

FEDERAL RESERVE BANK OF MINNEAPOLIS

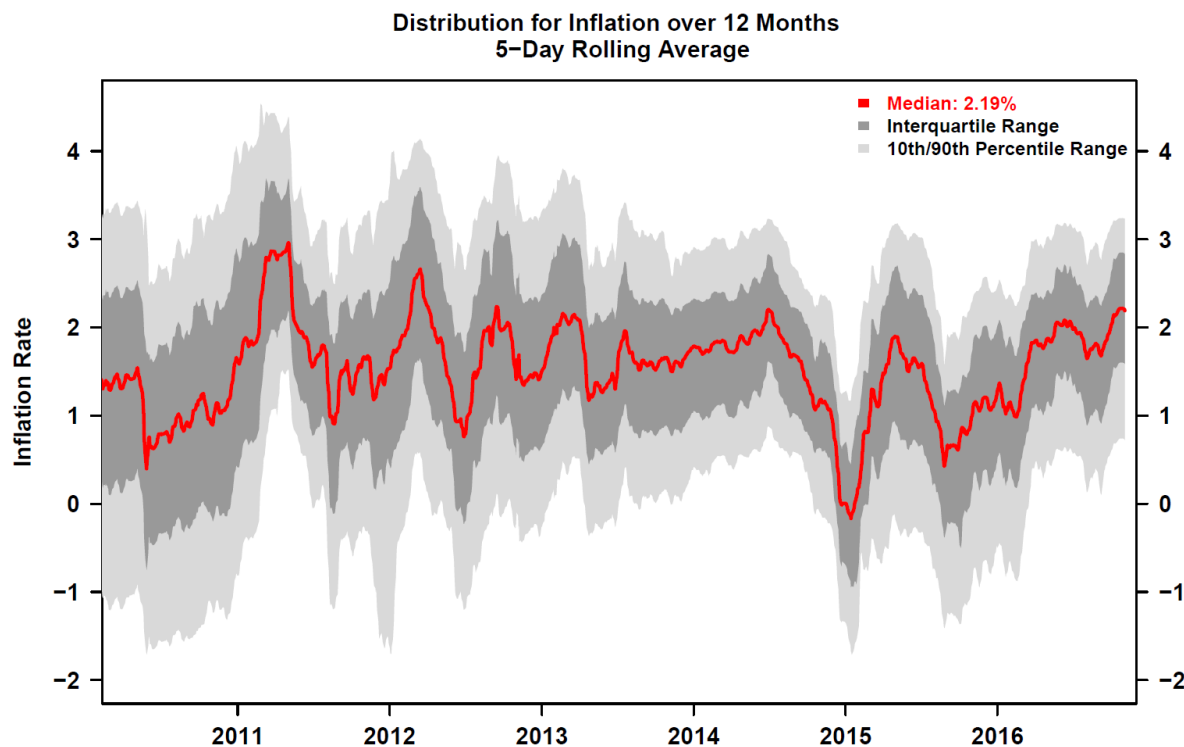
BANKING AND POLICY STUDIES

Minneapolis Options Report – November 4th

Median inflation expectations fell for all inflation tenors over the two week period. Treasury prices and MPD standard deviation has trended lower over the course of the year. The S&P 500 lost -2.2% while the 20 banks and 11 insurance firms we follow outperformed the broader market, posting respective average returns of 1.1% and -2%. Changes in MPD standard deviation for the S&P 500 have been muted since March 2016, whereas FBOs have registered large fluctuations relative to the S&P 500 and domestic banks. The dollar strengthened against the euro, and MPD skew for the USD-Euro pair points to a comparatively strong dollar in the future. WTI crude dropped by -11% as MPD standard deviation jumped by 3.6 percentage points on oversupply concerns. Agricultural livestock were higher by 8.3% on average.

Inflation

Market-based inflation expectations derived from caps and floors on the CPI for 1- and 5-year periods decreased over the 2-week period by -7.3 and -0.1 basis points to 2.15% and 1.89% respectively. This fall is best observed in the 1-year tenor (see figure, below).



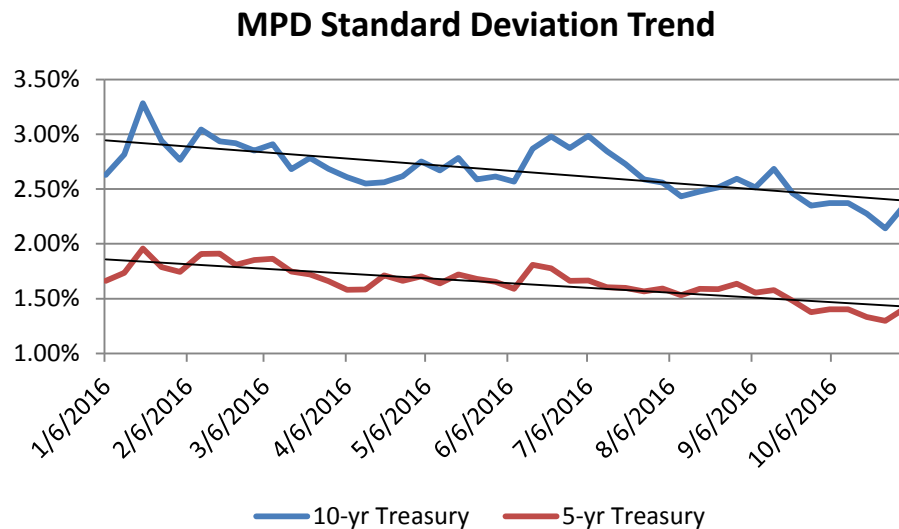
Additional detail:

- Median inflation expectations are just under their highest level for the past 12 months. These highs (1-year at 2.23% and 5-year at 1.91%) were set within the past month.

Interest Rate

Spot prices for the Treasuries we follow fell over the two week period, and consequently yields rose. MPD standard deviation rose slightly above the recently set historical lows to end at 1.41% for the 5-year and 2.35% for the 10-year. Treasury prices and MPD standard deviation have trended lower with prices

for both falling since July 2016 and MPD standard deviation trending lower since the start of the year (see chart below).



MPD skews for both treasuries currently signal neutral bias. The 5-year LIBOR tenor fell by -12 basis points. The probability of low LIBOR, defined for the 5-year tenor as the market probability of less than 1% LIBOR, increased by 2.7 percentage points and stands slightly above the median value over the past 46-months of observations.

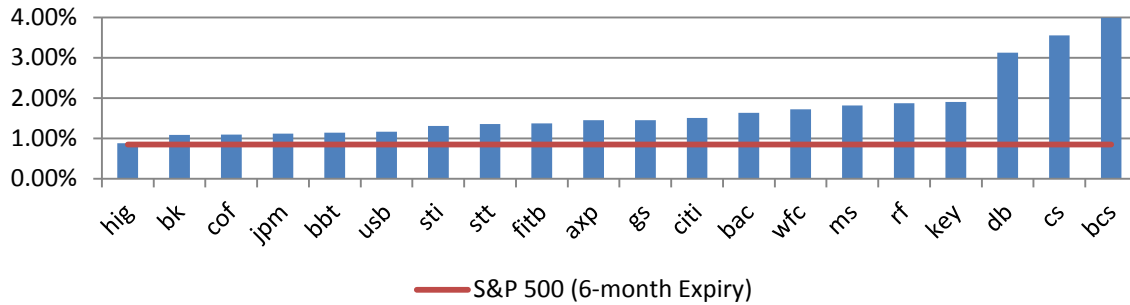
Banks and Insurance Companies

The S&P 500 was lower by -2.2% over the past two weeks with the 6- and 12-month tenors posting an average MPD standard deviation increase of 0.7 percentage points. The 20 banking firms we follow posted a 1.1% return, outperforming the market. The 11 insurance companies we follow roughly tracked the broader market index, returning -2% on average.

Additional details:

- 17 of the 20 banks we follow stated positive earnings per share recently; the largest earnings surprises were posted by BCS (268%), AXP (29%) and MS (28%).
- All 11 of the insurance firms we follow reported 2016 3rd quarter results; AIG posted the most negative earnings surprise at -16%, while CB and MET posted the largest positive earnings surprises at 11.9% and 11.5% respectively.
- Changes in MPD standard deviation, a proxy for fluctuations in investor uncertainty, for the S&P500 have been minor since March 2016; while banks have generally experienced larger movements in the statistic, with FBOs at the high end of the distribution (see chart below).

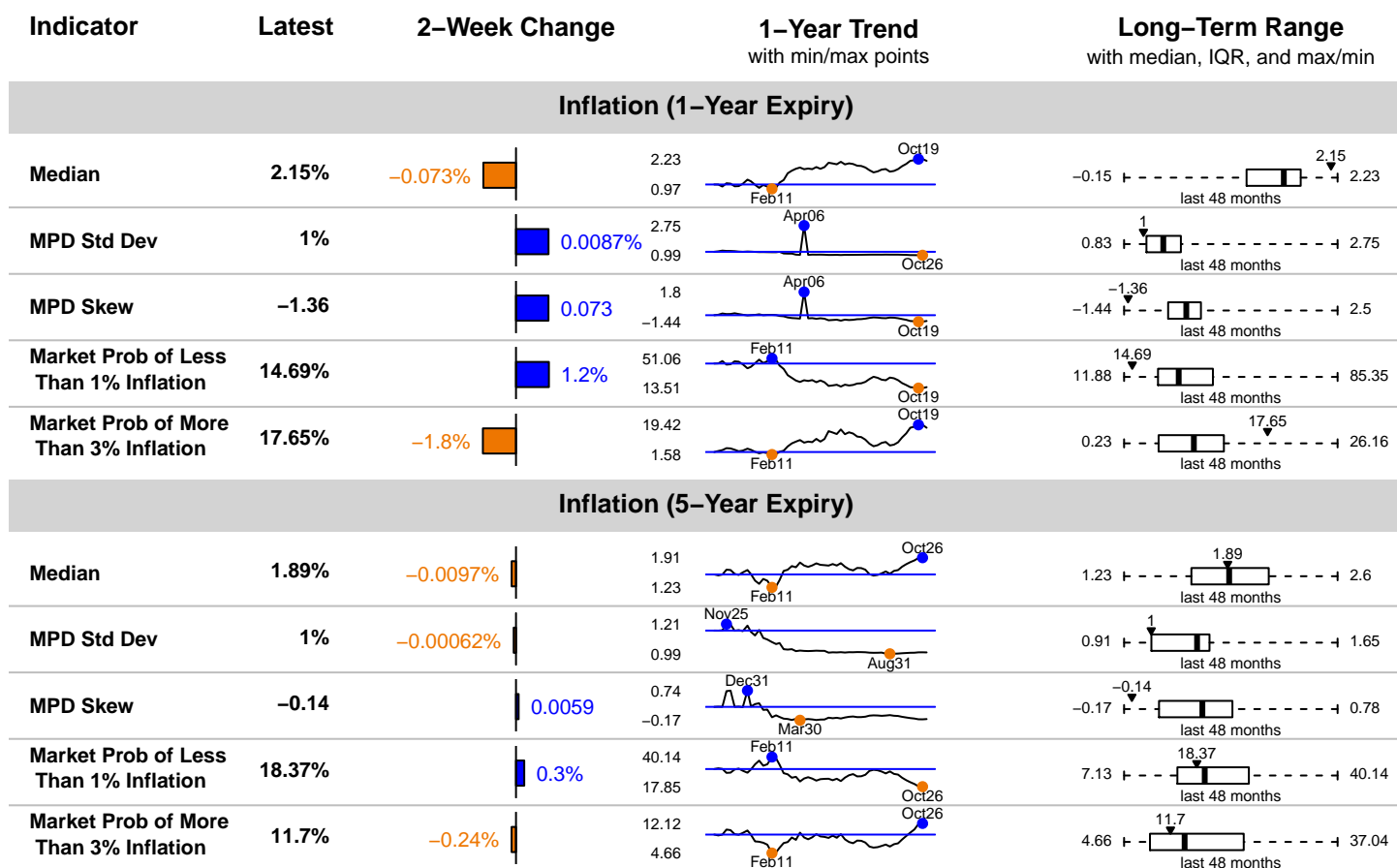
Characteristic Biweekly Fluctuation in MPD Standard Deviation since 3/1/16



Other Markets

- The iShares US Real Estate Index underperformed the markets, posting a -5.6% return. MPD standard deviation increased by 1.1 percentage points.
- The dollar was stronger against the euro. MPD skew for the USD-Euro pair is well above its 75th percentile value for the last 48 months of observations, suggesting that investors are biased towards a comparatively stronger dollar in the future.
- Gold and silver posted increases of 3% and 6.1% over the two week period. MPD standard deviation increased by 1 percentage point for gold. Gold's MPD skew set a new 48 month high suggesting that bias exists towards higher gold prices in the future.
- WTI crude fell sharply by -11% on news that oversupply remains an issue in the market. Its MPD standard deviation increased by 3.6 percentage point, indicating that investor uncertainty has risen for the commodity.
- Agricultural crops posted mixed returns, with corn falling by -1.3% and wheat rising by 1.7%. MPD standard deviation fell for both crops by an average of -0.8 percentage points.
- Agricultural livestock jumped with cattle and hogs posting respective returns of 7.9% and 8.9%. MPD standard deviation fell for both markets by an average of -1.4 percentage points.

Inflation MPD Statistics as of November 02, 2016



Medium-to-Long Bond Price MPD Statistics as of November 02, 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	120.71	-0.27%	122.32 118.22	118.05 - 122.32 last 26 months
MPD Std Dev	1.41%	0.073%	1.96 1.3	1.3 - 2.3 last 26 months
MPD Skew	-0.25	0.038	0.19 -0.45	-0.54 - 0.36 last 26 months
Market Prob of -3% or More Decline	2.45%	0.39%	5.64 1.84	1.84 - 8.74 last 26 months
Volume	1678	-98%	335039 0	1678 - 377550 last 26 months
10 Year Treasury (3-Month Expiry)				
Spot	129.47	-0.61%	133.67 125.4	122.97 - 133.67 last 37 months
MPD Std Dev	2.35%	0.071%	3.28 2.14	2.14 - 3.8 last 37 months
MPD Skew	-0.02	-0.098	0.21 -0.18	-0.75 - 0.31 last 37 months
Market Prob of -5% or More Decline	2.24%	0.64%	5.72 1.54	1.54 - 8.48 last 37 months
Volume	10761	-97%	1143418 0	10761 - 118509 last 37 months

Short Interest Rates MPD Statistics as of November 02, 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	0.99%	0.0011%		
MPD Std Dev	1.05%	0.0038%		
MPD Skew	0.99	-0.092		
Market Prob of Less Than 0.5% LIBOR	24.21%	1.2%		
Market Prob of More Than 1% + Spot	22.48%	3.2%		
3 Month LIBOR (5-Year Expiry)				
Median	1.24%	-0.12%		
MPD Std Dev	1.52%	0.059%		
MPD Skew	1.25	0.44		
Market Prob of Less Than 1% LIBOR	41.45%	2.7%		
Market Prob of More Than 2% + Spot	11.38%	-7.6%		


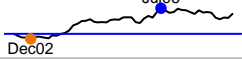



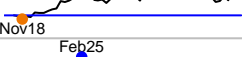












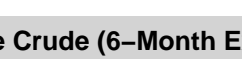



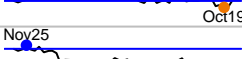






Equity Index MPD Statistics as of November 02, 2016

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	2097.94	-2.2%	2186.16 1851.86 	1353.33 - 2186.16 last 48 months
MPD Std Dev	11.92%	0.93%	17 10.31 	8.87 - 17 last 48 months
MPD Skew	-1.43	0.011	-1.27 -1.74 	-1.74 - -0.86 last 48 months
Market Prob of -20% or More Decline	6.82%	0.85%	12.52 4.74 	3.65 - 12.52 last 48 months
Volume	73323	56%	203231 0 	13428 - 309308 last 48 months
S&P 500 (12-Month Expiry)				
Spot	2097.94	-2.2%	2186.16 1851.86 	1353.33 - 2186.16 last 48 months
MPD Std Dev	18.16%	0.53%	23.52 16.2 	10.5 - 23.52 last 48 months
MPD Skew	-1.38	0.036	-1.33 -1.78 	-1.78 - -0.98 last 48 months
Market Prob of -20% or More Decline	12.82%	0.35%	17.37 9.5 	5.51 - 17.37 last 48 months
Volume	22000	91%	105728 0 	4874 - 123271 last 48 months
iShares US Real Estate Index (3-Month Expiry)				
Spot	73.99	-5.6%	84.23 67.26 	61.19 - 84.23 last 48 months
MPD Std Dev	10.1%	1.1%	11.7 6.52 	4.77 - 11.83 last 48 months
MPD Skew	-0.76	-0.051	-0.47 -1.36 	-2.09 - -0.35 last 48 months
Market Prob of -10% or More Decline	17.13%	3.9%	18.66 7.17 	3.43 - 20.5 last 48 months
Volume	3801	-65%	98246 0 	32 - 141443 last 48 months

Exchange Rate MPD Statistics as of November 02, 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	1.11	0.91%		
MPD Std Dev	4.97%	0.71%		
MPD Skew	0.15	0.43		
Market Prob of -10% or More Decline	2%	0.44%		
Volume	46172	100%		
Dollar-Pound Futures (3-Month Expiry)				
Spot	122.97	0.11%		
MPD Std Dev	5.86%	0.033%		
MPD Skew	-0.12	0.21		
Market Prob of -10% or More Decline	4.84%	-0.36%		
Volume	12918	43%		
Dollar-Yen Futures (3-Month Expiry)				
Spot	96.92	0.031%		
MPD Std Dev	6.51%	1.2%		
MPD Skew	0.41	0.11		
Market Prob of -10% or More Decline	5.07%	2.5%		
Volume	27233	130%		



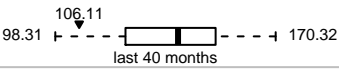

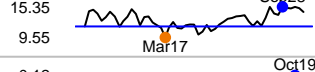
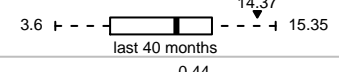

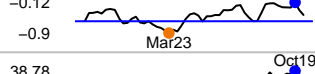
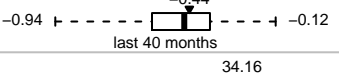

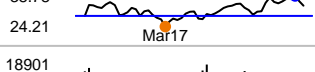
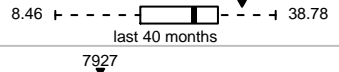



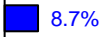
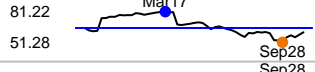
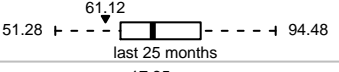

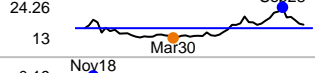
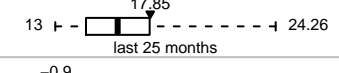

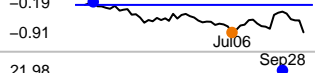
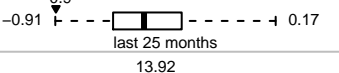


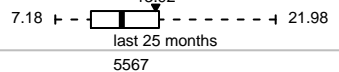


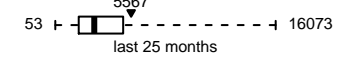
Metal and Energy Commodity MPD Statistics as of November 02, 2016

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	1315.53	 3%	1374.09 1054.83 	1054.83 — 1315.53 — 1731.6 last 48 months
MPD Std Dev	11.62%	 0.99%	14.59 10.41 	9.39 — 11.62 — 17.09 last 48 months
MPD Skew	0.39	 0.2	0.39 -0.4 	-0.71 — 0.39 — 0.39 last 48 months
Market Prob of -20% or More Decline	4.14%	 0.89%	8.69 2.99 	2.39 — 4.14 — 11.76 last 48 months
Volume	10697	 91%	28912 0 	378 — 10697 — 41740 last 48 months
Silver (6-Month Expiry)				
Spot	18.88	 6.1%	20.58 13.82 	13.82 — 18.88 — 34.48 last 48 months
MPD Std Dev	17.83%	 -0.25%	21.99 17.33 	13.16 — 17.83 — 24.59 last 48 months
MPD Skew	0.33	 0.2	0.48 -0.4 	-0.63 — 0.33 — 0.48 last 48 months
Market Prob of -20% or More Decline	13.74%	 0.16%	19.11 11.99 	6.54 — 13.74 — 20.85 last 48 months
Volume	203	 -79%	10785 0 	37 — 203 — 20231 last 48 months
West Texas Intermediate Crude (6-Month Expiry)				
Spot	47.67	 -11%	53.56 32.5 	32.5 — 47.67 — 102.41 last 48 months
MPD Std Dev	27.41%	 3.6%	39.37 23.83 	10.25 — 27.41 — 39.37 last 48 months
MPD Skew	-0.49	 0.051	-0.24 -0.6 	-0.81 — -0.49 — -0.1 last 48 months
Market Prob of -20% or More Decline	23.05%	 2.9%	31.89 19.9 	3.65 — 23.05 — 31.89 last 48 months
Volume	8024	 310%	121098 0 	165 — 8024 — 132335 last 48 months

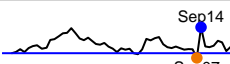


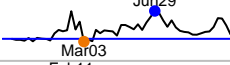
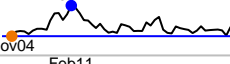

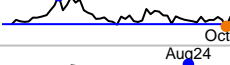

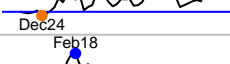
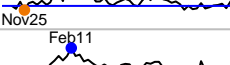
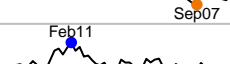
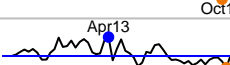
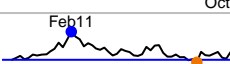
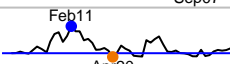


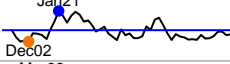
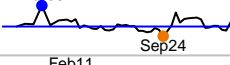
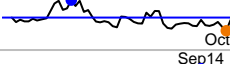
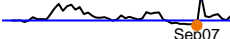
Agricultural Crop Commodity MPD Statistics as of November 02, 2016

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	362.88	-1.3%	439.62 315.44	362.88 315.44 - [] - 758 last 48 months
MPD Std Dev	14.86%	-0.81%	22.76 12.41	14.86 12.41 - [] - 22.76 last 48 months
MPD Skew	0.14	-0.014	0.7 0.12	0.14 -0.19 - [] - 0.7 last 48 months
Market Prob of -20% or More Decline	9.85%	-0.55%	21.96 4.96	9.85 4.96 - [] - 21.96 last 48 months
Volume	4050	-93%	315800 0	4050 4050 - [] - 377209 last 48 months
Soybeans (6-Month Expiry)				
Spot	999.84	0.32%	1159.12 864.89	999.84 864.89 - [] - 1456.5 last 48 months
MPD Std Dev	12.41%	-0.27%	23.86 10.21	12.41 10.21 - [] - 23.86 last 48 months
MPD Skew	0.13	-0.02	0.89 -0.16	0.13 -0.5 - [] - 0.89 last 48 months
Market Prob of -20% or More Decline	5.82%	-0.09%	17.39 2.96	5.82 2.96 - [] - 17.39 last 48 months
Volume	3810	-80%	80482 0	3810 294 - [] - 240059 last 48 months
Wheat (6-Month Expiry)				
Spot	448.78	1.7%	548.3 388.16	448.78 388.16 - [] - 893 last 48 months
MPD Std Dev	15.36%	-0.79%	21.98 15.14	15.36 12.95 - [] - 22.31 last 48 months
MPD Skew	0.57	0.054	0.74 0.25	0.57 0.01 - [] - 0.74 last 48 months
Market Prob of -20% or More Decline	9.8%	-0.98%	20.35 9.03	9.8 5.67 - [] - 20.71 last 48 months
Volume	222	-98%	83594 0	222 179 - [] - 83594 last 48 months

Agricultural Livestock Commodity MPD Statistics as of November 02, 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	106.11	 7.9%		
MPD Std Dev	14.37%	 -0.96%		
MPD Skew	-0.44	 -0.32		
Market Prob of -5% or More Decline	34.16%	 -4.6%		
Volume	7927	 -33%		
Hogs (6-Month Expiry)				
Spot	61.12	 8.7%		
MPD Std Dev	17.85%	 -1.7%		
MPD Skew	-0.9	 -0.28		
Market Prob of -20% or More Decline	13.92%	 -3%		
Volume	5567	 100%		

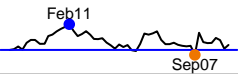
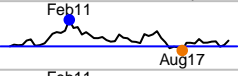

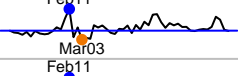
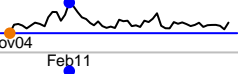
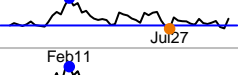

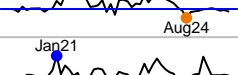
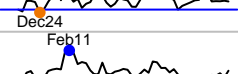
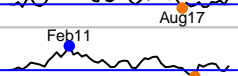

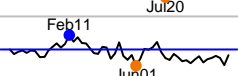
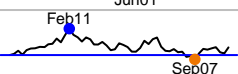
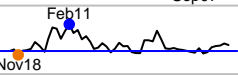


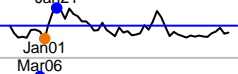
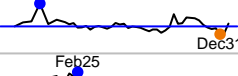

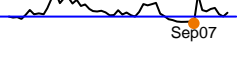

Bank MPD Statistics as of November 02, 2016

Indicator	Latest	2-Week Change	1-Year Trend		Long-Term Range
with min/max points					
with median, IQR, and max/min					
MPD Standard Deviation (3-Month Expiry)					
American Express	10.93%	-1.2%	15.87 8.2		7.82 - 10.93 - 15.87 last 48 months
Bank of America	13.97%	1.7%	21.78 11.39		9.68 - 13.97 - 21.78 last 48 months
BB&T	10.26%	0.75%	16.69 9.09		7.29 - 10.26 - 16.69 last 48 months
Barclays	18.23%	-8.7%	31.05 14.24		10.93 - 18.23 - 31.05 last 48 months
Bank of NY Mellon	12.23%	0.82%	17.63 9.96		7.13 - 12.23 - 17.63 last 48 months
Citigroup	13.74%	2%	20.73 11.38		8.52 - 13.74 - 20.73 last 48 months
Capital One	13.47%	0.84%	19.11 10.88		7.72 - 13.47 - 19.11 last 48 months
Credit Suisse	15.99%	-2%	31.32 15.2		9.84 - 15.99 - 31.32 last 48 months
Deutsche Bank	25.94%	0.17%	30.45 15.64		11.33 - 25.94 - 30.45 last 42 months
Fifth Third	13.88%	0.61%	19.87 11.54		8.21 - 13.88 - 19.87 last 48 months
Goldman Sachs	12.04%	1.5%	18.62 8.8		8.23 - 12.04 - 18.62 last 48 months
JP Morgan	10.88%	1.9%	16.5 9.02		7.41 - 10.88 - 16.5 last 48 months
Keycorp	14.54%	1.3%	18.8 11.79		8.98 - 14.54 - 18.8 last 48 months
Morgan Stanley	14.82%	2.1%	22.74 10.87		8.97 - 14.82 - 22.74 last 48 months
PNC Financial	11.1%	0.41%	15 9.59		7.45 - 11.1 - 15 last 48 months
Regions Financial	14.59%	-3.1%	21.74 11.55		10.09 - 14.59 - 21.74 last 47 months
SunTrust	12.7%	0.81%	19.05 10.8		7.82 - 12.7 - 19.05 last 48 months
State Street	13.38%	-0.63%	18.49 11.83		8.81 - 13.38 - 18.49 last 48 months
UBS	13.36%		19.02 8.7		8.7 - 13.36 - 19.02 last 26 months
US Bancorp	10.06%	1.4%	14.43 7.74		6.58 - 10.06 - 14.54 last 48 months
Wells Fargo	10.78%	0.78%	17.68 7.86		7.16 - 10.78 - 17.68 last 48 months

Bank MPD Statistics as of November 02, 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)				
American Express	-0.66	-0.066		
Bank of America	-0.75	0.05		
BB&T	-1.26	0.12		
Barclays	-0.68	-0.2		
Bank of NY Mellon	-1.01	-0.35		
Citigroup	-0.93	-0.16		
Capital One	-0.91	-0.14		
Credit Suisse	-0.1	0.21		
Deutsche Bank	-1.12	0.13		
Fifth Third	-0.83	-0.074		
Goldman Sachs	-0.74	0.073		
JP Morgan	-1.14	-0.2		
Keycorp	-1.13	-0.46		
Morgan Stanley	-0.69	0.38		
PNC Financial	-0.91	0.27		
Regions Financial	-0.49	0.76		
SunTrust	-0.97	-0.16		
State Street	-1.01	-0.3		
UBS	-0.04			
US Bancorp	-0.94	-0.18		
Wells Fargo	-0.53	0.25		

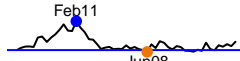


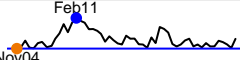

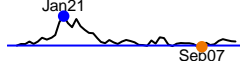
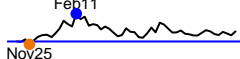
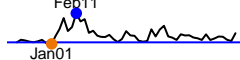


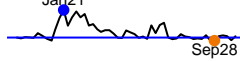
Bank MPD Statistics as of November 02, 2016

Indicator	Latest	2-Week Change	1-Year Trend with min/max points	Long-Term Range with median, IQR, and max/min
Market Probability of -20% or More Decline (3-Month Expiry)				
American Express	4.6%	-1.4%	10.35 1.85 	1.53 - [] 10.35 4.6 last 48 months
Bank of America	8.93%	2.6%	17.74 4.75 	3.13 - [] 17.74 8.93 last 48 months
BB&T	3.59%	-0.27%	12.22 3.18 	1.68 - [] 12.22 3.59 last 48 months
Barclays	13.53%	-7.9%	28.98 7.47 	2.33 - [] 28.98 13.53 last 48 months
Bank of NY Mellon	6.95%	1.3%	15.17 2.61 	1.12 - [] 15.17 6.95 last 48 months
Citigroup	8.75%	3.1%	16.5 4.99 	1.93 - [] 16.5 8.75 last 48 months
Capital One	8.97%	2.1%	15.15 4.94 	1.64 - [] 15.15 8.97 last 48 months
Credit Suisse	11.25%	-0.8%	34.48 5.13 	2.87 - [] 34.48 11.25 last 48 months
Deutsche Bank	15.66%	-0.072%	23.37 11.34 	4.99 - [] 23.37 15.66 last 42 months
Fifth Third	9.33%	0.96%	17.06 5.41 	0.99 - [] 17.06 9.33 last 48 months
Goldman Sachs	5.92%	1.4%	13.1 2.2 	1.79 - [] 13.1 5.92 last 48 months
JP Morgan	5.35%	2.2%	11.65 3.02 	1.31 - [] 11.65 5.35 last 48 months
Keycorp	9.31%	0.98%	16.35 5.6 	1.92 - [] 16.35 9.31 last 48 months
Morgan Stanley	9.26%	2.2%	18.01 3.71 	2.57 - [] 18.01 9.26 last 48 months
PNC Financial	5.74%	0.14%	10.55 3.45 	1.43 - [] 10.55 5.74 last 48 months
Regions Financial	10.65%	-2.3%	20.23 4.72 	3.34 - [] 20.23 10.65 last 47 months
SunTrust	6.99%	0.8%	15.8 4.46 	1.73 - [] 15.8 6.99 last 48 months
State Street	7.94%	-1.5%	15.74 6.03 	2.26 - [] 15.74 7.94 last 48 months
UBS	7.28%		18.15 1.53 	1.53 - [] 18.15 7.28 last 26 months
US Bancorp	4.59%	2%	9.69 1.78 	0.74 - [] 9.69 4.59 last 48 months
Wells Fargo	4.47%	0.4%	9.93 1.58 	1.3 - [] 9.93 4.47 last 48 months

Bank MPD Statistics as of November 02, 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)				
American Express	3991	-26%	15162 0	3991 532 - 32713 last 48 months
Bank of America	13767	-92%	187673 0	13767 7419 - 195347 last 48 months
BB&T	827	-47%	5986 0	827 126 - 6490 last 48 months
Barclays	256	-77%	18909 0	256 8 - 18909 last 48 months
Bank of NY Mellon	1292	100%	33235 0	1292 44 - 33235 last 48 months
Citigroup	4754	-89%	90561 0	4754 1810 - 140439 last 48 months
Capital One	1564	21%	9096 0	1564 136 - 16299 last 48 months
Credit Suisse	1059	79%	31577 0	1059 0 - 31577 last 48 months
Deutsche Bank	11609	-48%	99132 0	11609 76 - 99132 last 42 months
Fifth Third	1883	330%	6123 0	1883 24 - 19127 last 48 months
Goldman Sachs	10266	63%	28155 0	10266 612 - 28155 last 48 months
JP Morgan	1100	-96%	55464 0	1100 951 - 132116 last 48 months
Keycorp	1848	37%	5129 0	1848 44 - 27404 last 48 months
Morgan Stanley	13981	15%	25172 0	13981 327 - 69872 last 48 months
PNC Financial	522	78%	4932 0	522 42 - 4932 last 48 months
Regions Financial	1366	190%	4754 0	1366 20 - 47940 last 47 months
SunTrust	2425	-64%	11023 0	2425 61 - 13788 last 48 months
State Street	548	120%	2700 0	548 19 - 5339 last 48 months
UBS	124		2034 0	124 23 - 2766 last 26 months
US Bancorp	2610	-22%	9418 0	2610 52 - 29142 last 48 months
Wells Fargo	36305	-52%	80746 0	36305 950 - 121351 last 48 months

Insurance Company MPD Statistics as of November 02, 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	9.97%	<div><div></div></div> 0.42%	13.6 8.18		7.11 - <div><div></div></div> 9.97 - 14.27 last 48 months
AIG	12.07%	<div><div></div></div> 1.4%	18.95 8.3		8.3 - <div><div></div></div> 12.07 - 18.95 last 48 months
Allstate	9.85%	<div><div></div></div> 0.98%	13.18 7		5.83 - <div><div></div></div> 9.85 - 13.18 last 48 months
Ameriprise	13.98%	<div><div></div></div> 1.3%	18.71 11.78		8.98 - <div><div></div></div> 13.98 - 18.71 last 48 months
Chubb	9.76%	<div><div></div></div> 0.7%	12.49 6.13		5.96 - <div><div></div></div> 9.76 - 24.08 last 48 months
Hartford Financial	11.81%	<div><div></div></div> -0.34%	18.69 10.39		8.35 - <div><div></div></div> 11.81 - 18.69 last 48 months
Lincoln National	16.12%	<div><div></div></div> 0.77%	22.48 11.47		8.98 - <div><div></div></div> 16.12 - 22.48 last 48 months
Met Life	14.36%	<div><div></div></div> 1.6%	19.33 11.72		9.4 - <div><div></div></div> 14.36 - 19.33 last 48 months
Principal Financial	12.57%	<div><div></div></div> -1.5%	18.94 10.92		8.02 - <div><div></div></div> 12.57 - 23.83 last 48 months
Progressive	13.07%	<div><div></div></div> 3.2%	13.75 8.06		5.79 - <div><div></div></div> 13.07 - 14.58 last 47 months
Prudential	13.26%	<div><div></div></div> -0.02%	18.54 12.39		10.09 - <div><div></div></div> 13.26 - 18.54 last 48 months





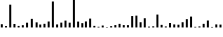

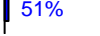
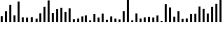




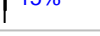
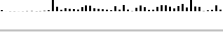











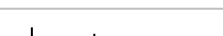







Insurance Company MPD Statistics as of November 02, 2016

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	-1.16	-0.3		
AIG	-0.77	-0.29		
Allstate	-1.08	-0.11		
Ameriprise	-0.56	0.12		
Chubb	-1.08	0.24		
Hartford Financial	-0.88	-0.32		
Lincoln National	-0.67	0.057		
Met Life	-0.92	-0.2		
Principal Financial	-0.78	1.9		
Progressive	0.38	1.7		
Prudential	-1.06	-0.2		

Insurance Company MPD Statistics as of November 02, 2016

Indicator	Latest	2-Week Change	1-Year Trend with min/max points	Long-Term Range with median, IQR, and max/min
Market Probability of -20% or More Decline (3-Month Expiry)				
Aflac	4.29%	0.11%		
AIG	5.82%	1.5%		
Allstate	4.21%	1%		
Ameriprise	10.25%	3.2%		
Chubb	4.47%	1%		
Hartford Financial	6.44%	0.46%		
Lincoln National	11.76%	1.2%		
Met Life	10.47%	3.5%		
Principal Financial	6.65%	0.22%		
Progressive	7.06%	2.3%		
Prudential	8%	0.4%		

Insurance Company MPD Statistics as of November 02, 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	1256	 370%	11177 0 	1256 68  22718 last 48 months
AIG	4138	 440%	44233 0 	4138 110  103998 last 48 months
Allstate	1852	 51%	2467 0 	1852 63  5933 last 48 months
Ameriprise	94	 -49%	1035 0 	94 5  1114 last 48 months
Chubb	315	 15%	6138 0 	315 3  9027 last 48 months
Hartford Financial	1408	 -6.1%	2769 0 	1408 16  14934 last 48 months
Lincoln National	836	 85%	4145 0 	836 51  8403 last 48 months
Met Life	5908	 -53%	22250 0 	5908 319  74100 last 48 months
Principal Financial	493	 230%	855 0 	493 2  2956 last 48 months
Progressive	7	 -98%	1798 0 	7 0  3415 last 47 months
Prudential	364	 -94%	14512 0 	364 222  17185 last 48 months