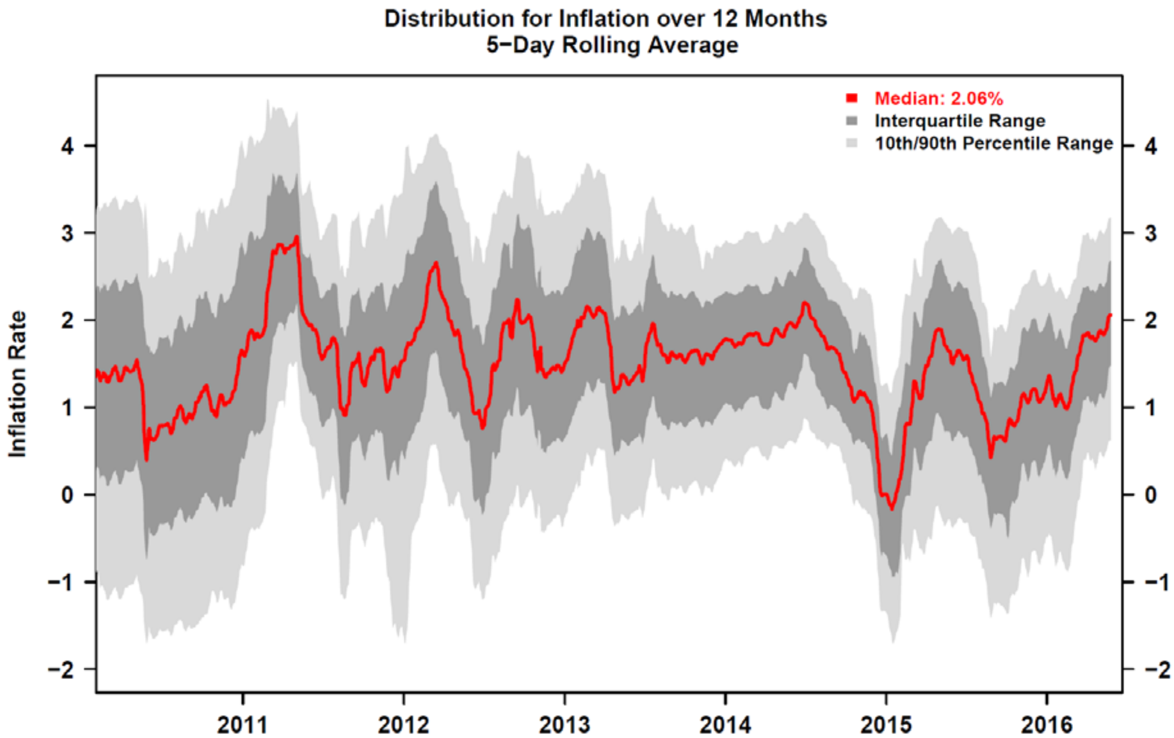
Minneapolis Options Report – May 28th

Median inflation expectations rose for all inflation tenors over the 2-week period. The S&P 500 returned 1.3%. Banks and insurance firms we follow outperformed the market with average returns of 6.5% and 2.1%, respectively. While all banks experienced a lowering of their respective MPD standard deviations, foreign banking organizations (FBOs) posted the largest declines. Insurers posted similar declines in MPD metric.

Inflation

Market-based inflation expectations, derived from caps and floors on the CPI for 1-, 2-, and 5-year periods, increased over the 2-week period to 2.04%, 1.83% and 1.78%, respectively. This rise is best observed in the 1-year tenor (see figure, below).



Additional detail:

- Median inflation expectations for the 1-year tenor have risen since February 2016 and currently stand well above its historic 75th percentile value. The probability of high inflation, defined as the market probability of more than 3% inflation has climbed higher over this timeframe as well.
- Median inflation expectation for the 1-year tenor has been higher than both the 2- and 5- year tenors since March 16, 2016.

  While the MPD standard deviation for the 1-year tenor has remained flat since February 2016, the MPD standard deviations for the 2- and 5- year tenors have fallen over the same time frame

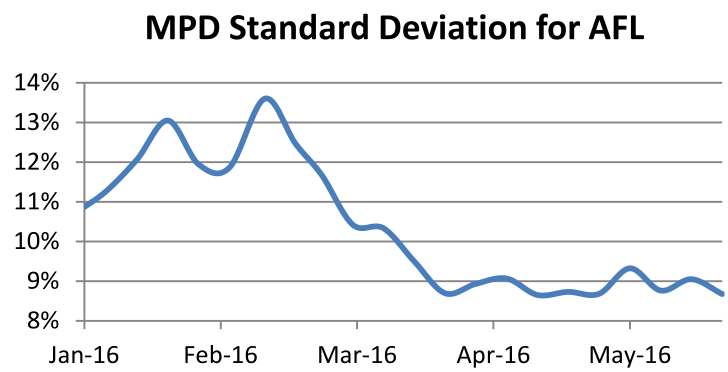
Interest Rates

Spots for the 5- and 10-year Treasury prices were lower over the two week report period, indicating that yields rose. Changes in MPD statistics during this time were flat. Current levels of MPD standard deviation stand near respective historical medians and MPD skew levels imply little bias. The 3-year out and 5-year-out LIBOR tenors rose by 21and 15 basis points, respectively. The probability of high short term rates, defined as the market probability of more than 1% LIBOR, jumped 10 percentage points for the 3-year-out tenor, representing the third largest jump during the last 12 months.

Banks and Insurance Companies
The S&P 500 returned 1.3% over the past two weeks. The MPD standard deviation declined by 0.7 percentage points and has trended lower since February 11, 2016, suggesting a decrease in investor uncertainty over this time frame. The 19 banking firms we follow outperformed the market, registering an average return of 5.5%. Changes in MPD standard deviation for all banking firms declined over the two-week reporting period, following the broader market trend. The 11 insurance companies we follow returned 3.5%, on average, and posted declines in MPD standard deviation similar to the S&P 500.

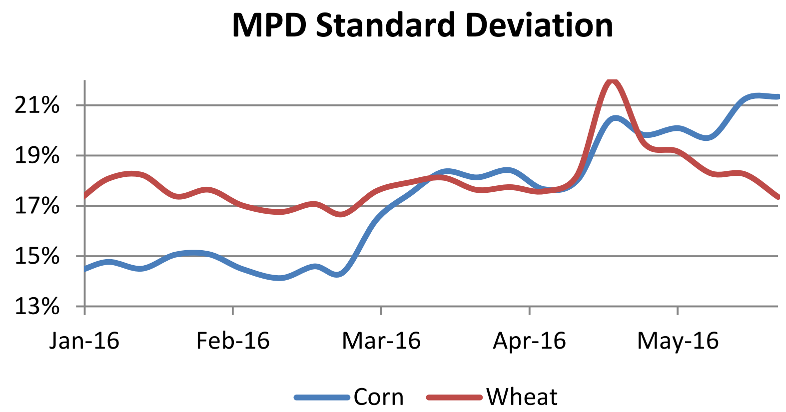
Additional details:

- The FBOs BCS, CS, and DB posted the largest declines in MPD standard deviations with respective percentage point decreases of -2.4, -2.9, and -3.1.
- MPD standard deviations for most insurer has fallen since March 23, 2016; AFL is the outlier in that its MPS standard deviation has been flat over this interval (see plot below).



Other Markets

- iShares US Real Estate Index underperformed the market, losing -1.3% over the two week period. MPD skew fell by -0.24 and currently stands below its 25th percentile indicating bias towards lower future real estate prices.
- The dollar was stronger against the euro and the yen, whereas the pound was stronger against the dollar. Of note, the MPD skew for the USD-Euro pairing fell from 0.12 to -0.26. This sharp drop indicates bias towards a comparatively stronger dollar in the future.
- Gold lost -6% and silver lost -4% over the 2-week period. The MPD standard deviation for gold fell by 1 percentage point.
- WTI crude rose 4.8% and has been trending higher since January 21st, 2016. Changes in MPD standard deviation have been negligible recently, since sharply declining after February 18, 2016.
- Agricultural crops posted mixed returns with corn posting the largest gain of 7.1% over the two-week reporting period. The MPD standard deviation for corn has trended higher since late April, 2016, whereas it has fallen for wheat over the same time period (see plot below).



- Agricultural livestock fell -4.7% on average. Spot cattle set a new 3-year low.

Inflation MPD Statistics as of May 25, 2016

Indicator	Latest	2−Week Change	1−Year Trend with min/max points: max	max date	min	min date	Long−Term Range with median, IQR, and max/min: min	latest	max	period
Inflation (1−Year Expiry)										
Median	**2.04%**	0.15%	2.07	May18	0.36	Aug26	−0.15	2.04	2.64	last 48 months
MPD Std Dev	**1.01%**	−0.011%	2.75	Apr06	1.01	May18	0.83	1.01	2.75	last 48 months
MPD Skew	**−1.26**	−0.13	1.8	Apr06	−1.29	May18	−1.29	−1.26	2.5	last 48 months
Market Prob of Less Than 1% Inflation	**16.88%**	−4%	72.57	Aug26	16.24	May18	11.88	16.88	85.35	last 48 months
Market Prob of More Than 3% Inflation	**14.8%**	3.9%	15.62	May18	0.36	Aug26	0.23	14.8	40.06	last 48 months
Inflation (2−Year Expiry)										
Median	**1.83%**	0.078%	1.84	May18	0.85	Aug26	0.72	1.83	2.22	last 47 months
MPD Std Dev	**1.12%**	−0.0041%	1.3	Jul29	1.11	Mar23	0.88	1.12	1.66	last 47 months
MPD Skew	**−0.16**	−0.017	0.19	Aug26	−0.21	Mar16	−0.4	−0.16	2.74	last 47 months
Market Prob of Less Than 1% Inflation	**23.12%**	−2.4%	55.48	Aug26	23.11	May18	10.74	23.12	61.36	last 47 months
Market Prob of More Than 3% Inflation	**13.5%**	1.5%	14.5	Jun17	4.47	Feb11	1.8	13.5	27.1	last 47 months
Inflation (5−Year Expiry)										
Median	**1.76%**	0.026%	1.91	Jun17	1.23	Feb11	1.23	1.76	2.6	last 47 months
MPD Std Dev	**1%**	−0.011%	1.23	Oct07	1	May18	0.91	1	1.68	last 47 months
MPD Skew	**−0.11**	0.039	0.78	Oct07	−0.17	Mar30	−0.17	−0.11	0.78	last 47 months
Market Prob of Less Than 1% Inflation	**22.68%**	−1%	40.14	Feb11	20.18	Jun17	7.13	22.68	40.14	last 47 months
Market Prob of More Than 3% Inflation	**9.05%**	0.33%	15.28	Jun17	4.66	Feb11	4.66	9.05	37.29	last 47 months

Source: Bloomberg

Medium−to−Long Bond Price MPD Statistics as of May 25, 2016

Indicator	Latest	2−Week Change	1−Year Trend with min/max points	Long−Term Range with median, IQR, and max/min
5 Year Treasury (3−Month Expiry)				
Spot	**119.89**	−0.89%	121.46 118.22 Feb11 Nov11	119.89 118.05 121.46 last 20 months
MPD Std Dev	**1.68%**	0.039%	1.96 1.5 Jan21 Oct14	1.68 1.41 2.3 last 20 months
MPD Skew	**−0.2**	−0.12	0.19 −0.54 Feb18 Jun03	−0.2 −0.54 0.36 last 20 months
Market Prob of −3% or More Decline	**4.4%**	0.52%	6.61 2.68 Jun03 Oct14	4.4 2.44 8.74 last 20 months
Volume	**49853**	460%	335039 0	49853 2054 377550 last 20 months
10 Year Treasury (3−Month Expiry)				
Spot	**129.37**	−1.1%	131.11 124.66 Feb11 Jun10	129.37 122.97 131.11 last 31 months
MPD Std Dev	**2.59%**	−0.083%	3.3 2.47 Jul08 Oct21	2.59 2.17 3.8 last 31 months
MPD Skew	**0.02**	−0.035	0.2 −0.34 Feb11 Jun03	0.02 −0.75 0.31 last 31 months
Market Prob of −5% or More Decline	**3.05%**	−0.31%	6.49 2.5 Jun03 Oct21	3.05 1.62 8.48 last 31 months
Volume	**75697**	50%	1143418 0	75697 5226 118509 last 31 months

Short Interest Rates MPD Statistics as of May 25, 2016

Indicator	Latest	2−Week Change	1−Year Trend with min/max points	Long−Term Range with median, IQR, and max/min
3 Month LIBOR (3−Year Expiry)				
Median	**1.17%**	0.21%	1.71 Jun10; 0.77 Feb11	0.72 – 1.85; 1.17; last 48 months
MPD Std Dev	**1.1%**	0.05%	2.04 Jul22; 1.05 May11	0.68 – 2.17; 1.1; last 48 months
MPD Skew	**0.84**	−0.26	3.34 Jul22; 0.4 Jun03	0.4 – 7.06; 0.84; last 48 months
Market Prob of Less Than 0.5% LIBOR	**24.62%**	−4.1%	37.56 Feb11; 14.23 Dec23	9.79 – 38.35; 24.62; last 48 months
Market Prob of More Than 1% + Spot	**33.42%**	10%	61.18 Jun10; 17.77 Feb24	7.61 – 67.85; 33.42; last 48 months
3 Month LIBOR (5−Year Expiry)				
Median	**1.11%**	0.15%	2.28 Jul22; 0.88 Feb11	0.88 – 2.99; 1.11; last 45 months
MPD Std Dev	**1.54%**	0.069%	2.44 Aug26; 1.41 Feb03	1.41 – 2.85; 1.54; last 45 months
MPD Skew	**1.39**	−0.35	2.53 Aug26; 0.2 Feb03	0.2 – 4.1; 1.39; last 45 months
Market Prob of Less Than 1% LIBOR	**46.63%**	−4.8%	54.32 Feb11; 19.19 Feb03	17.66 – 54.32; 46.63; last 45 months
Market Prob of More Than 2% + Spot	**20.99%**	3.1%	52.05 Jun17; 0.2 Feb03	0.2 – 60.53; 20.99; last 45 months

Source: Bloomberg

Equity Index MPD Statistics as of May 25, 2016

Indicator	Latest	2−Week Change	1−Year Trend with min/max points	Long−Term Range with median, IQR, and max/min
S&P 500 (6−Month Expiry)				
Spot	**2090.54**	1.3%	2123.48 May27; 1851.86 Feb11	1310.33 – 2125.85; 2090.54; last 48 months
MPD Std Dev	**11.71%**	−0.68%	17 Feb11; 9.85 Aug05	8.87 – 17.46; 11.71; last 48 months
MPD Skew	**−1.44**	−0.053	−1.27 Jan14; −1.74 Mar03	−1.74 – −0.86; −1.44; last 48 months
Market Prob of −20% or More Decline	**6.78%**	−0.87%	12.52 Feb11; 4.72 Jul29	3.65 – 12.52; 6.78; last 48 months
Volume	**119333**	5.1%	199186; 0	13428 – 309308; 119333; last 48 months
S&P 500 (12−Month Expiry)				
Spot	**2090.54**	1.3%	2123.48 May27; 1851.86 Feb11	1310.33 – 2125.85; 2090.54; last 48 months
MPD Std Dev	**18.34%**	−0.73%	23.52 Jan21; 16 Jul29	10.5 – 26.44; 18.34; last 48 months
MPD Skew	**−1.5**	−0.027	−1.27 Sep30; −1.78 Mar03	−1.78 – −0.98; −1.5; last 48 months
Market Prob of −20% or More Decline	**12.97%**	−1%	17.37 Jan21; 10.24 Jul29	5.51 – 19.55; 12.97; last 48 months
Volume	**24640**	−2.9%	105728; 0	3174 – 123271; 24640; last 48 months
iShares US Real Estate Index (3−Month Expiry)				
Spot	**77.85**	−1.3%	78.88 May11; 67.26 Feb11	61.19 – 82.44; 77.85; last 48 months
MPD Std Dev	**8.48%**	0.016%	11.83 Sep09; 6.94 Jul29	4.77 – 12.46; 8.48; last 48 months
MPD Skew	**−1.23**	−0.24	−0.48 Jun24; −1.36 Mar03	−2.09 – −0.35; −1.23; last 48 months
Market Prob of −10% or More Decline	**12.34%**	−0.09%	20.5 Sep09; 8.45 Jul29	3.43 – 20.5; 12.34; last 48 months
Volume	**3123**	−93%	141443; 0	32 – 141443; 3123; last 48 months

Source: FactSet

Exchange Rate MPD Statistics as of May 25, 2016

Indicator	Latest	2−Week Change	1−Year Trend with min/max points	Long−Term Range with median, IQR, and max/min
Dollar−Euro Futures (3−Month Expiry)				
Spot	**1.12**	−1.8%	1.15 Oct14; 1.06 Nov18	1.05; 1.12; 1.39; last 48 months
MPD Std Dev	**5.06%**	0.67%	8.42 Aug26; 4.27 Apr27	2.4; 5.06; 8.42; last 48 months
MPD Skew	**−0.26**	−0.36	0.2 Nov18; −0.54 Jun03	−0.68; −0.26; 0.2; last 48 months
Market Prob of −10% or More Decline	**3%**	1.8%	10.68 Aug26; 1.05 Apr27	0.02; 3; 10.68; last 48 months
Volume	**28134**	−42%	107475; 0	5162; 28134; 107475; last 48 months
Dollar−Pound Futures (3−Month Expiry)				
Spot	**147.22**	1.9%	158.19 Jun17; 139.15 Feb25	139.15; 147.22; 171.39; last 48 months
MPD Std Dev	**5.19%**	−0.013%	6.4 Feb25; 3.41 Nov18	2.36; 5.19; 6.67; last 48 months
MPD Skew	**−0.16**	−0.023	0.04 Oct07; −0.44 Mar23	−0.92; −0.16; 0.1; last 48 months
Market Prob of −10% or More Decline	**3.05%**	−0.16%	5.84 Feb25; 0.29 Nov18	0.01; 3.05; 7.63; last 48 months
Volume	**10599**	−59%	32199; 0	536; 10599; 38626; last 48 months
Dollar−Yen Futures (3−Month Expiry)				
Spot	**90.88**	−1.5%	93.61 May04; 80.11 Aug05	80.11; 90.88; 127.97; last 48 months
MPD Std Dev	**5.23%**	−0.38%	8.83 Aug26; 3.9 Jul22	2.76; 5.23; 8.83; last 48 months
MPD Skew	**−0.05**	−0.25	0.46 Mar03; −0.27 May27	−0.44; −0.05; 0.46; last 48 months
Market Prob of −10% or More Decline	**2.9%**	−0.29%	11.17 Aug26; 0.82 Jul29	0.02; 2.9; 11.17; last 48 months
Volume	**15282**	−61%	54471; 0	787; 15282; 54471; last 48 months

Sources: Chicago Mercantile Exchange, Bloomberg

Metal and Energy Commodity MPD Statistics as of May 25, 2016

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	**1229.15**	−4%	1280.06 May11; 1054.83 Dec02	1054.83 – 1800.6; 1229.15; last 48 months
MPD Std Dev	**11.72%**	−1%	14.59 Feb25; 10.81 May27	9.39 – 17.15; 11.72; last 48 months
MPD Skew	**0.18**	−0.019	0.35 Feb25; −0.6 Jul22	−0.71 – 0.35; 0.18; last 48 months
Market Prob of −20% or More Decline	**4.54%**	−1.4%	8.69 Feb25; 4.3 May27	2.39 – 12.71; 4.54; last 48 months
Volume	**4373**	15%	36077; 0	378 – 49792; 4373; last 48 months
Silver (6−Month Expiry)				
Spot	**16.38**	−6%	17.43 May11; 13.82 Jan01	13.82 – 35.18; 16.38; last 48 months
MPD Std Dev	**19.79%**	0.055%	22.12 Aug26; 17.38 Jan01	13.16 – 26.13; 19.79; last 48 months
MPD Skew	**0.09**	−0.039	0.27 Apr13; −0.45 Aug26	−0.63 – 0.27; 0.09; last 48 months
Market Prob of −20% or More Decline	**16.99%**	0.66%	17.92 Sep09; 11.99 Jan01	6.54 – 22.25; 16.99; last 48 months
Volume	**64**	−26%	6702; 0	37 – 27970; 64; last 48 months
West Texas Intermediate Crude (6−Month Expiry)				
Spot	**50.9**	4.8%	62.86 Jun10; 32.5 Jan21	32.5 – 102.41; 50.9; last 48 months
MPD Std Dev	**27.78%**	−0.31%	39.37 Feb18; 22.03 Jun10	10.25 – 39.37; 27.78; last 48 months
MPD Skew	**−0.44**	−0.037	−0.24 Nov25; −0.62 Jun03	−0.81 – −0.1; −0.44; last 48 months
Market Prob of −20% or More Decline	**23.25%**	−1%	31.89 Feb11; 17.52 Jun10	3.65 – 31.89; 23.25; last 48 months
Volume	**1931**	−35%	70029; 0	165 – 180997; 1931; last 48 months

Agricultural Crop Commodity MPD Statistics as of May 25, 2016

Corn (6−Month Expiry)

Indicator	Latest	2−Week Change	1−Year Trend with min/max points	Long−Term Range with median, IQR, and max/min
Spot	407.84	7.1%	440.56 (Jul15) / 356.74 (May27)	334.65 – 823.75; latest 407.84; last 48 months
MPD Std Dev	21.34%	1.6%	21.34 (May25) / 12.41 (Dec16)	12.41 – 24.61; latest 21.34; last 48 months
MPD Skew	0.29	−0.35	0.7 (Apr13) / 0.05 (Oct14)	−0.19 – 0.7; latest 0.29; last 48 months
Market Prob of −20% or More Decline	17.88%	2.4%	17.88 (May25) / 4.96 (Dec16)	4.96 – 22.19; latest 17.88; last 48 months
Volume	54667	80%	377209 / 0	5486 – 472954; latest 54667; last 48 months

Soybeans (6−Month Expiry)

Indicator	Latest	2−Week Change	1−Year Trend with min/max points	Long−Term Range with median, IQR, and max/min
Spot	1064.45	−0.2%	1066.55 (May11) / 864.89 (Nov11)	864.89 – 1691.25; latest 1064.45; last 48 months
MPD Std Dev	19.11%	−0.14%	20.28 (May18) / 10.21 (Feb25)	10.21 – 22.65; latest 19.11; last 48 months
MPD Skew	0.66	−0.23	0.89 (May11) / −0.23 (Sep23)	−0.5 – 0.89; latest 0.66; last 48 months
Market Prob of −20% or More Decline	13.68%	−0.27%	15.25 (May18) / 2.96 (Feb25)	2.96 – 18.72; latest 13.68; last 48 months
Volume	21696	9%	82132 / 0	496 – 326132; latest 21696; last 48 months

Wheat (6−Month Expiry)

Indicator	Latest	2−Week Change	1−Year Trend with min/max points	Long−Term Range with median, IQR, and max/min
Spot	477.43	1.7%	596.88 (Jul01) / 458.99 (Feb25)	458.99 – 930; latest 477.43; last 48 months
MPD Std Dev	17.35%	−0.93%	22.31 (Jul01) / 16.04 (Dec02)	12.95 – 26.5; latest 17.35; last 48 months
MPD Skew	0.62	−0.022	0.64 (May11) / 0.15 (Jul08)	0.01 – 0.64; latest 0.62; last 48 months
Market Prob of −20% or More Decline	11.64%	−1.7%	20.71 (Jul01) / 10.96 (Dec02)	5.67 – 24.34; latest 11.64; last 48 months
Volume	9345	41%	46232 / 0	179 – 51689; latest 9345; last 48 months

Sources: Chicago Mercantile Exchange, Bloomberg

Agricultural Livestock Commodity MPD Statistics as of May 25, 2016

Indicator	Latest	2−Week Change	1−Year Trend with min/max points	Long−Term Range with median, IQR, and max/min
Cattle (6−Month Expiry)				
Spot	**113.2**	−4.6%	156.32 Jun10 113.2 May25	113.2 ⊢ 170.32 (latest 113.2) last 34 months
MPD Std Dev	**11.92%**	1.8%	14.9 Jan21 7.8 Jun24	3.6 ⊢ 14.9 (latest 11.92) last 34 months
MPD Skew	**−0.47**	−0.019	−0.18 Sep30 −0.9 Mar23	−0.94 ⊢ −0.17 (latest −0.47) last 34 months
Market Prob of −5% or More Decline	**30.19%**	2.2%	35.84 Dec16 23.02 Jun24	8.46 ⊢ 35.84 (latest 30.19) last 34 months
Volume	**18901**	37%	24569 0	1263 ⊢ 33850 (latest 18901) last 34 months
Hogs (6−Month Expiry)				
Spot	**67.3**	−4.9%	81.22 Mar17 60.95 Jun24	60.95 ⊢ 94.48 (latest 67.3) last 19 months
MPD Std Dev	**15%**	1.2%	20.24 Jul22 13 Mar30	13 ⊢ 20.24 (latest 15) last 19 months
MPD Skew	**−0.65**	−0.024	−0.19 Nov18 −0.69 Sep09	−0.69 ⊢ 0.17 (latest −0.65) last 19 months
Market Prob of −20% or More Decline	**9.41%**	0.95%	16.97 Nov18 7.18 Mar30	7.18 ⊢ 16.97 (latest 9.41) last 19 months
Volume	**2173**	−40%	16073 0	53 ⊢ 16073 (latest 2173) last 19 months

Sources: Chicago Mercantile Exchange, Bloomberg

Bank MPD Statistics as of May 25, 2016

MPD Standard Deviation (3−Month Expiry)

Indicator	Latest	2−Week Change	1−Year Trend (with min/max points): max	1−Year Trend: min	Long−Term Range (with median, IQR, and max/min): min	Long−Term Range: latest	Long−Term Range: max	Long−Term Range: period
American Express	9.35%	−0.9%	15.64 (Feb11)	8.64 (May27)	7.82	9.35	15.64	last 48 months
Bank of America	13.99%	−1.1%	21.78 (Feb11)	9.68 (May27)	9.68	13.99	25.42	last 48 months
BB&T	10.8%	−0.94%	16.69 (Feb11)	7.54 (Jul22)	7.29	10.8	16.69	last 48 months
Barclays	20.98%	−2.4%	30.89 (Feb11)	13.43 (Jun24)	10.93	20.98	32.51	last 48 months
Bank of NY Mellon	11.24%	−1.4%	17.63 (Feb11)	7.13 (Jul22)	7.13	11.24	18.76	last 48 months
Citigroup	14.05%	−1.1%	20.73 (Feb11)	9.18 (Jul22)	8.52	14.05	25.93	last 48 months
Capital One	12.27%	−0.6%	19.11 (Jan21)	8.35 (Jun24)	7.72	12.27	19.11	last 48 months
Credit Suisse	19.54%	−2.9%	30.72 (Feb11)	11.94 (Jul29)	9.84	19.54	30.72	last 48 months
Deutsche Bank	20.33%	−3.1%	29.56 (Feb11)	15.64 (Dec24)	11.33	20.33	29.56	last 42 months
Fifth Third	12.88%	−1.7%	19.87 (Feb18)	9.19 (May27)	8.21	12.88	19.87	last 48 months
Goldman Sachs	11.54%	−2%	18.62 (Feb11)	8.4 (May27)	8.23	11.54	20.08	last 48 months
JP Morgan	10.74%	−0.86%	16.5 (Feb11)	8.19 (Jul22)	7.41	10.74	20.58	last 48 months
Keycorp	14.13%	−1.5%	18.8 (Apr13)	9.92 (Jul29)	8.98	14.13	19.79	last 48 months
Morgan Stanley	13.54%	−1.7%	22.74 (Feb11)	8.97 (May27)	8.97	13.54	31.36	last 48 months
PNC Financial	9.79%	−1.2%	15 (Feb11)	7.58 (Jun24)	7.45	9.79	16.73	last 48 months
Regions Financial	13.77%	−0.69%	21.74 (Feb11)	10.09 (May27)	10.09	13.77	24.66	last 47 months
SunTrust	12.35%	−0.75%	19.05 (Feb18)	8.96 (Aug05)	7.82	12.35	22.27	last 48 months
State Street	12.58%	−0.63%	18.49 (Jan21)	9.09 (Jun03)	8.81	12.58	18.49	last 48 months
UBS	13.36%		19.02 (Mar06)	8.7 (Sep24)	8.7	13.36	24.21	last 32 months
US Bancorp	9.67%	−1.1%	14.54 (Sep09)	6.99 (Jul15)	6.58	9.67	15.53	last 48 months
Wells Fargo	10.14%	−0.017%	14.79 (Aug26)	7.32 (Aug05)	7.16	10.14	17.08	last 48 months

Source: FactSet

Bank MPD Statistics as of May 25, 2016

MPD Skew (3−Month Expiry)

Indicator	Latest	2−Week Change	1−Year Trend with min/max points				Long−Term Range with median, IQR, and max/min			
American Express	−0.7	−0.12	−0.41	−0.96	Jul29	Sep02	−1.27	−0.7	−0.21	last 48 months
Bank of America	−0.62	−0.071	−0.05	−0.99	Jan01	Sep02	−1.01	−0.62	−0.02	last 48 months
BB&T	−0.88	0.2	−0.31	−1.56	Sep09	Nov04	−1.56	−0.88	−0.15	last 48 months
Barclays	−1.88	−0.59	0.6	−1.88	Dec09	May25	−2.51	−1.88	1.94	last 48 months
Bank of NY Mellon	−0.86	0.22	−0.01	−1.39	Nov04	Nov11	−1.39	−0.86	0.32	last 48 months
Citigroup	−0.76	−0.053	−0.52	−1.17	Jul15	Aug26	−1.23	−0.76	−0.23	last 48 months
Capital One	−0.89	−0.011	−0.23	−1.2	Oct14	Mar03	−1.2	−0.89	−0.16	last 48 months
Credit Suisse	−0.86	−0.47	1.81	−1.79	Sep30	Apr13	−2.07	−0.86	1.81	last 48 months
Deutsche Bank	−0.72	0.073	0.41	−1.17	Dec02	Mar30	−1.17	−0.72	0.41	last 42 months
Fifth Third	−0.76	0.11	0.25	−1.69	Jan28	Dec24	−1.69	−0.76	2.19	last 48 months
Goldman Sachs	−0.68	−0.0093	−0.52	−1.09	Nov25	Sep02	−1.21	−0.68	−0.34	last 48 months
JP Morgan	−0.89	−0.019	−0.55	−1.16	Oct21	Sep02	−1.33	−0.89	−0.33	last 48 months
Keycorp	−1.3	−0.17	0.34	−1.79	Jan28	May18	−2.24	−1.3	0.34	last 48 months
Morgan Stanley	−0.52	0.024	−0.34	−1.12	Dec02	Sep02	−1.16	−0.52	−0.25	last 48 months
PNC Financial	−0.9	−0.003	−0.42	−1.84	Jan28	Oct28	−1.84	−0.9	−0.39	last 48 months
Regions Financial	−0.96	−0.24	0.36	−1.4	Aug26	Apr20	−1.94	−0.96	0.68	last 47 months
SunTrust	−0.63	0.047	−0.21	−1.27	Feb11	Jan01	−1.27	−0.63	−0.21	last 48 months
State Street	−0.79	0.16	−0.19	−1.23	Jan14	Aug26	−2.31	−0.79	−0.13	last 48 months
UBS	−0.04		0.91	−1.72	Dec31	Nov26	−3.36	−0.04	0.97	last 32 months
US Bancorp	−0.84	−0.042	−0.39	−1.55	Aug19	Nov04	−1.55	−0.84	−0.2	last 48 months
Wells Fargo	−0.42	0.065	−0.42	−1.3	May25	Sep02	−1.34	−0.42	−0.42	last 48 months

Bank MPD Statistics as of May 25, 2016

Market Probability of −20% or More Decline (3−Month Expiry)

Indicator	Latest	2−Week Change	1−Year Trend with min/max points				Long−Term Range with median, IQR, and max/min			
			Max	Max date	Min	Min date	Min	Latest	Max	Period
American Express	3.14%	−0.89%	10.35	Feb11	2.29	May27	1.53	3.14	10.63	last 48 months
Bank of America	8.52%	−1.6%	17.74	Feb11	3.14	Jun24	3.13	8.52	20.24	last 48 months
BB&T	5.73%	−0.87%	12.22	Feb11	1.82	Jul22	1.68	5.73	12.46	last 48 months
Barclays	12.05%	−2.6%	28.98	Feb11	7.41	Jun03	2.33	12.05	30.94	last 48 months
Bank of NY Mellon	5.49%	−2%	15.17	Feb11	1.12	Jun24	1.12	5.49	15.17	last 48 months
Citigroup	8.83%	−1.5%	16.5	Feb11	2.96	Jul22	1.93	8.83	19.83	last 48 months
Capital One	6.59%	−0.84%	15.15	Feb11	2.37	Jun24	1.64	6.59	15.78	last 48 months
Credit Suisse	15.43%	−7%	34.48	Feb11	5.22	Jul29	2.87	15.43	34.48	last 48 months
Deutsche Bank	13.59%	−2.8%	23.37	Jan21	11.34	Dec24	4.99	13.59	24.73	last 42 months
Fifth Third	7.5%	−2.5%	17.06	Feb11	3.15	Jun24	0.99	7.5	17.06	last 48 months
Goldman Sachs	5.36%	−2.5%	13.1	Feb11	2.18	May27	1.79	5.36	13.83	last 48 months
JP Morgan	5.17%	−1.1%	11.65	Feb11	2.14	Jul22	1.31	5.17	14.98	last 48 months
Keycorp	9.36%	0.31%	16.35	Feb11	3.24	Jun24	1.92	9.36	16.35	last 48 months
Morgan Stanley	7.3%	−3.1%	18.01	Feb11	2.57	May27	2.57	7.3	20.56	last 48 months
PNC Financial	4.09%	−1.3%	10.55	Feb11	1.67	Jun24	1.43	4.09	11.88	last 48 months
Regions Financial	8.28%	−0.016%	20.23	Feb11	3.34	May27	3.34	8.28	20.23	last 47 months
SunTrust	6.21%	−1.5%	15.8	Feb11	3.03	Jun03	1.73	6.21	19.3	last 48 months
State Street	7.1%	−0.81%	15.74	Jan21	2.96	Jun24	2.26	7.1	15.74	last 48 months
UBS	7.28%		18.15	Mar06	1.53	Dec31	1.53	7.28	19.1	last 32 months
US Bancorp	4.04%	−1%	9.69	Feb25	1.39	Jul15	0.74	4.04	10.65	last 48 months
Wells Fargo	3.82%	−0.15%	9.93	Jan21	1.55	Aug05	1.3	3.82	11.59	last 48 months

Source: FactSet

Bank MPD Statistics as of May 25, 2016

Indicator	Latest	2−Week Change	1−Year Trend with min/max points (max / min)	Long−Term Range with median, IQR, and max/min (min / latest / max)	
Volume (3−Month Expiry)					
American Express	**6827**	250%	32713 / 0	623 / 6827 / 32713	last 48 months
Bank of America	**52810**	81%	187673 / 0	7419 / 52810 / 244509	last 48 months
BB&T	**1600**	64%	6459 / 0	126 / 1600 / 6490	last 48 months
Barclays	**1824**	1500%	7859 / 0	8 / 1824 / 11011	last 48 months
Bank of NY Mellon	**661**	370%	33235 / 0	44 / 661 / 33235	last 48 months
Citigroup	**5457**	23%	57016 / 0	1104 / 5457 / 140439	last 48 months
Capital One	**1006**	46%	7596 / 0	136 / 1006 / 16299	last 48 months
Credit Suisse	**1413**	38%	17099 / 0	0 / 1413 / 17099	last 48 months
Deutsche Bank	**10487**	50%	38235 / 0	76 / 10487 / 38235	last 42 months
Fifth Third	**2491**	910%	6257 / 0	28 / 2491 / 19127	last 48 months
Goldman Sachs	**13561**	110%	19311 / 0	296 / 13561 / 28030	last 48 months
JP Morgan	**9589**	56%	132116 / 0	943 / 9589 / 132116	last 48 months
Keycorp	**1383**	200%	5129 / 0	44 / 1383 / 76270	last 48 months
Morgan Stanley	**12607**	110%	36166 / 0	327 / 12607 / 69872	last 48 months
PNC Financial	**2996**	1100%	4932 / 0	42 / 2996 / 5757	last 48 months
Regions Financial	**3273**	840%	4832 / 0	20 / 3273 / 47940	last 47 months
SunTrust	**3187**	140%	5155 / 0	61 / 3187 / 13788	last 48 months
State Street	**1667**	1200%	1667 / 0	19 / 1667 / 5339	last 48 months
UBS	**124**		2034 / 0	6 / 124 / 6502	last 32 months
US Bancorp	**1481**	−78%	9927 / 0	52 / 1481 / 29142	last 48 months
Wells Fargo	**31804**	110%	55478 / 0	950 / 31804 / 121351	last 48 months

Source: FactSet

Insurance Company MPD Statistics as of May 25, 2016

Indicator	Latest	2−Week Change	1−Year Trend with min/max points	Long−Term Range with median, IQR, and max/min
MPD Standard Deviation (3−Month Expiry)				
Aflac	**8.67%**	−0.088%	13.6 Feb11; 7.24 Jun24	7.11 – 8.67 – 20.04, last 48 months
AIG	**10.16%**	−1%	18.95 Feb11; 9.01 Jun24	8.7 – 10.16 – 22.49, last 48 months
Allstate	**7.76%**	−0.63%	13.18 Jan21; 6.94 May27	5.83 – 7.76 – 13.46, last 48 months
Ameriprise	**12.77%**	−1.3%	18.71 Feb11; 9.76 Jul29	8.98 – 12.77 – 19.72, last 48 months
Chubb	**8.59%**	−0.72%	24.08 Aug19; 6.13 Dec24	5.96 – 8.59 – 24.08, last 48 months
Hartford Financial	**10.89%**	−1.1%	18.69 Jan21; 8.35 Jun24	8.35 – 10.89 – 24.35, last 48 months
Lincoln National	**14.02%**	−2%	22.48 Feb11; 8.98 May27	8.98 – 14.02 – 24.62, last 48 months
Met Life	**12.49%**	−1.3%	19.33 Feb11; 9.99 May27	9.4 – 12.49 – 23.13, last 48 months
Principal Financial	**11.19%**	−1.9%	18.94 Feb18; 9.12 Aug19	8.02 – 11.19 – 23.83, last 48 months
Progressive	**9.42%**	−1.4%	13.49 Sep23; 5.79 Jun24	5.79 – 9.42 – 19.73, last 47 months
Prudential	**12.94%**	−1.1%	18.54 Jan21; 10.09 Jun24	10.09 – 12.94 – 20.74, last 48 months

Insurance Company MPD Statistics as of May 25, 2016

Indicator	Latest	2−Week Change	1−Year Trend with min/max points	Long−Term Range with median, IQR, and max/min
MPD Skew (3−Month Expiry)				
Aflac	**−1**	0.039	−0.24 Sep09; −1.31 Oct28	−1.31 ⊢ −1 ⊣ −0.24; last 48 months
AIG	**−0.89**	−0.057	−0.47 Jun24; −1.16 Oct14	−1.16 ⊢ −0.89 ⊣ −0.23; last 48 months
Allstate	**−0.87**	−0.27	−0.16 Oct14; −1.25 Feb25	−1.5 ⊢ −0.87 ⊣ −0.12; last 48 months
Ameriprise	**−0.79**	0.0052	−0.32 Jan07; −1.1 Jan21	−4.03 ⊢ −0.79 ⊣ −0.11; last 48 months
Chubb	**−1.14**	0.058	0.09 Aug19; −1.42 Sep02	−1.56 ⊢ −1.14 ⊣ 0.09; last 48 months
Hartford Financial	**−0.79**	0.25	−0.09 Jul22; −1.67 Nov04	−1.67 ⊢ −0.79 ⊣ −0.09; last 48 months
Lincoln National	**−0.66**	0.034	−0.07 Aug05; −1.15 Aug26	−1.15 ⊢ −0.66 ⊣ 0.15; last 48 months
Met Life	**−1.03**	−0.11	−0.51 Oct14; −1.1 May04	−1.15 ⊢ −1.03 ⊣ −0.23; last 48 months
Principal Financial	**−1**	−0.56	0.42 Oct21; −1.79 Aug05	−2.95 ⊢ −1 ⊣ 0.42; last 48 months
Progressive	**−0.75**	0.13	0.24 Jul22; −2.03 Jun10	−3.54 ⊢ −0.75 ⊣ 0.42; last 47 months
Prudential	**−0.89**	0.015	−0.43 Jun03; −1.2 May18	−1.44 ⊢ −0.89 ⊣ −0.33; last 48 months

Source: FactSet

Insurance Company MPD Statistics as of May 25, 2016

Indicator	Latest	2−Week Change	1−Year Trend with min/max points				Long−Term Range with median, IQR, and max/min			
			Max	Max date	Min	Min date	Min	Latest	Max	Period
Market Probability of −20% or More Decline (3−Month Expiry)										
Aflac	**2.89%**	−0.21%	8.5	Feb11	1.37	Jun24	1.37	2.89	14.69	last 48 months
AIG	**4.39%**	−1.2%	14.57	Feb11	2.51	Jun24	2.44	4.39	17.45	last 48 months
Allstate	**1.94%**	−0.21%	7.91	Jan21	1.16	Jun03	0.56	1.94	8.12	last 48 months
Ameriprise	**7.6%**	−1.6%	16.29	Feb04	3.68	Jul22	2.4	7.6	17.52	last 48 months
Chubb	**2.94%**	−1.1%	12.5	Aug19	1.06	Oct21	0.55	2.94	12.5	last 48 months
Hartford Financial	**5.61%**	−1.3%	12.03	Feb11	2.64	Jun24	2.19	5.61	20.99	last 48 months
Lincoln National	**8.1%**	−3.1%	17.85	Feb11	2.26	May27	2.26	8.1	22.05	last 48 months
Met Life	**7.01%**	−1.8%	16.75	Feb11	3.99	May27	3.26	7.01	18.59	last 48 months
Principal Financial	**5.1%**	0.016%	17.72	Sep09	2.65	Aug19	0.43	5.1	20.44	last 48 months
Progressive	**3.55%**	−1.9%	9.41	Feb11	0.15	Jun24	0	3.55	16.08	last 47 months
Prudential	**8.1%**	−2.1%	15.1	Feb11	4.02	Jun24	3.99	8.1	17.03	last 48 months

Insurance Company MPD Statistics as of May 25, 2016

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	**2889**	410%	13168 0	88 · 2889 · 22718 last 48 months
AIG	**3441**	0.29%	44233 0	110 · 3441 · 103998 last 48 months
Allstate	**877**	220%	3478 0	63 · 877 · 10621 last 48 months
Ameriprise	**93**	110%	1035 0	5 · 93 · 1114 last 48 months
Chubb	**1243**	24%	3292 0	3 · 1243 · 9027 last 48 months
Hartford Financial	**1110**	280%	9444 0	16 · 1110 · 37285 last 48 months
Lincoln National	**1018**	47%	4145 0	51 · 1018 · 8403 last 48 months
Met Life	**1259**	−57%	20912 0	319 · 1259 · 161416 last 48 months
Principal Financial	**432**	320%	610 0	2 · 432 · 2956 last 48 months
Progressive	**961**	84%	2216 0	0 · 961 · 3415 last 47 months
Prudential	**2466**	27%	14512 0	222 · 2466 · 17185 last 48 months

Source: FactSet