Volume	1900	62%		

## Bank MPD Statistics as of September 16, 2015

Indicator	Latest	2-Week Change	1-Year Trend with min/max points	Long-Term Range with median, IQR, and max/min
<b>MPD Standard Deviation (3-Month Expiry)</b>				
American Express	11.78%	-1.9%		
Bank of America	14.19%	-2.6%		
BB&T	11.69%	-2.3%		
Barclays	16.41%	0.045%		
Bank of NY Mellon	12.55%	-1.1%		
Citigroup	13.15%	-2.4%		
Capital One	12.68%	-1.2%		
Credit Suisse	16.09%	0.8%		
Deutsche Bank	14.45%			
Fifth Third	13.59%	-0.83%		
Goldman Sachs	12.35%	-2.6%		
JP Morgan	12.27%	-2.7%		
Keycorp	16.48%	0.42%		
Morgan Stanley	14.11%	-3%		
PNC Financial	11.56%	-2.9%		
Regions Financial	16.3%	-2.5%		
SunTrust	13.12%	-2.4%		
State Street	14.15%	-1.4%		
UBS	13.36%			
US Bancorp	11.63%	-1.7%		
Wells Fargo	11.49%	-2.2%		

## Bank MPD Statistics as of September 16, 2015

Indicator	Latest	2-Week Change	1-Year Trend with min/max points	Long-Term Range with median, IQR, and max/min
<b>MPD Skew (3-Month Expiry)</b>				
American Express	-0.89	0.07		
Bank of America	-0.72	0.27		
BB&T	-0.98	-0.18		
Barclays	-0.56	-0.87		
Bank of NY Mellon	-0.98	0.045		
Citigroup	-0.94	0.074		
Capital One	-0.35	0.43		
Credit Suisse	-0.23	-0.33		
Deutsche Bank	-0.74			
Fifth Third	-0.76	0.35		
Goldman Sachs	-1.02	0.068		
JP Morgan	-1.09	0.069		
Keycorp	-1.28	-0.86		
Morgan Stanley	-1	0.12		
PNC Financial	-0.9	0.096		
Regions Financial	-0.98	-0.36		
SunTrust	-0.85	0.12		
State Street	-0.64	0.16		
UBS	-0.04			
US Bancorp	-1.01	-0.09		
Wells Fargo	-1.07	0.23		

## Bank MPD Statistics as of September 16, 2015

Indicator	Latest	2-Week Change	1-Year Trend with min/max points	Long-Term Range with median, IQR, and max/min
<b>Market Probability of -20% or More Decline (3-Month Expiry)</b>				
American Express	6.28%	-2.5%		
Bank of America	8.1%	-2.5%		
BB&T	5.92%	-3.8%		
Barclays	12.76%	-1.1%		
Bank of NY Mellon	6.87%	-1.3%		
Citigroup	7.49%	-2.5%		
Capital One	7.64%	-2.1%		
Credit Suisse	12.18%	0.84%		
Deutsche Bank	10.06%			
Fifth Third	8.55%	0.73%		
Goldman Sachs	6.61%	-3.1%		
JP Morgan	6.92%	-2.7%		
Keycorp	10.3%	-2.8%		
Morgan Stanley	8.74%	-3.6%		
PNC Financial	5.79%	-3.6%		
Regions Financial	10.33%	-4.8%		
SunTrust	7.48%	-3.4%		
State Street	8.99%	-1.1%		
UBS	7.28%			
US Bancorp	6.63%	-1.3%		
Wells Fargo	5.9%	-2.4%		


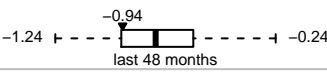

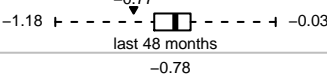
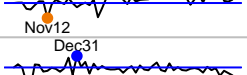
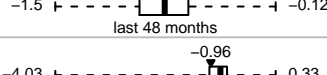
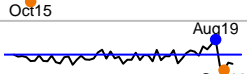
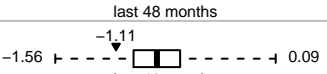

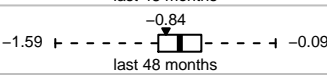

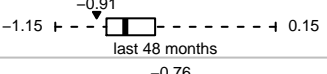
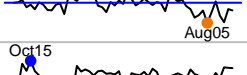
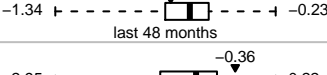

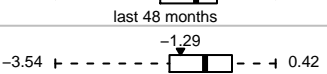
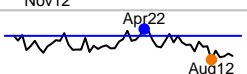
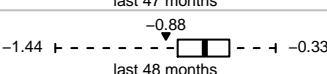




## Bank MPD Statistics as of September 16, 2015

Indicator	Latest	2-Week Change	1-Year Trend with min/max points	Long-Term Range with median, IQR, and max/min
<b>Volume (3-Month Expiry)</b>				
American Express	5364	-66%	32713 0	623 - 5364 - 32713 last 48 months
Bank of America	36657	-49%	138459 0	7419 - 36657 - 363160 last 48 months
BB&T	694	-15%	6459 0	136 - 694 - 6490 last 48 months
Barclays	32	-93%	4055 0	8 - 32 - 11011 last 48 months
Bank of NY Mellon	381	-76%	13099 0	44 - 381 - 15678 last 48 months
Citigroup	3538	-28%	140439 0	1104 - 3538 - 150972 last 48 months
Capital One	292	-13%	6937 0	148 - 292 - 16299 last 48 months
Credit Suisse	8	-98%	15145 0	0 - 8 - 15145 last 48 months
Deutsche Bank	6538		25112 0	182 - 6538 - 29575 last 43 months
Fifth Third	265	-67%	7607 0	28 - 265 - 19127 last 48 months
Goldman Sachs	7046	-54%	15721 0	296 - 7046 - 28374 last 48 months
JP Morgan	7855	19%	132116 0	943 - 7855 - 132116 last 48 months
Keycorp	339	-58%	3300 0	44 - 339 - 76270 last 48 months
Morgan Stanley	23524	110%	48955 0	327 - 23524 - 84281 last 48 months
PNC Financial	791	-23%	3466 0	83 - 791 - 7855 last 48 months
Regions Financial	1603	4.4%	47940 0	20 - 1603 - 47940 last 47 months
SunTrust	1650	-22%	4808 0	61 - 1650 - 13788 last 48 months
State Street	208	-27%	2086 0	42 - 208 - 5339 last 48 months
UBS	124		2034 0	6 - 124 - 6502 last 40 months
US Bancorp	818	10%	9927 0	172 - 818 - 29201 last 48 months
Wells Fargo	12926	-73%	62697 0	950 - 12926 - 167820 last 48 months

## Insurance Company MPD Statistics as of September 16, 2015

Indicator	Latest	2-Week Change	1-Year Trend with min/max points	Long-Term Range with median, IQR, and max/min
<b>MPD Standard Deviation (3-Month Expiry)</b>				
Aflac	10.85%	-2.1%		
AIG	12.06%	-3%		
Allstate	10.79%	-1.2%		
Ameriprise	13.51%	-1.7%		
Chubb	9.46%	0.48%		
Hartford Financial	15.07%	-0.92%		
Lincoln National	15.04%	-0.82%		
Met Life	13.81%	-2.6%		
Principal Financial	17.92%	2%		
Progressive	12.26%	0.017%		
Prudential	15.36%	-0.81%		

## Insurance Company MPD Statistics as of September 16, 2015


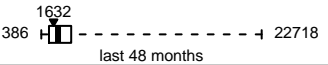
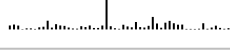

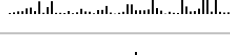
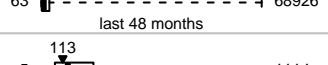

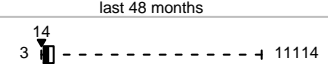







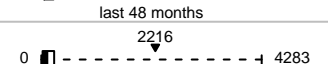

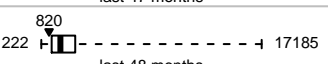




Indicator	Latest	2-Week Change	1-Year Trend with min/max points	Long-Term Range with median, IQR, and max/min
<b>MPD Skew (3-Month Expiry)</b>				
<b>Aflac</b>	-0.94	0.06	-0.24 -1.17 	-1.24 - -0.94 - -0.24 last 48 months 
<b>AIG</b>	-0.77	0.2	-0.23 -0.97 	-1.18 - -0.77 - -0.03 last 48 months 
<b>Allstate</b>	-0.78	0.05	-0.3 -1.5 	-1.5 - -0.78 - -0.12 last 48 months 
<b>Ameriprise</b>	-0.96	-0.2	-0.11 -1.44 	-4.03 - -0.96 - 0.33 last 48 months 
<b>Chubb</b>	-1.11	0.31	0.09 -1.42 	-1.56 - -1.11 - 0.09 last 48 months 
<b>Hartford Financial</b>	-0.84	-0.06	-0.09 -1.59 	-1.59 - -0.84 - -0.09 last 48 months 
<b>Lincoln National</b>	-0.91	-0.46	-0.07 -1.15 	-1.15 - -0.91 - 0.15 last 48 months 
<b>Met Life</b>	-0.76	0.19	-0.46 -0.96 	-1.34 - -0.76 - -0.23 last 48 months 
<b>Principal Financial</b>	-0.36	-0.06	0.21 -2.18 	-2.95 - -0.36 - 0.22 last 48 months 
<b>Progressive</b>	-1.29	-0.82	0.42 -2.75 	-3.54 - -1.29 - 0.42 last 47 months 
<b>Prudential</b>	-0.88	0.0097	-0.33 -0.96 	-1.44 - -0.88 - -0.33 last 48 months 



## Insurance Company MPD Statistics as of September 16, 2015

Indicator	Latest	2-Week Change	1-Year Trend with min/max points	Long-Term Range with median, IQR, and max/min
<b>Market Probability of -20% or More Decline (3-Month Expiry)</b>				
<b>Aflac</b>	4.61%	-2.4%		
<b>AIG</b>	5.72%	-3.7%		
<b>Allstate</b>	5.52%	-1.4%		
<b>Ameriprise</b>	8.75%	-2.6%		
<b>Chubb</b>	3.53%	-0.16%		
<b>Hartford Financial</b>	10.93%	-0.027%		
<b>Lincoln National</b>	9.93%	-3.3%		
<b>Met Life</b>	9.38%	-2.6%		
<b>Principal Financial</b>	16.62%	2.9%		
<b>Progressive</b>	6.71%	-0.41%		
<b>Prudential</b>	10.99%	-0.2%		

## Insurance Company MPD Statistics as of September 16, 2015

Indicator	Latest	2-Week Change	1-Year Trend with min/max points	Long-Term Range with median, IQR, and max/min
<b>Volume (3-Month Expiry)</b>				
<b>Aflac</b>	<b>1632</b>	<b>4.8%</b>	13324 0 	1632 386  last 48 months 22718
<b>AIG</b>	<b>2941</b>	<b>-17%</b>	69392 0 	2941 432  last 48 months 103998
<b>Allstate</b>	<b>259</b>	<b>-24%</b>	4626 0 	259 63  last 48 months 68926
<b>Ameriprise</b>	<b>113</b>	<b>-36%</b>	881 0 	113 5  last 48 months 1114
<b>Chubb</b>	<b>14</b>	<b>-68%</b>	9027 0 	14 3  last 48 months 11114
<b>Hartford Financial</b>	<b>71</b>	<b>-79%</b>	9444 0 	71 65  last 48 months 37285
<b>Lincoln National</b>	<b>407</b>	<b>-58%</b>	2635 0 	407 51  last 48 months 10682
<b>Met Life</b>	<b>1339</b>	<b>-58%</b>	29248 0 	1339 319  last 48 months 161416
<b>Principal Financial</b>	<b>88</b>	<b>-15%</b>	545 0 	88 2  last 48 months 2956
<b>Progressive</b>	<b>2216</b>	<b>970%</b>	2216 0 	2216 0  last 47 months 4283
<b>Prudential</b>	<b>820</b>	<b>-29%</b>	17185 0 	820 222  last 48 months 17185