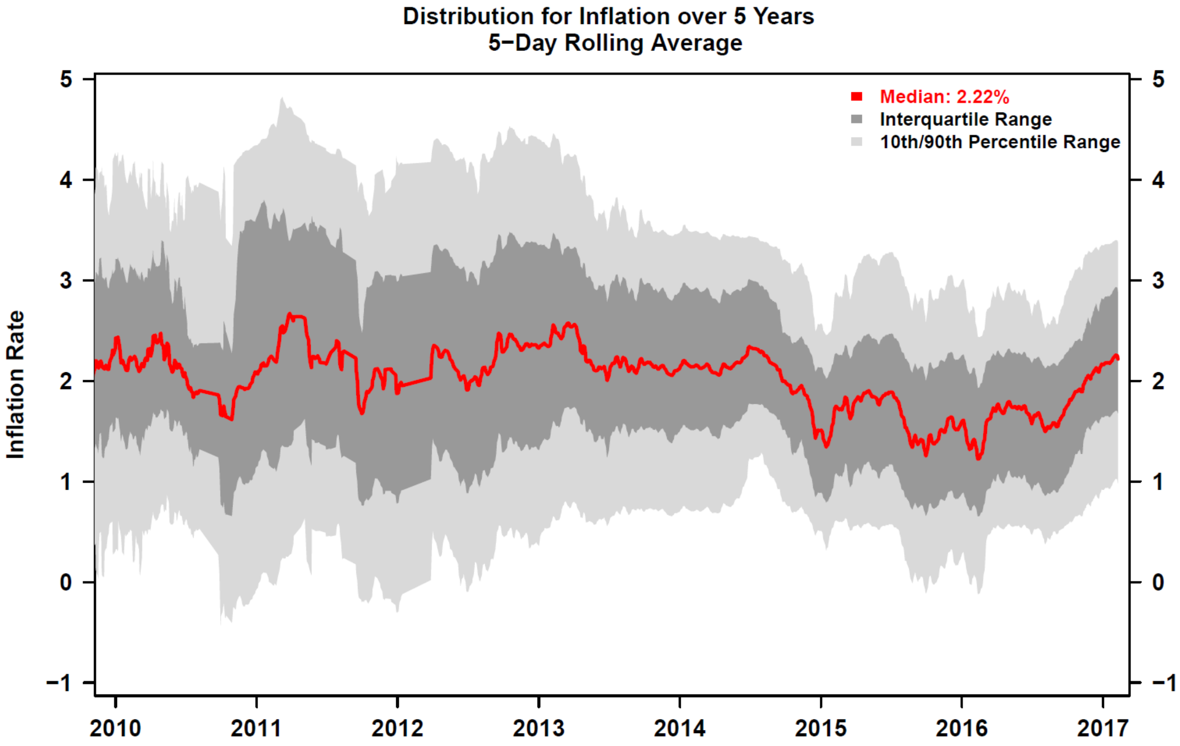
FEDERAL RESERVE BANK OF MINNEAPOLIS
BANKING AND POLICY STUDIES

Minneapolis Options Report – Feb 10th

Median inflation expectations decreased over the two week period for both inflation tenors. The probability of high inflation for the 5-year tenor, defined as the market probability of more than 3% inflation, suffered its largest decline in 12 months. The S&P 500 fell by -0.16%; both the 20 banks and 11 insurance firms we follow underperformed the broader market index, on average, returning -2% and -1.1% respectively. MPD standard deviation for the 12-month S&P 500 tenor posted a 12 month low; several insurance firms followed this trend by posting respective 12-month lows, suggesting that investor uncertainty around these firms has diminished. The dollar was stronger against the euro and pound. Gold and silver posted gains of 3.6% and 4.3%, respectively; and the MPD skew for gold has returned to levels set prior to its precipitous decline in late November.

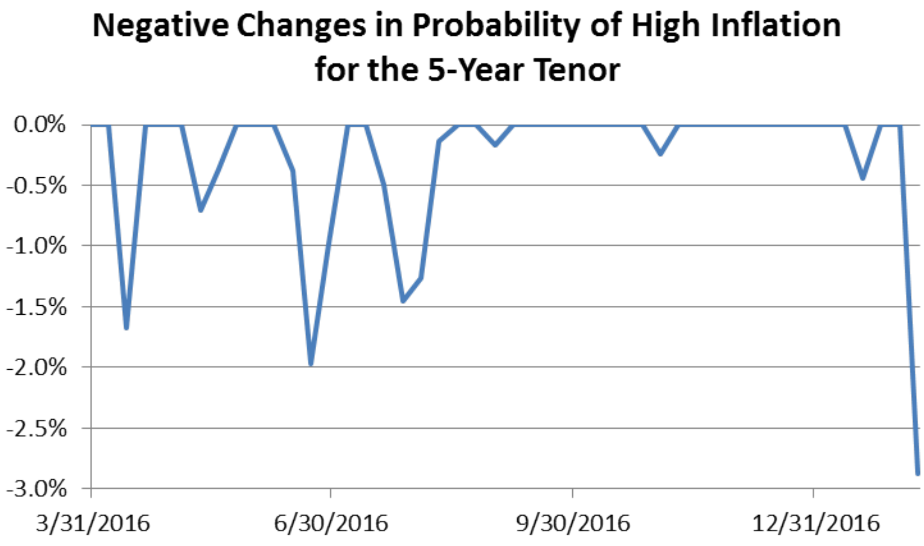
Inflation

Market-based inflation expectations derived from caps and floors on the CPI for 1- and 5-year periods were lower for both tenors: The 1-year declined slightly to 2.31%, and the 5-year decreased by 8.8 bps to 2.14%. The decrease registered by the 5-year tenor is shown for reference (see figure, below).



Additional detail:

- The probability of high inflation, defined as the market probability of more than 3% inflation, fell by -2.9 percentage points; its largest change in 12-months (see chart, below).



Negative Changes in Probability of High Inflation for the 5-Year Tenor

Interest Rate

Treasury prices increased over the two week period: The 5-year was higher by 0.5%, and the 10-year rose by 0.9%. As a result, yields fell. Changes in MPD standard deviation were minor. The metric fell by an average -0.2 percentage points. Both LIBOR tenors declined over the two week period, with the 3-year tenor falling by 6.8 bps, and the 5-year tenor falling by 77 bps. Changes in MPD standard deviation were mixed. The metric was lower for the 3-year tenor, decreasing by -0.6 percentage points, whereas the 5-year tenor experienced a slight increase of 0.1 percentage points.

Banks and Insurance Companies

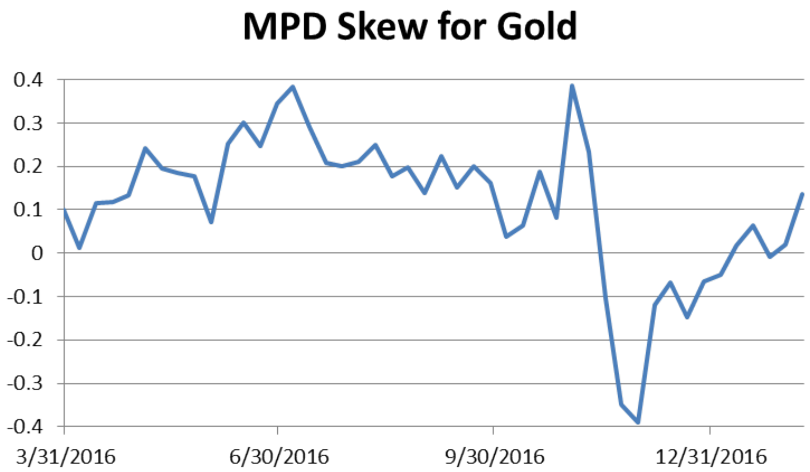
The S&P 500 fell by 0.2% over the past two weeks. While changes in MPD standard deviation were flat for the 12-month tenor, the 6-month tenor experienced a 1.3% increase. The 20 banking firms we follow posted a -2.1% return, underperforming the market. The 11 insurance companies we follow underperformed the broader market index returning -1.1% on average.

Additional details:

- The S&P 500 12-month tenor posted its lowest MPD standard deviation level in 1 year. This implies that investor uncertainty surrounding the broader market index has declined over the time period.
- MPD standard deviation changes were mixed for the banking and insurance firms we follow: the metric for banks was higher by 0.6 percentage points, while for insurers, it fell by -0.8 percentage points. Specifically AFL, ALL, HIG, and LNC all posted new 12-month lows for MPD standard deviation.

Other Markets

- The iShares US Real Estate Index outperformed the market, returning -0.12%. Its MPD standard deviation increased by 0.8 percentage points.
- The dollar was stronger against the euro and pound, but lost ground against the yen. While MPD skew levels move higher for each currency pair, they all point toward neutral investor bias.
- Gold and silver moved higher by 3.6% and 4.3%, respectively. MPD standard deviation fell by an average -0.55 percentage points for both metals and MPD skews currently signal neutral bias. Of note, The MPD skew for gold has steadily increased from the low set on 11/30/16, approaching the levels set prior to its decline.

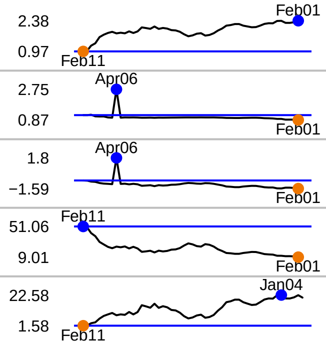


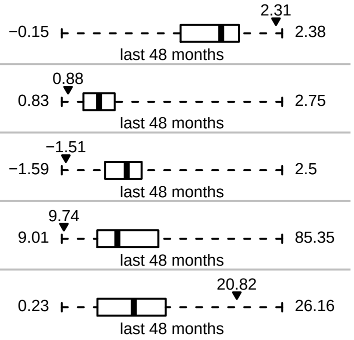
MPD Skew for Gold

- WTI crude fell by -0.95% over the 2 week period. Changes in MPD statistics were mostly flat.
- Corn, soybeans and wheat increased by 1.3%, 0.4% and 0.5%, respectively. Positive MPD skews for corn and wheat signal investor bias towards future higher crop prices.
- Cattle fell by -6.1% while lean hogs declined slightly. Both MPD skews signal investor bias towards lower future livestock prices.

Inflation MPD Statistics as of February 08, 2017

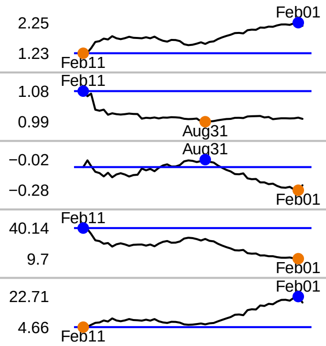
Inflation (1−Year Expiry)

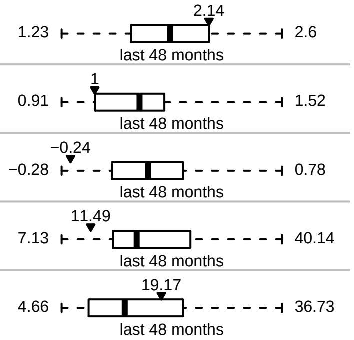




Indicator	Latest	2−Week Change	1−Year Trend with min/max points	Long−Term Range with median, IQR, and max/min
Median	**2.31%**	−0.0055%	2.38 0.97 Feb01 Feb11	2.31 −0.15 2.38 last 48 months
MPD Std Dev	**0.88%**	−0.0098%	2.75 0.87 Apr06 Feb01	0.88 0.83 2.75 last 48 months
MPD Skew	**−1.51**	0.013	1.8 −1.59 Apr06 Feb01	−1.51 −1.59 2.5 last 48 months
Market Prob of Less Than 1% Inflation	**9.74%**	−0.2%	51.06 9.01 Feb11 Feb01	9.74 9.01 85.35 last 48 months
Market Prob of More Than 3% Inflation	**20.82%**	−0.17%	22.58 1.58 Jan04 Feb11	20.82 0.23 26.16 last 48 months

Inflation (5−Year Expiry)

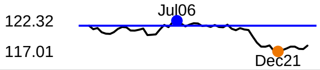
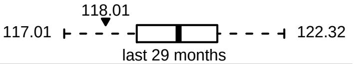
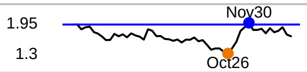
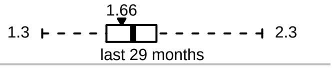
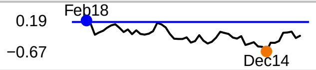
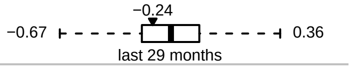
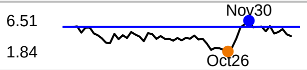
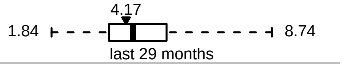
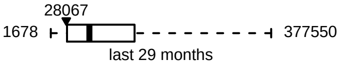
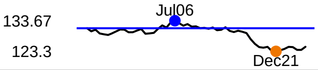
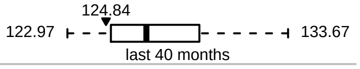
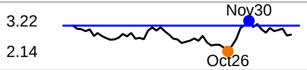
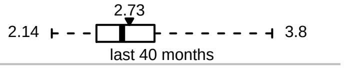
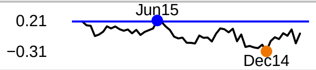
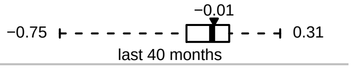
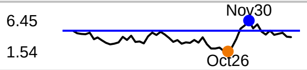
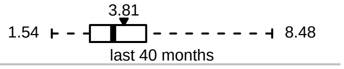
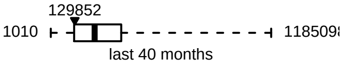




Indicator	Latest	2−Week Change	1−Year Trend with min/max points	Long−Term Range with median, IQR, and max/min
Median	**2.14%**	−0.088%	2.25 1.23 Feb01 Feb11	2.14 1.23 2.6 last 48 months
MPD Std Dev	**1%**	−0.0016%	1.08 0.99 Feb11 Aug31	1 0.91 1.52 last 48 months
MPD Skew	**−0.24**	0.037	−0.02 −0.28 Aug31 Feb01	−0.24 −0.28 0.78 last 48 months
Market Prob of Less Than 1% Inflation	**11.49%**	1.6%	40.14 9.7 Feb11 Feb01	11.49 7.13 40.14 last 48 months
Market Prob of More Than 3% Inflation	**19.17%**	−2.9%	22.71 4.66 Feb01 Feb11	19.17 4.66 36.73 last 48 months

Source: Bloomberg

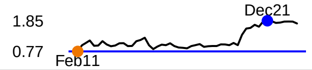
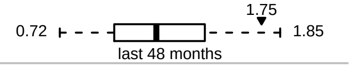
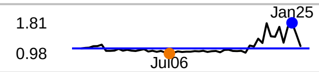
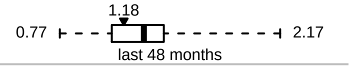
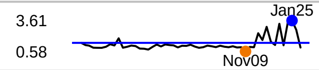
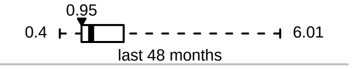
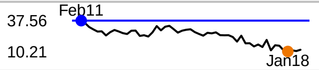
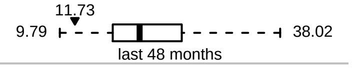
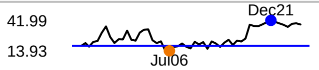
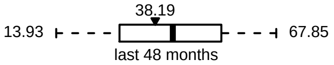
Medium−to−Long Bond Price MPD Statistics as of February 08, 2017

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	**118.01**	0.48%	 122.32 117.01 Jul06 Dec21	 118.01 117.01 122.32 last 29 months
MPD Std Dev	**1.66%**	−0.19%	 1.95 1.3 Nov30 Oct26	 1.66 1.3 2.3 last 29 months
MPD Skew	**−0.24**	−0.12	 0.19 −0.67 Feb18 Dec14	 −0.24 −0.67 0.36 last 29 months
Market Prob of −3% or More Decline	**4.17%**	−1.1%	 6.51 1.84 Nov30 Oct26	 4.17 1.84 8.74 last 29 months
Volume	**28067**	−91%	 325657 0	 28067 1678 377550 last 29 months
10 Year Treasury (3−Month Expiry)				
Spot	**124.84**	0.85%	 133.67 123.3 Jul06 Dec21	 124.84 122.97 133.67 last 40 months
MPD Std Dev	**2.73%**	−0.21%	 3.22 2.14 Nov30 Oct26	 2.73 2.14 3.8 last 40 months
MPD Skew	**−0.01**	−0.068	 0.21 −0.31 Jun15 Dec14	 −0.01 −0.75 0.31 last 40 months
Market Prob of −5% or More Decline	**3.81%**	−0.69%	 6.45 1.54 Nov30 Oct26	 3.81 1.54 8.48 last 40 months
Volume	**129852**	13000%	 1143418 0	 129852 1010 118509 last 40 months

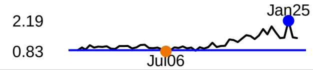
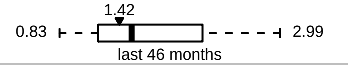
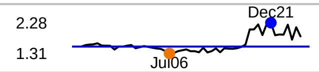
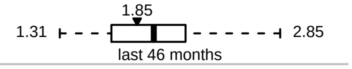
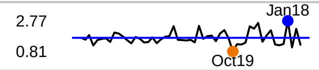
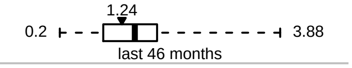
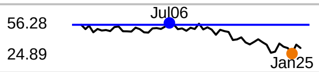
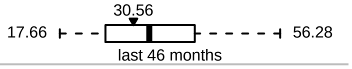
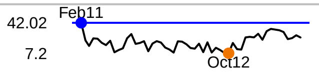
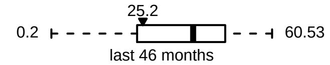
Source: Chicago Mercantile Exchange

Short Interest Rates MPD Statistics as of February 08, 2017

3 Month LIBOR (3−Year Expiry)

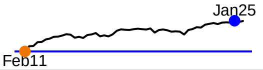
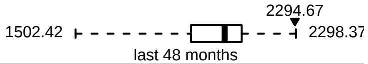
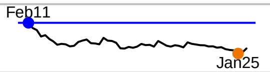
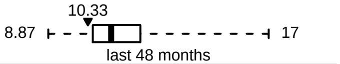
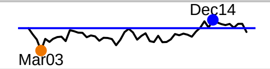
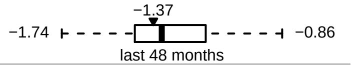
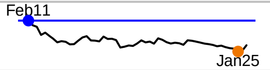
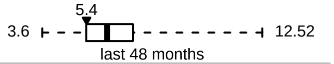
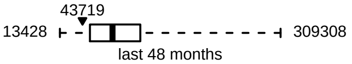
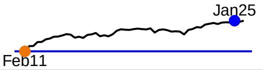
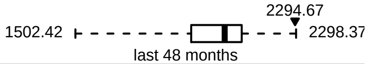
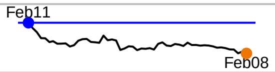
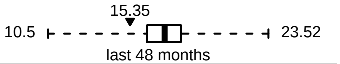
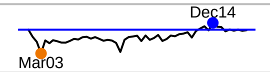
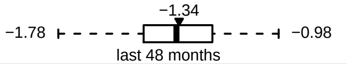
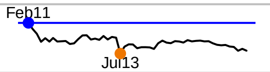
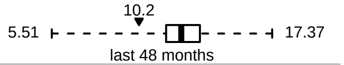
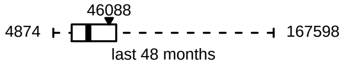
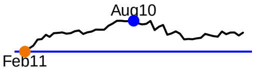
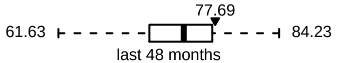
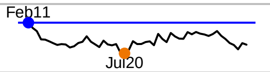
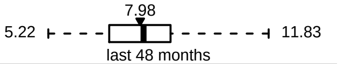
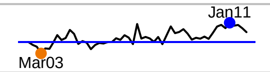
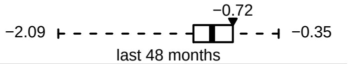
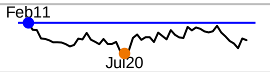
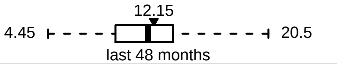
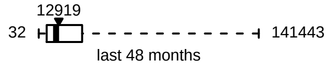
Indicator	Latest	2−Week Change	1−Year Trend with min/max points	Long−Term Range with median, IQR, and max/min
Median	**1.75%**	−0.068%	 1.85 0.77 Dec21 Feb11	 1.75 0.72 1.85 last 48 months
MPD Std Dev	**1.18%**	−0.63%	 1.81 0.98 Jan25 Jul06	 1.18 0.77 2.17 last 48 months
MPD Skew	**0.95**	−2.7	 3.61 0.58 Jan25 Nov09	 0.95 0.4 6.01 last 48 months
Market Prob of Less Than 0.5% LIBOR	**11.73%**	0.47%	 37.56 10.21 Feb11 Jan18	 11.73 9.79 38.02 last 48 months
Market Prob of More Than 1% + Spot	**38.19%**	−0.63%	 41.99 13.93 Dec21 Jul06	 38.19 13.93 67.85 last 48 months

3 Month LIBOR (5−Year Expiry)

Indicator	Latest	2−Week Change	1−Year Trend with min/max points	Long−Term Range with median, IQR, and max/min
Median	**1.42%**	−0.77%	 2.19 0.83 Jan25 Jul06	 1.42 0.83 2.99 last 46 months
MPD Std Dev	**1.85%**	0.1%	 2.28 1.31 Dec21 Jul06	 1.85 1.31 2.85 last 46 months
MPD Skew	**1.24**	0.16	 2.77 0.81 Jan18 Oct19	 1.24 0.2 3.88 last 46 months
Market Prob of Less Than 1% LIBOR	**30.56%**	5.7%	 56.28 24.89 Jul06 Jan25	 30.56 17.66 56.28 last 46 months
Market Prob of More Than 2% + Spot	**25.2%**	0.71%	 42.02 7.2 Feb11 Oct12	 25.2 0.2 60.53 last 46 months

Source: Bloomberg

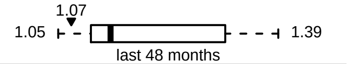
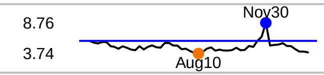
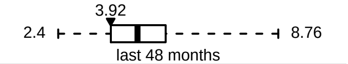
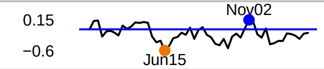
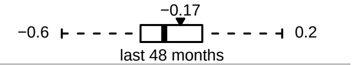
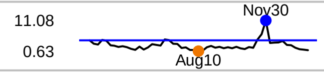
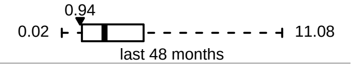
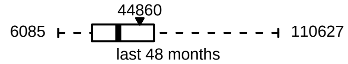
Equity Index MPD Statistics as of February 08, 2017

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	**2294.67**	−0.16%	2298.37 1851.86  Jan25 Feb11	 2294.67 1502.42 2298.37 last 48 months
MPD Std Dev	**10.33%**	1.3%	17 9.04  Feb11 Jan25	 10.33 8.87 17 last 48 months
MPD Skew	**−1.37**	−0.16	−1.13 −1.74  Dec14 Mar03	 −1.37 −1.74 −0.86 last 48 months
Market Prob of −20% or More Decline	**5.4%**	1.8%	12.52 3.6  Feb11 Jan25	 5.4 3.6 12.52 last 48 months
Volume	**43719**	−65%	230426 0 	 43719 13428 309308 last 48 months
S&P 500 (12−Month Expiry)				
Spot	**2294.67**	−0.16%	2298.37 1851.86  Jan25 Feb11	 2294.67 1502.42 2298.37 last 48 months
MPD Std Dev	**15.35%**	−0.027%	23.38 15.35  Feb11 Feb08	 15.35 10.5 23.52 last 48 months
MPD Skew	**−1.34**	−0.011	−1.2 −1.78  Dec14 Mar03	 −1.34 −1.78 −0.98 last 48 months
Market Prob of −20% or More Decline	**10.2%**	0.016%	17.09 9.5  Feb11 Jul13	 10.2 5.51 17.37 last 48 months
Volume	**46088**	−30%	167598 0 	 46088 4874 167598 last 48 months
iShares US Real Estate Index (3−Month Expiry)				
Spot	**77.69**	−0.12%	84.23 67.26  Aug10 Feb11	 77.69 61.63 84.23 last 48 months
MPD Std Dev	**7.98%**	0.78%	11.69 6.52  Feb11 Jul20	 7.98 5.22 11.83 last 48 months
MPD Skew	**−0.72**	−0.22	−0.43 −1.36  Jan11 Mar03	 −0.72 −2.09 −0.35 last 48 months
Market Prob of −10% or More Decline	**12.15%**	3%	18.66 7.17  Feb11 Jul20	 12.15 4.45 20.5 last 48 months
Volume	**12919**	−78%	98246 0 	 12919 32 141443 last 48 months

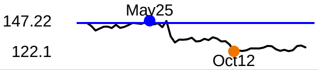
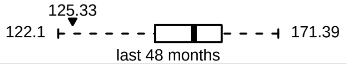
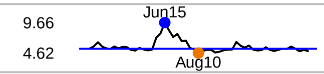
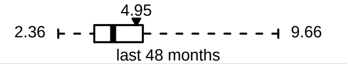
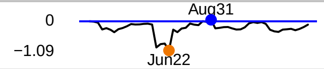
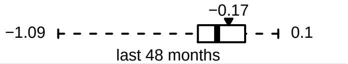
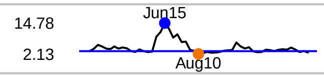
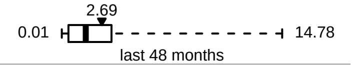
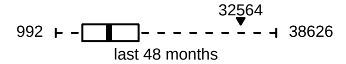
Source: FactSet

Exchange Rate MPD Statistics as of February 08, 2017

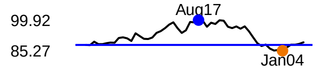
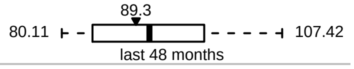
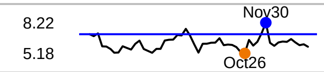
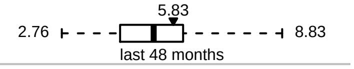
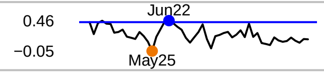
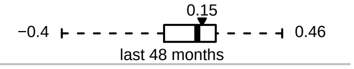
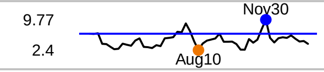
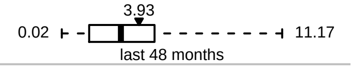
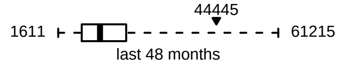
Dollar−Euro Futures (3−Month Expiry)

Indicator	Latest	2−Week Change	1−Year Trend with min/max points	Long−Term Range with median, IQR, and max/min
Spot	**1.07**	−0.93%	 1.15 1.05 May04 Dec21	 1.07 1.05 1.39 last 48 months
MPD Std Dev	**3.92%**	−0.12%	 8.76 3.74 Nov30 Aug10	 3.92 2.4 8.76 last 48 months
MPD Skew	**−0.17**	0.15	 0.15 −0.6 Nov02 Jun15	 −0.17 −0.6 0.2 last 48 months
Market Prob of −10% or More Decline	**0.94%**	−0.34%	 11.08 0.63 Nov30 Aug10	 0.94 0.02 11.08 last 48 months
Volume	**44860**	94%	 110627 0	 44860 6085 110627 last 48 months

Dollar−Pound Futures (3−Month Expiry)

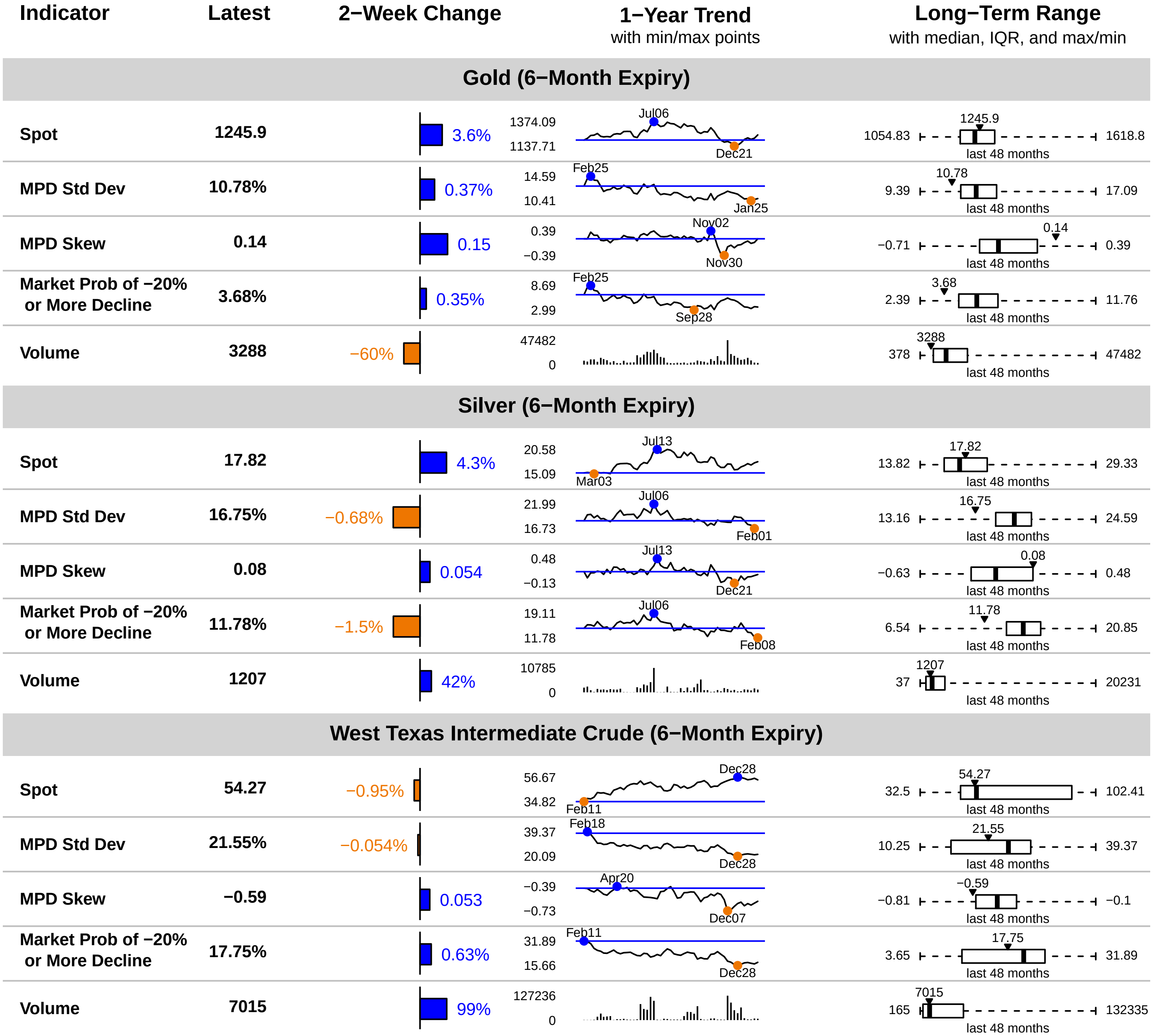
Indicator	Latest	2−Week Change	1−Year Trend with min/max points	Long−Term Range with median, IQR, and max/min
Spot	**125.33**	−0.84%	 147.22 122.1 May25 Oct12	 125.33 122.1 171.39 last 48 months
MPD Std Dev	**4.95%**	0.043%	 9.66 4.62 Jun15 Aug10	 4.95 2.36 9.66 last 48 months
MPD Skew	**−0.17**	0.15	 0 −1.09 Aug31 Jun22	 −0.17 −1.09 0.1 last 48 months
Market Prob of −10% or More Decline	**2.69%**	−0.18%	 14.78 2.13 Jun15 Aug10	 2.69 0.01 14.78 last 48 months
Volume	**32564**	130%	 32564 0	 32564 992 38626 last 48 months

Dollar−Yen Futures (3−Month Expiry)

Indicator	Latest	2−Week Change	1−Year Trend with min/max points	Long−Term Range with median, IQR, and max/min
Spot	**89.3**	1.3%	 99.92 85.27 Aug17 Jan04	 89.3 80.11 107.42 last 48 months
MPD Std Dev	**5.83%**	−0.15%	 8.22 5.18 Nov30 Oct26	 5.83 2.76 8.83 last 48 months
MPD Skew	**0.15**	0.056	 0.46 −0.05 Jun22 May25	 0.15 −0.4 0.46 last 48 months
Market Prob of −10% or More Decline	**3.93%**	−0.55%	 9.77 2.4 Nov30 Aug10	 3.93 0.02 11.17 last 48 months
Volume	**44445**	150%	 61215 0	 44445 1611 61215 last 48 months

Sources: Chicago Mercantile Exchange, Bloomberg

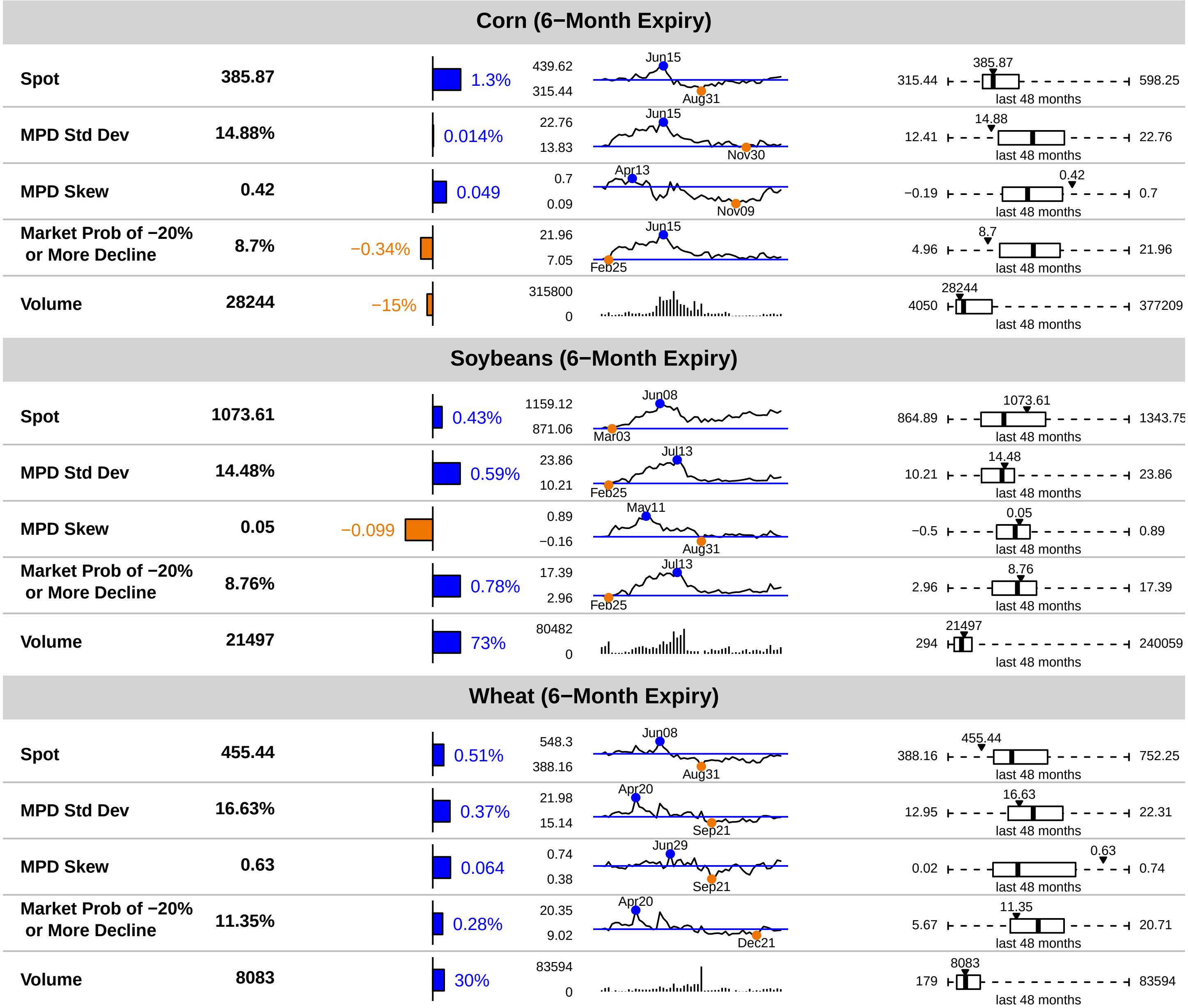
Metal and Energy Commodity MPD Statistics as of February 08, 2017



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	**1245.9**	3.6%	1374.09 1137.71 Jul06 Dec21	1245.9 1054.83 1618.8 last 48 months
MPD Std Dev	**10.78%**	0.37%	14.59 10.41 Feb25 Jan25	10.78 9.39 17.09 last 48 months
MPD Skew	**0.14**	0.15	0.39 −0.39 Nov02 Nov30	0.14 −0.71 0.39 last 48 months
Market Prob of −20% or More Decline	**3.68%**	0.35%	8.69 2.99 Feb25 Sep28	3.68 2.39 11.76 last 48 months
Volume	**3288**	−60%	47482 0	3288 378 47482 last 48 months
Silver (6−Month Expiry)				
Spot	**17.82**	4.3%	20.58 15.09 Jul13 Mar03	17.82 13.82 29.33 last 48 months
MPD Std Dev	**16.75%**	−0.68%	21.99 16.73 Jul06 Feb01	16.75 13.16 24.59 last 48 months
MPD Skew	**0.08**	0.054	0.48 −0.13 Jul13 Dec21	0.08 −0.63 0.48 last 48 months
Market Prob of −20% or More Decline	**11.78%**	−1.5%	19.11 11.78 Jul06 Feb08	11.78 6.54 20.85 last 48 months
Volume	**1207**	42%	10785 0	1207 37 20231 last 48 months
West Texas Intermediate Crude (6−Month Expiry)				
Spot	**54.27**	−0.95%	56.67 34.82 Dec28 Feb11	54.27 32.5 102.41 last 48 months
MPD Std Dev	**21.55%**	−0.054%	39.37 20.09 Feb18 Dec28	21.55 10.25 39.37 last 48 months
MPD Skew	**−0.59**	0.053	−0.39 −0.73 Apr20 Dec07	−0.59 −0.81 −0.1 last 48 months
Market Prob of −20% or More Decline	**17.75%**	0.63%	31.89 15.66 Feb11 Dec28	17.75 3.65 31.89 last 48 months
Volume	**7015**	99%	127236 0	7015 165 132335 last 48 months

Sources: Chicago Mercantile Exchange, Bloomberg

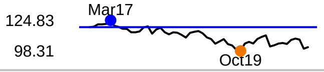
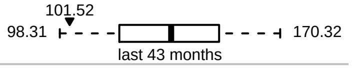
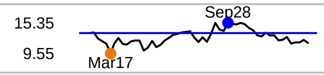
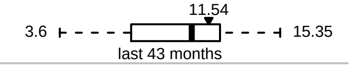
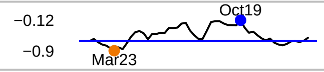
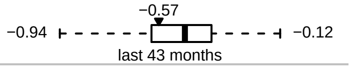
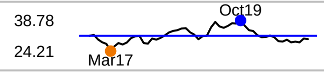
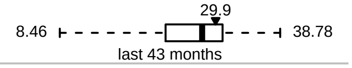
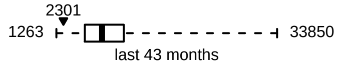
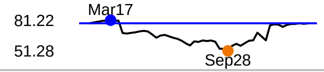
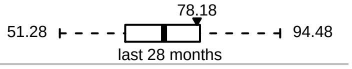
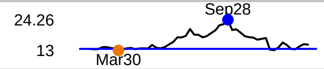
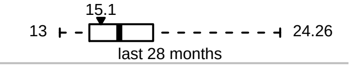
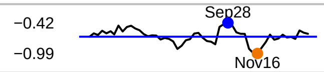
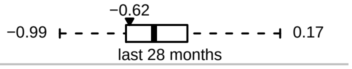
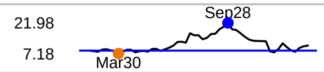
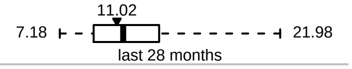
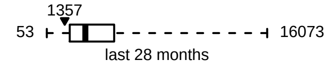
Agricultural Crop Commodity MPD Statistics as of February 08, 2017



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	**385.87**	1.3%	439.62 315.44 Jun15 Aug31	385.87 315.44 598.25 last 48 months
MPD Std Dev	**14.88%**	0.014%	22.76 13.83 Jun15 Nov30	14.88 12.41 22.76 last 48 months
MPD Skew	**0.42**	0.049	0.7 0.09 Apr13 Nov09	0.42 −0.19 0.7 last 48 months
Market Prob of −20% or More Decline	**8.7%**	−0.34%	21.96 7.05 Jun15 Feb25	8.7 4.96 21.96 last 48 months
Volume	**28244**	−15%	315800 0	28244 4050 377209 last 48 months
Soybeans (6−Month Expiry)				
Spot	**1073.61**	0.43%	1159.12 871.06 Jun08 Mar03	1073.61 864.89 1343.75 last 48 months
MPD Std Dev	**14.48%**	0.59%	23.86 10.21 Jul13 Feb25	14.48 10.21 23.86 last 48 months
MPD Skew	**0.05**	−0.099	0.89 −0.16 May11 Aug31	0.05 −0.5 0.89 last 48 months
Market Prob of −20% or More Decline	**8.76%**	0.78%	17.39 2.96 Jul13 Feb25	8.76 2.96 17.39 last 48 months
Volume	**21497**	73%	80482 0	21497 294 240059 last 48 months
Wheat (6−Month Expiry)				
Spot	**455.44**	0.51%	548.3 388.16 Jun08 Aug31	455.44 388.16 752.25 last 48 months
MPD Std Dev	**16.63%**	0.37%	21.98 15.14 Apr20 Sep21	16.63 12.95 22.31 last 48 months
MPD Skew	**0.63**	0.064	0.74 0.38 Jun29 Sep21	0.63 0.02 0.74 last 48 months
Market Prob of −20% or More Decline	**11.35%**	0.28%	20.35 9.02 Apr20 Dec21	11.35 5.67 20.71 last 48 months
Volume	**8083**	30%	83594 0	8083 179 83594 last 48 months

Sources: Chicago Mercantile Exchange, Bloomberg

Agricultural Livestock Commodity MPD Statistics as of February 08, 2017

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	**101.52**	−6.1%		
MPD Std Dev	**11.54%**	−0.1%		
MPD Skew	**−0.57**	0.11		
Market Prob of −5% or More Decline	**29.9%**	1.5%		
Volume	**2301**	−69%		
Hogs (6−Month Expiry)				
Spot	**78.18**	−0.089%		
MPD Std Dev	**15.1%**	0.62%		
MPD Skew	**−0.62**	−0.062		
Market Prob of −20% or More Decline	**11.02%**	1.1%		
Volume	**1357**	130%		

Sources: Chicago Mercantile Exchange, Bloomberg

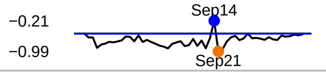
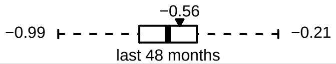
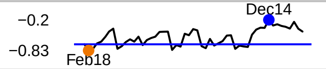
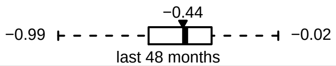
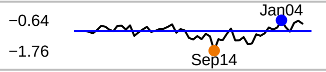
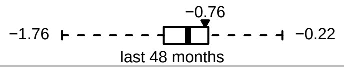
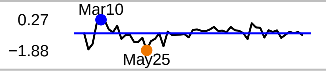
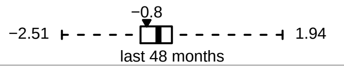
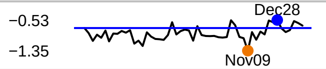
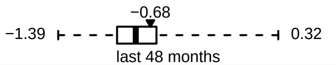
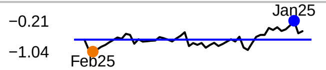
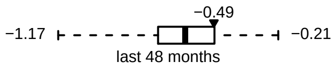
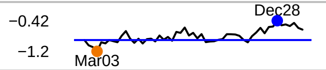
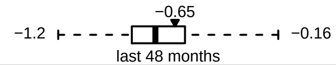
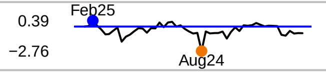
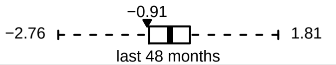
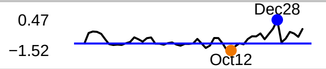
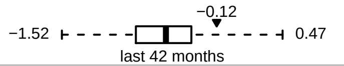
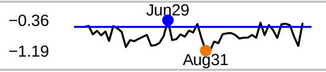
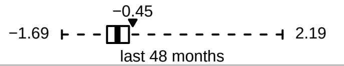
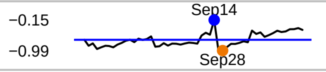
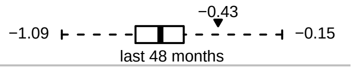
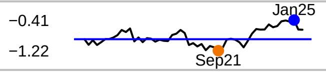
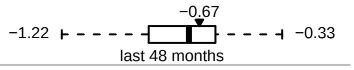
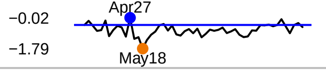
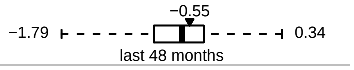
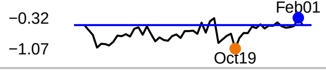
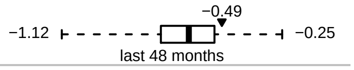
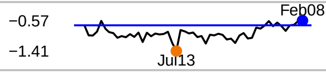
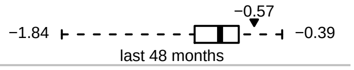
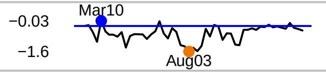
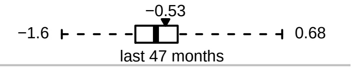
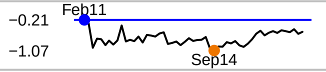
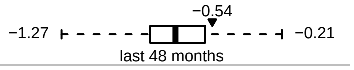
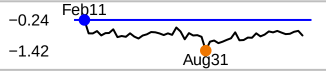
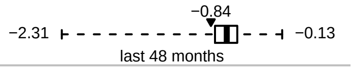
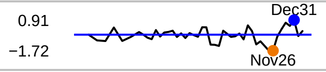
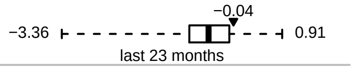
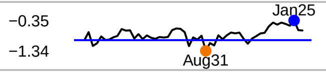
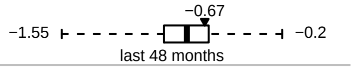
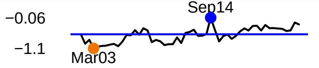
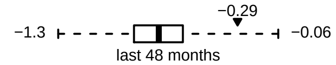
Bank MPD Statistics as of February 08, 2017

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)				
American Express	**10.22%**	0.094%	15.87 8.2 Sep14 Sep07	10.22 7.82 15.87 last 48 months
Bank of America	**13.61%**	1.4%	21.78 11.39 Feb11 Aug17	13.61 9.68 21.78 last 48 months
BB&T	**9.94%**	0.59%	16.69 9.09 Feb11 Oct26	9.94 7.29 16.69 last 48 months
Barclays	**16.78%**	0.18%	31.05 14.24 Jun29 Mar03	16.78 10.93 31.05 last 48 months
Bank of NY Mellon	**10.49%**	0.41%	17.63 10.08 Feb11 Jan25	10.49 7.13 17.63 last 48 months
Citigroup	**12.34%**	1.8%	20.73 10.57 Feb11 Jan25	12.34 8.52 20.73 last 48 months
Capital One	**12.14%**	1.3%	18.85 10.8 Feb11 Jan25	12.14 7.72 19.11 last 48 months
Credit Suisse	**19.76%**	−0.16%	31.32 15.53 Aug24 Aug31	19.76 9.84 31.32 last 48 months
Deutsche Bank	**18.71%**	−1.7%	39.74 18.18 Dec28 Mar03	18.71 11.33 39.74 last 42 months
Fifth Third	**13.44%**	0.85%	19.87 11.62 Feb18 Aug17	13.44 8.21 19.87 last 48 months
Goldman Sachs	**11.55%**	0.19%	18.62 8.8 Feb11 Sep07	11.55 8.23 18.62 last 48 months
JP Morgan	**10.62%**	1.5%	16.5 9.02 Feb11 Oct19	10.62 7.41 16.5 last 48 months
Keycorp	**13.65%**	1.5%	18.8 11.79 Apr13 Oct26	13.65 8.98 18.8 last 48 months
Morgan Stanley	**13.82%**	1.9%	22.74 10.87 Feb11 Sep07	13.82 8.97 22.74 last 48 months
PNC Financial	**10.52%**	−0.073%	15 9.59 Feb11 Apr20	10.52 7.45 15 last 48 months
Regions Financial	**14.86%**	0.63%	21.74 11.55 Feb11 Aug31	14.86 10.09 21.74 last 47 months
SunTrust	**11.77%**	−0.07%	19.05 11.22 Feb18 Aug24	11.77 7.82 19.05 last 48 months
State Street	**12.35%**	−0.8%	18.31 12.16 Feb18 Apr27	12.35 8.81 18.49 last 48 months
UBS	**13.36%**		19.02 8.7 Mar06 Sep24	13.36 8.7 24.21 last 23 months
US Bancorp	**9.17%**	1.1%	14.43 7.74 Feb11 Oct26	9.17 6.58 14.54 last 48 months
Wells Fargo	**10.74%**	0.31%	17.68 7.86 Sep14 Sep07	10.74 7.16 17.68 last 48 months

Source: FactSet

Bank MPD Statistics as of February 08, 2017

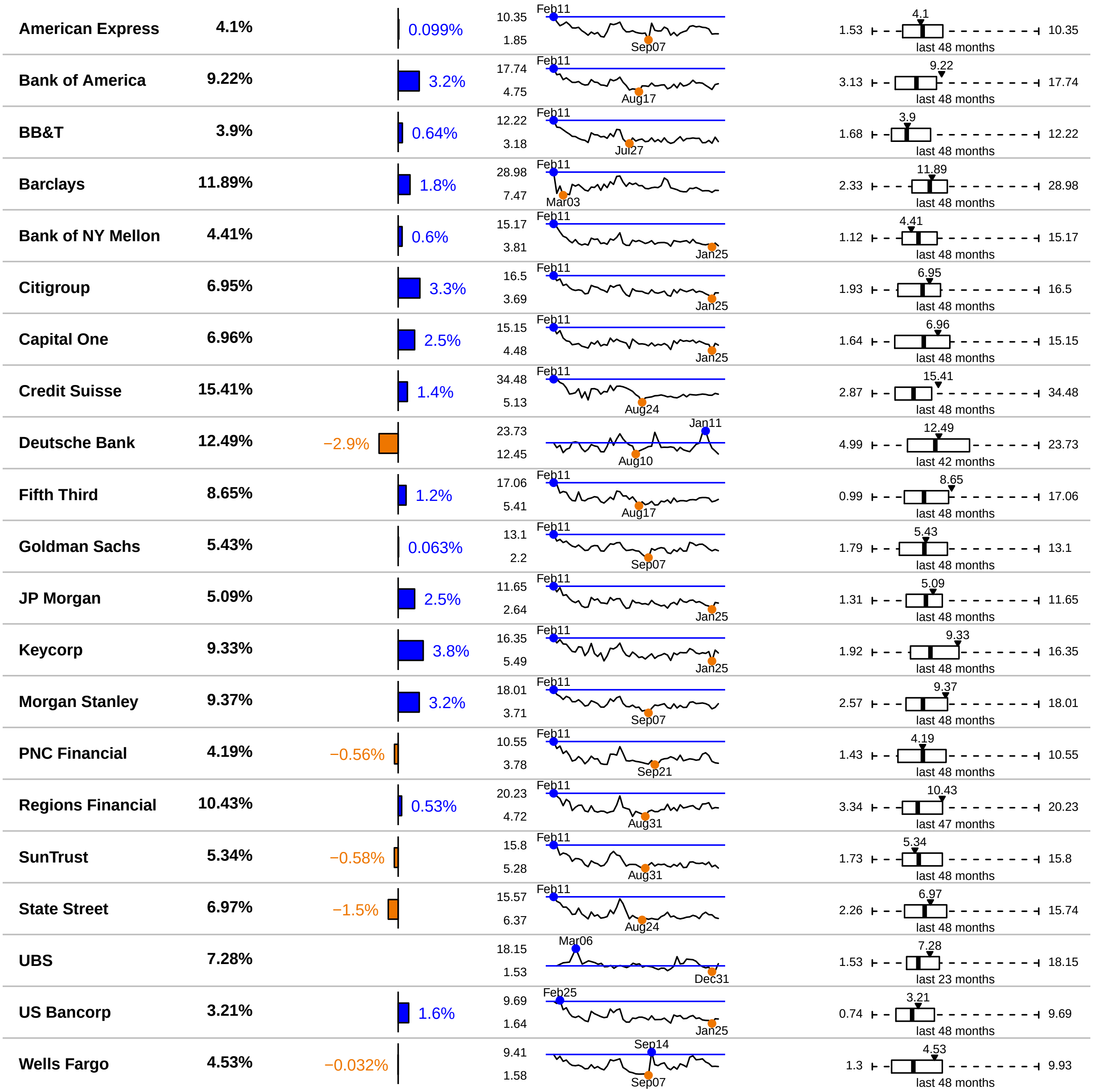
MPD Skew (3−Month Expiry)

Indicator	Latest	2−Week Change	1−Year Trend with min/max points	Long−Term Range with median, IQR, and max/min
American Express	**−0.56**	0.0056	 −0.21 −0.99 Sep14 Sep21	 −0.56 −0.99 −0.21 last 48 months
Bank of America	**−0.44**	−0.2	 −0.2 −0.83 Dec14 Feb18	 −0.44 −0.99 −0.02 last 48 months
BB&T	**−0.76**	−0.025	 −0.64 −1.76 Jan04 Sep14	 −0.76 −1.76 −0.22 last 48 months
Barclays	**−0.8**	−0.12	 0.27 −1.88 Mar10 May25	 −0.8 −2.51 1.94 last 48 months
Bank of NY Mellon	**−0.68**	−0.12	 −0.53 −1.35 Dec28 Nov09	 −0.68 −1.39 0.32 last 48 months
Citigroup	**−0.49**	−0.28	 −0.21 −1.04 Jan25 Feb25	 −0.49 −1.17 −0.21 last 48 months
Capital One	**−0.65**	−0.17	 −0.42 −1.2 Dec28 Mar03	 −0.65 −1.2 −0.16 last 48 months
Credit Suisse	**−0.91**	0.038	 0.39 −2.76 Feb25 Aug24	 −0.91 −2.76 1.81 last 48 months
Deutsche Bank	**−0.12**	0.3	 0.47 −1.52 Dec28 Oct12	 −0.12 −1.52 0.47 last 42 months
Fifth Third	**−0.45**	0.36	 −0.36 −1.19 Jun29 Aug31	 −0.45 −1.69 2.19 last 48 months
Goldman Sachs	**−0.43**	−0.021	 −0.15 −0.99 Sep14 Sep28	 −0.43 −1.09 −0.15 last 48 months
JP Morgan	**−0.67**	−0.26	 −0.41 −1.22 Jan25 Sep21	 −0.67 −1.22 −0.33 last 48 months
Keycorp	**−0.55**	−0.12	 −0.02 −1.79 Apr27 May18	 −0.55 −1.79 0.34 last 48 months
Morgan Stanley	**−0.49**	0.028	 −0.32 −1.07 Feb01 Oct19	 −0.49 −1.12 −0.25 last 48 months
PNC Financial	**−0.57**	0.11	 −0.57 −1.41 Feb08 Jul13	 −0.57 −1.84 −0.39 last 48 months
Regions Financial	**−0.53**	−0.13	 −0.03 −1.6 Mar10 Aug03	 −0.53 −1.6 0.68 last 47 months
SunTrust	**−0.54**	−0.073	 −0.21 −1.07 Feb11 Sep14	 −0.54 −1.27 −0.21 last 48 months
State Street	**−0.84**	−0.14	 −0.24 −1.42 Feb11 Aug31	 −0.84 −2.31 −0.13 last 48 months
UBS	**−0.04**		 0.91 −1.72 Dec31 Nov26	 −0.04 −3.36 0.91 last 23 months
US Bancorp	**−0.67**	−0.33	 −0.35 −1.34 Jan25 Aug31	 −0.67 −1.55 −0.2 last 48 months
Wells Fargo	**−0.29**	0.2	 −0.06 −1.1 Sep14 Mar03	 −0.29 −1.3 −0.06 last 48 months

Source: FactSet

Bank MPD Statistics as of February 08, 2017

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
American Express	**4.1%**	0.099%	10.35 Feb11 1.85 Sep07	4.1 1.53 10.35 last 48 months
Bank of America	**9.22%**	3.2%	17.74 Feb11 4.75 Aug17	9.22 3.13 17.74 last 48 months
BB&T	**3.9%**	0.64%	12.22 Feb11 3.18 Jul27	3.9 1.68 12.22 last 48 months
Barclays	**11.89%**	1.8%	28.98 Feb11 7.47 Mar03	11.89 2.33 28.98 last 48 months
Bank of NY Mellon	**4.41%**	0.6%	15.17 Feb11 3.81 Jan25	4.41 1.12 15.17 last 48 months
Citigroup	**6.95%**	3.3%	16.5 Feb11 3.69 Jan25	6.95 1.93 16.5 last 48 months
Capital One	**6.96%**	2.5%	15.15 Feb11 4.48 Jan25	6.96 1.64 15.15 last 48 months
Credit Suisse	**15.41%**	1.4%	34.48 Feb11 5.13 Aug24	15.41 2.87 34.48 last 48 months
Deutsche Bank	**12.49%**	−2.9%	23.73 Jan11 12.45 Aug10	12.49 4.99 23.73 last 42 months
Fifth Third	**8.65%**	1.2%	17.06 Feb11 5.41 Aug17	8.65 0.99 17.06 last 48 months
Goldman Sachs	**5.43%**	0.063%	13.1 Feb11 2.2 Sep07	5.43 1.79 13.1 last 48 months
JP Morgan	**5.09%**	2.5%	11.65 Feb11 2.64 Jan25	5.09 1.31 11.65 last 48 months
Keycorp	**9.33%**	3.8%	16.35 Feb11 5.49 Jan25	9.33 1.92 16.35 last 48 months
Morgan Stanley	**9.37%**	3.2%	18.01 Feb11 3.71 Sep07	9.37 2.57 18.01 last 48 months
PNC Financial	**4.19%**	−0.56%	10.55 Feb11 3.78 Sep21	4.19 1.43 10.55 last 48 months
Regions Financial	**10.43%**	0.53%	20.23 Feb11 4.72 Aug31	10.43 3.34 20.23 last 47 months
SunTrust	**5.34%**	−0.58%	15.8 Feb11 5.28 Aug31	5.34 1.73 15.8 last 48 months
State Street	**6.97%**	−1.5%	15.57 Feb11 6.37 Aug24	6.97 2.26 15.74 last 48 months
UBS	**7.28%**		18.15 Mar06 1.53 Dec31	7.28 1.53 18.15 last 23 months
US Bancorp	**3.21%**	1.6%	9.69 Feb25 1.64 Jan25	3.21 0.74 9.69 last 48 months
Wells Fargo	**4.53%**	−0.032%	9.41 Sep14 1.58 Sep07	4.53 1.3 9.93 last 48 months

Source: FactSet

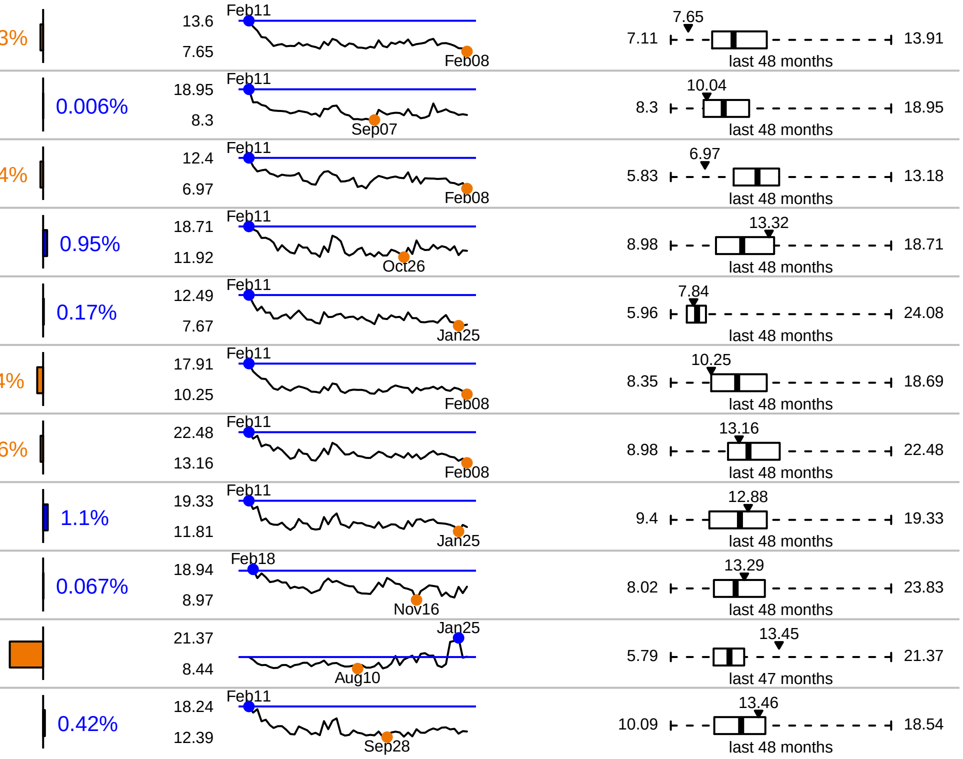
Bank MPD Statistics as of February 08, 2017

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)				
American Express	**8257**	−41%	15162 0 	8257 532 — 32713 last 48 months
Bank of America	**31372**	−85%	215456 0 	31372 7419 — 215456 last 48 months
BB&T	**2878**	49%	5463 0 	2878 126 — 6490 last 48 months
Barclays	**426**	−67%	18909 0 	426 8 — 18909 last 48 months
Bank of NY Mellon	**1848**	−1.2%	33235 0 	1848 44 — 33235 last 48 months
Citigroup	**17380**	310%	90561 0 	17380 1810 — 140439 last 48 months
Capital One	**2099**	−13%	10334 0 	2099 136 — 10334 last 48 months
Credit Suisse	**6506**	190%	31577 0 	6506 1 — 31577 last 48 months
Deutsche Bank	**6888**	48%	99132 0 	6888 76 — 99132 last 42 months
Fifth Third	**1375**	140%	6123 0 	1375 24 — 19127 last 48 months
Goldman Sachs	**13647**	23%	40920 0 	13647 612 — 40920 last 48 months
JP Morgan	**21428**	−10%	66163 0 	21428 951 — 132116 last 48 months
Keycorp	**613**	−98%	31081 0 	613 44 — 31081 last 48 months
Morgan Stanley	**3672**	−90%	37739 0 	3672 327 — 48955 last 48 months
PNC Financial	**489**	−72%	2996 0 	489 42 — 4932 last 48 months
Regions Financial	**2202**	−94%	47587 0 	2202 20 — 47940 last 47 months
SunTrust	**273**	−98%	14765 0 	273 61 — 14765 last 48 months
State Street	**733**	−56%	2700 0 	733 19 — 5339 last 48 months
UBS	**124**		2034 0 	124 23 — 2766 last 23 months
US Bancorp	**3695**	−7.7%	33496 0 	3695 52 — 33496 last 48 months
Wells Fargo	**12178**	−57%	80746 0 	12178 950 — 121351 last 48 months

Source: FactSet

Insurance Company MPD Statistics as of February 08, 2017

MPD Standard Deviation (3−Month Expiry)

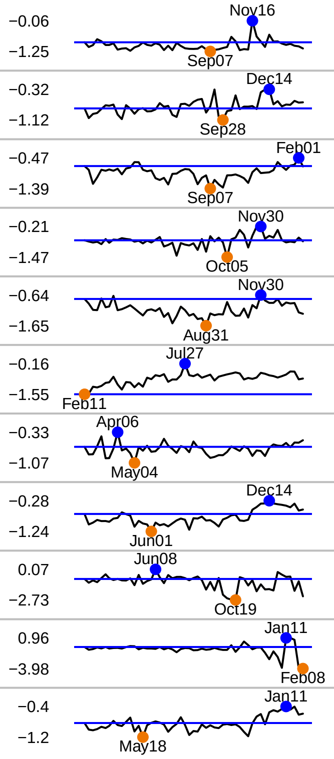


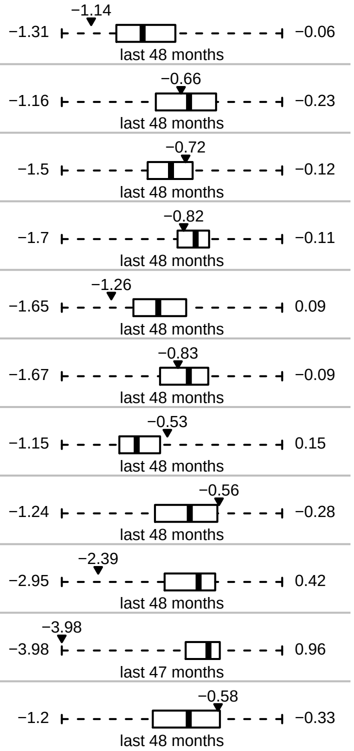
Indicator	Latest	2−Week Change	1−Year Trend with min/max points	Long−Term Range with median, IQR, and max/min
Aflac	**7.65%**	−0.63%	13.6 7.65 Feb11 Feb08	7.65 7.11 13.91 last 48 months
AIG	**10.04%**	0.006%	18.95 8.3 Feb11 Sep07	10.04 8.3 18.95 last 48 months
Allstate	**6.97%**	−0.64%	12.4 6.97 Feb11 Feb08	6.97 5.83 13.18 last 48 months
Ameriprise	**13.32%**	0.95%	18.71 11.92 Feb11 Oct26	13.32 8.98 18.71 last 48 months
Chubb	**7.84%**	0.17%	12.49 7.67 Feb11 Jan25	7.84 5.96 24.08 last 48 months
Hartford Financial	**10.25%**	−1.4%	17.91 10.25 Feb11 Feb08	10.25 8.35 18.69 last 48 months
Lincoln National	**13.16%**	−0.6%	22.48 13.16 Feb11 Feb08	13.16 8.98 22.48 last 48 months
Met Life	**12.88%**	1.1%	19.33 11.81 Feb11 Jan25	12.88 9.4 19.33 last 48 months
Principal Financial	**13.29%**	0.067%	18.94 8.97 Feb18 Nov16	13.29 8.02 23.83 last 48 months
Progressive	**13.45%**	−7.9%	21.37 8.44 Jan25 Aug10	13.45 5.79 21.37 last 47 months
Prudential	**13.46%**	0.42%	18.24 12.39 Feb11 Sep28	13.46 10.09 18.54 last 48 months

Source: FactSet

Insurance Company MPD Statistics as of February 08, 2017

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	**−1.14**	−0.11	−0.06 −1.25 Nov16 Sep07	−1.14 −1.31 −0.06 last 48 months
AIG	**−0.66**	−0.038	−0.32 −1.12 Dec14 Sep28	−0.66 −1.16 −0.23 last 48 months
Allstate	**−0.72**	−0.051	−0.47 −1.39 Feb01 Sep07	−0.72 −1.5 −0.12 last 48 months
Ameriprise	**−0.82**	0.039	−0.21 −1.47 Nov30 Oct05	−0.82 −1.7 −0.11 last 48 months
Chubb	**−1.26**	−0.35	−0.64 −1.65 Nov30 Aug31	−1.26 −1.65 0.09 last 48 months
Hartford Financial	**−0.83**	−0.32	−0.16 −1.55 Jul27 Feb11	−0.83 −1.67 −0.09 last 48 months
Lincoln National	**−0.53**	0.056	−0.33 −1.07 Apr06 May04	−0.53 −1.15 0.15 last 48 months
Met Life	**−0.56**	−0.19	−0.28 −1.24 Dec14 Jun01	−0.56 −1.24 −0.28 last 48 months
Principal Financial	**−2.39**	−0.5	0.07 −2.73 Jun08 Oct19	−2.39 −2.95 0.42 last 48 months
Progressive	**−3.98**	−4.6	0.96 −3.98 Jan11 Feb08	−3.98 −3.98 0.96 last 47 months
Prudential	**−0.58**	−0.18	−0.4 −1.2 Jan11 May18	−0.58 −1.2 −0.33 last 48 months





Source: FactSet

Insurance Company MPD Statistics as of February 08, 2017

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
Aflac	**2.23%**	−0.27%	8.5 1.9 Feb11 Nov16	2.23 1.37 10.03 last 48 months
AIG	**4.16%**	−0.00084%	14.57 2.04 Feb11 Aug17	4.16 2.04 14.57 last 48 months
Allstate	**1.11%**	−0.53%	6.52 1.11 Feb11 Feb08	1.11 0.56 7.91 last 48 months
Ameriprise	**8.9%**	2%	16.2 6.22 Feb11 Oct26	8.9 2.4 16.29 last 48 months
Chubb	**2.48%**	0.34%	7.43 2.11 Feb11 Sep07	2.48 0.55 12.5 last 48 months
Hartford Financial	**4.68%**	−0.72%	12.03 4.58 Feb11 Jul27	4.68 2.19 12.27 last 48 months
Lincoln National	**7.53%**	−0.79%	17.85 7.42 Feb11 Jun01	7.53 2.26 17.85 last 48 months
Met Life	**7.95%**	2.4%	16.75 5.58 Feb11 Jan25	7.95 3.26 16.75 last 48 months
Principal Financial	**7.21%**	0.36%	14.76 2.22 Feb11 Dec28	7.21 0.43 17.72 last 48 months
Progressive	**4.64%**	−20%	25.02 1.22 Jan25 Dec28	4.64 0 25.02 last 47 months
Prudential	**9.03%**	1.9%	15.1 6.72 Feb11 Oct26	9.03 3.99 15.1 last 48 months

Source: FactSet

Insurance Company MPD Statistics as of February 08, 2017

Volume (3−Month Expiry)

Indicator	Latest	2−Week Change	1−Year Trend with min/max points	Long−Term Range with median, IQR, and max/min
Aflac	**1464**	−76%	9135 0 	68 ⊢ 1464 ⊣ 22718 last 48 months
AIG	**1295**	−13%	44233 0 	110 ⊢ 1295 ⊣ 69392 last 48 months
Allstate	**808**	30%	3608 0 	33 ⊢ 808 ⊣ 5708 last 48 months
Ameriprise	**527**	200%	1973 0 	7 ⊢ 527 ⊣ 1973 last 48 months
Chubb	**765**	67%	6138 0 	3 ⊢ 765 ⊣ 9027 last 48 months
Hartford Financial	**2182**	35%	2758 0 	16 ⊢ 2182 ⊣ 13441 last 48 months
Lincoln National	**377**	−53%	4145 0 	51 ⊢ 377 ⊣ 8403 last 48 months
Met Life	**7392**	−73%	27721 0 	319 ⊢ 7392 ⊣ 29248 last 48 months
Principal Financial	**114**	34%	1379 0 	2 ⊢ 114 ⊣ 1379 last 48 months
Progressive	**6**	−94%	1424 0 	0 ⊢ 6 ⊣ 3415 last 47 months
Prudential	**642**	−84%	14512 0 	222 ⊢ 642 ⊣ 17185 last 48 months

Source: FactSet