

Asset Services Sigma- Agent Performance Report

March 2019 Data



Executive Summary

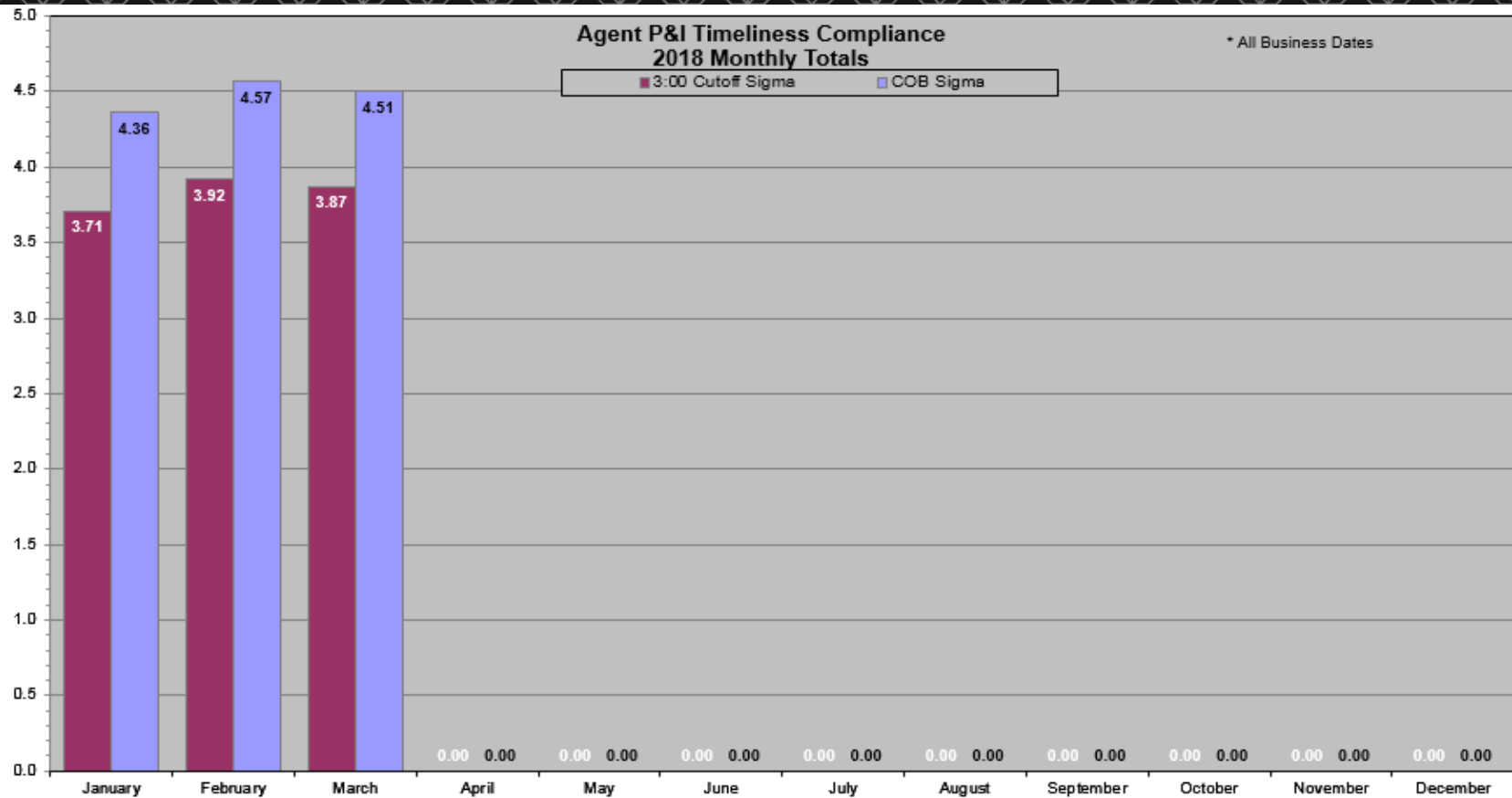
This report highlights the March 2019 performance of the top agents vs. industry targets. This report focuses on the following metrics:

Principal and Interest payment timeliness compliance - percentage of funds received from agents at cut-off (3:00pm ET) and at close of business (6:00pm ET), relative to the total dollars paid for the month. The Agent sigma performance for March 2019 was 3.87σ (99.12%). This month's performance is above the target of 3.67σ (98.50%).

Principal and Interest allocations on payable date - percentage of allocated dollars and CUSIPS, relative to the total expected dollars and CUSIPs allocated. The Agent sigma performance for March 2019 was 4.16σ (99.61%). This month's performance is above the target of 3.83σ (99.00%).

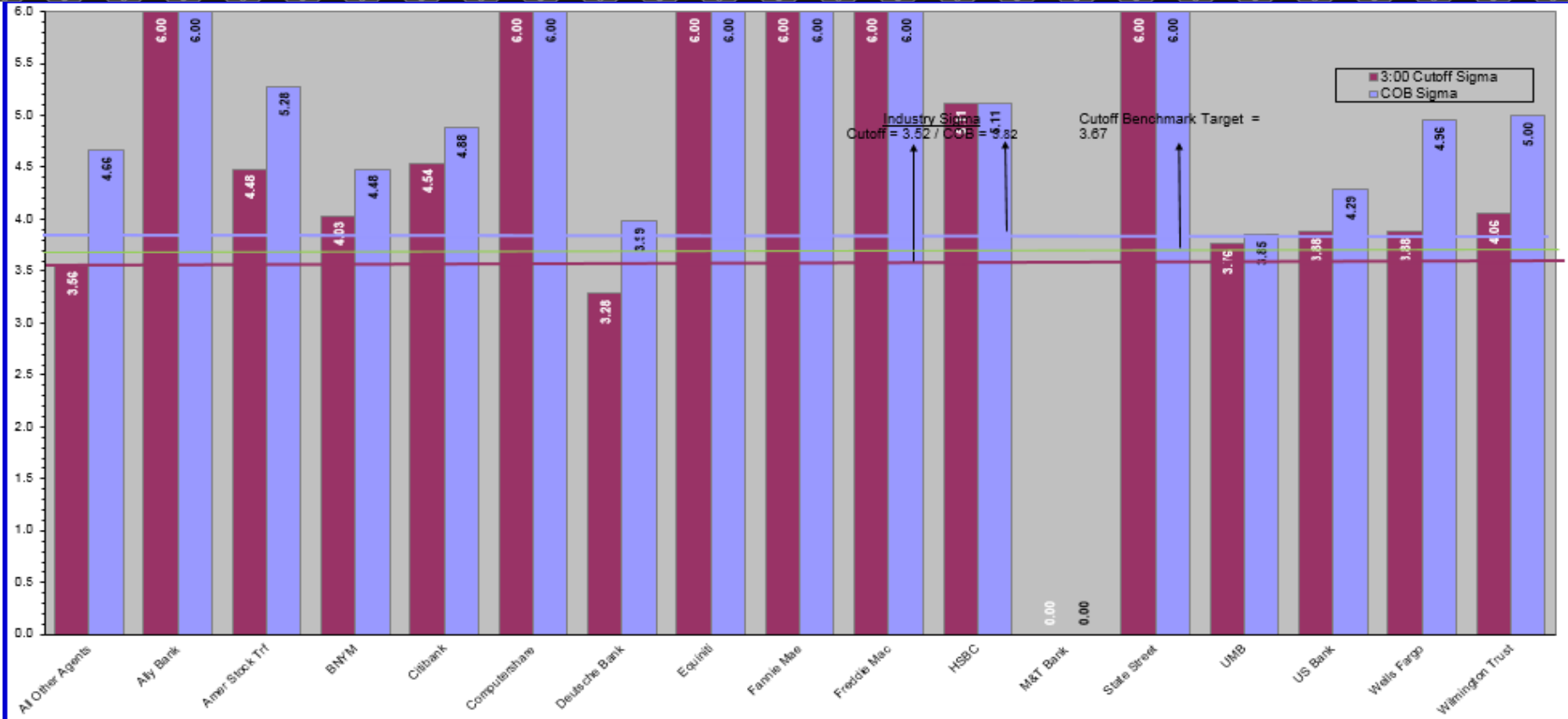
Please visit DTCC's web-site <http://dtcc.com/asset-services/asset-services-performance-metrics.aspx> for more detailed metric definitions and agent trend charts.

P&I Allocations Monthly Trend



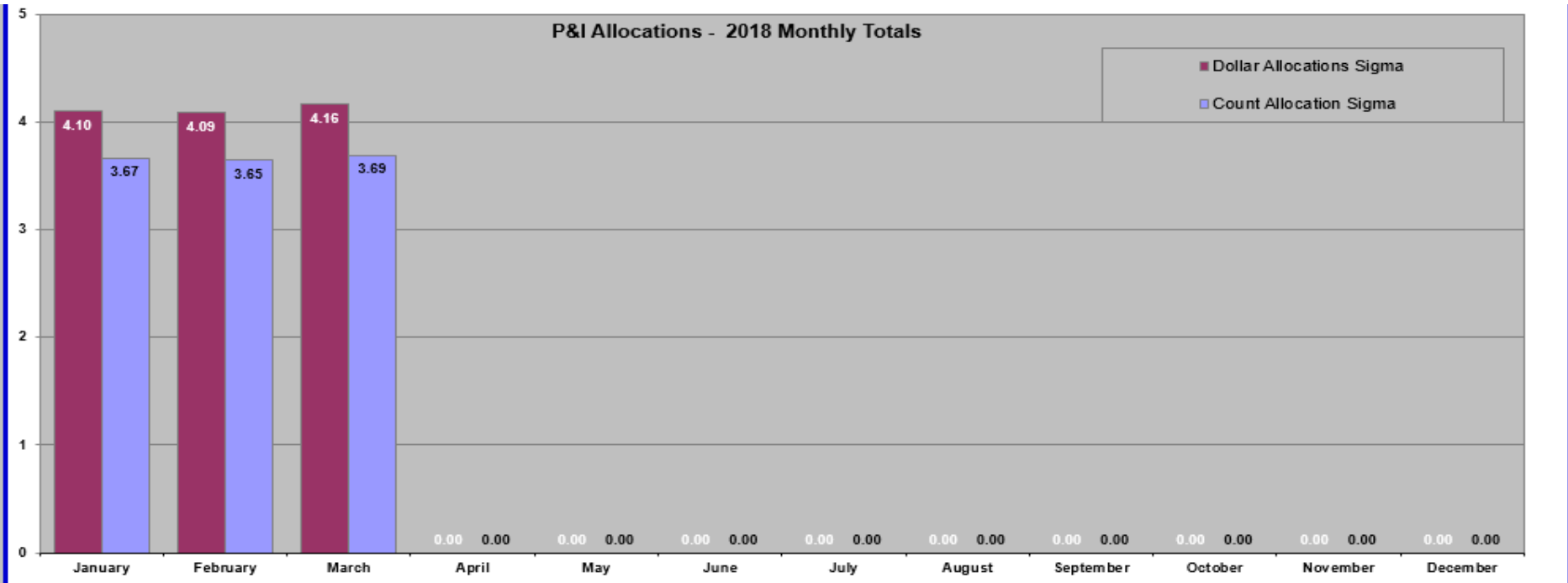
	January	February	March	April	Mag	June	July	August	September	October	November	December	YTD
Percent by 3:00 Cut-off	98.65%	99.23%	99.12%										99.00%
Cutoff Sigma	3.71	3.92	3.87										3.83
Percent by COB	99.79%	99.89%	99.87%										99.85%
COB Sigma	4.36	4.57	4.51										4.47

P&I Timeliness Compliance – Agent Performance



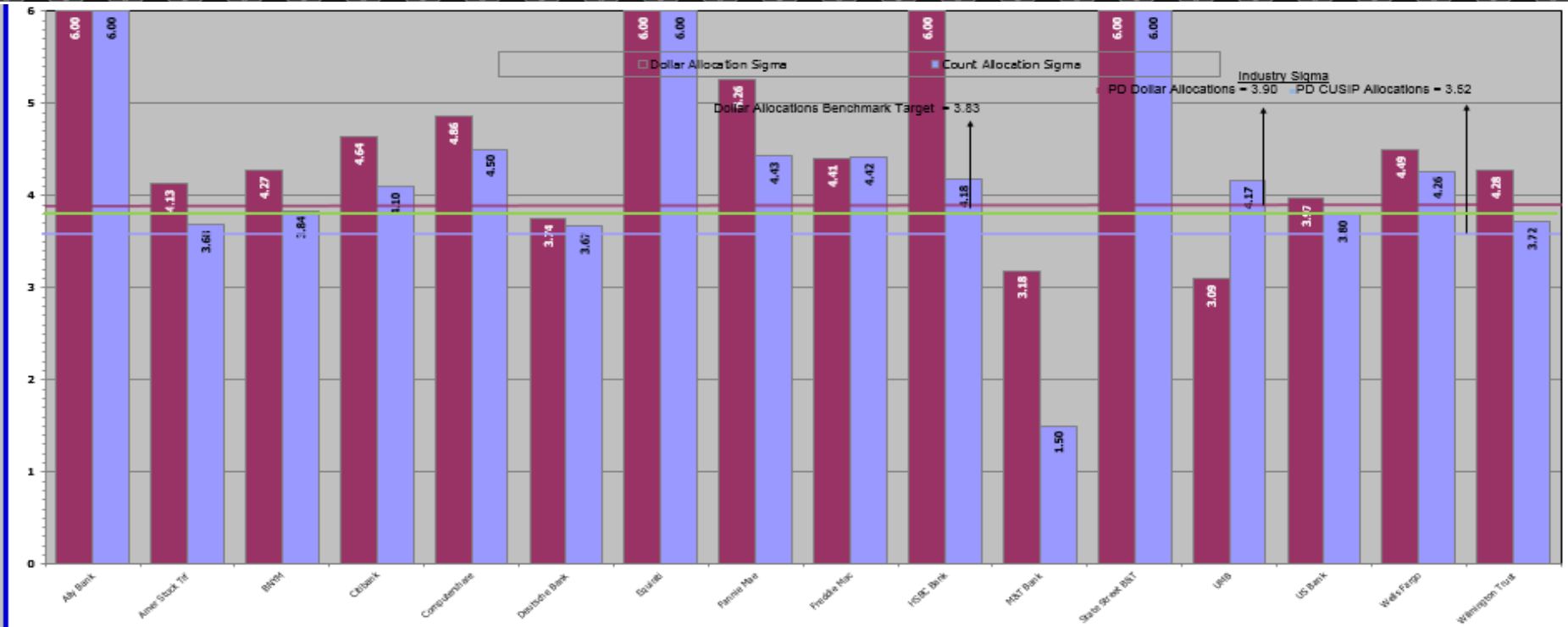
	All Other Agents	Ally Bank	AmeriStock Trf	BNYM	Citibank	Computershare	Deutsche Bank	Equiniti	Fannie Mae	Freddie Mac	HSBC	M&T Bank	State Street	US Bank	Wells Fargo	Wilmington Trust
% of Total Allocations	15.15%	0.18%	2.93%	25.71%	4.54%	15.38%	6.32%	3.61%	0.09%	0.82%	0.46%	0.00%	1.92%	12.87%	7.73%	1.96%
Percent by 3:00 Cutoff	98.01%	100.00%	99.86%	99.44%	99.88%	100.00%	96.28%	100.00%	100.00%	100.00%	99.98%	0.00%	100.00%	99.14%	99.14%	99.48%
Cutoff Sigma	3.56	6.00	4.48	4.03	4.54	6.00	3.28	6.00	6.00	6.00	5.11	#NUM!	6.00	3.88	3.88	4.06
Variance from Industry Cutoff	-0.32	2.13	0.61	0.16	0.67	2.13	-0.59	2.13	2.13	2.13	1	#NUM!	2.13	0.01	0.01	0.19
Percent by COB	99.92%	100.00%	99.99%	99.86%	99.96%	100.00%	99.35%	100.00%	100.00%	100.00%	99.98%	0.00%	100.00%	99.73%	99.97%	99.98%
COB Sigma	4.66	6.00	5.28	4.48	4.88	6.00	3.99	6.00	6.00	6.00	5.11	#NUM!	6.00	4.29	4.96	5.00

P&I Allocations Monthly Trend



	January	February	March	April	May	June	July	August	September	October	November	December	YTD
Total Expected Allocations (Billions)	\$273.662	\$258.606	\$333.572										\$865.841
Allocation \$ Percent	99.54%	99.52%	99.61%										99.56%
Allocation \$ Sigma	4.10	4.09	4.16										4.12
Unallocated Impact (Billions \$)	\$1.272	\$1.253	\$1.296										\$3.821
Total CUSIP Expected	273,962	367,084	300,356										941,402
CUSIP Allocations %	98.49%	98.41%	98.58%										98.49%
CUSIP Allocations Sigma	3.67	3.65	3.69										3.67
Unallocated Impact (Count)	4,131	5,853	4,255										14,239

P&I Allocations – Agent Performance



AGENT	All Other Agents	All Bank	Amer Stock Trf	BNYM	Citibank	Computer share	Deutsche Bank	Equiniti	Fannie Mae	Freddie Mac	HSBC Bank	M&T Bank	State Street B&T	US Bank	Wells Fargo	Wilmington Trust
Total Expected % of Industry	\$53.755	\$0.600	\$9.852	\$84.844	\$15.198	\$51.990	\$21.146	\$12.208	\$0.307	\$2.752	\$0.967	\$0.003	\$6.476	\$41.465	\$25.146	\$6.504
	16.12%	0.18%	2.95%	25.43%	4.56%	15.59%	6.34%	3.66%	0.09%	0.82%	0.29%	0.00%	1.94%	12.43%	7.54%	1.95%
Allocation \$ Percent	99.32%	100.00%	99.57%	99.72%	99.92%	99.96%	98.76%	100.00%	99.99%	99.82%	100.00%	95.39%	100.00%	99.32%	99.86%	99.73%
Allocation \$ Sigma	3.97	6.00	4.13	4.27	4.64	4.86	3.74	6.00	5.26	4.41	6.00	3.18	6.00	3.97	4.49	4.28
Variance from Industry \$ Sigma	-0.19	1.84	-0.04	0.11	0.48	0.70	-0.42	1.84	1.09	0.24	1.84	-0.98	1.84	-0.19	0.33	0.12
CUSIP Allocations %	97.25%	100.00%	98.55%	99.03%	99.54%	99.87%	98.49%	100.00%	99.83%	99.82%	99.63%	50.00%	100.00%	98.92%	99.72%	98.67%
CUSIP Allocations Sigma	3.42	6.00	3.68	3.84	4.10	4.50	3.67	6.00	4.43	4.42	4.18	1.50	6.00	3.80	4.26	3.72
Variance from Industry CUSIP Sigma	-0.27	2.31	-0.01	0.15	0.41	0.81	-0.03	2.31	0.74	0.73	0.49	-2.19	2.31	0.11	0.57	0.02