

Asset Services Sigma- Agent Performance Report

May 2019 Data



Executive Summary

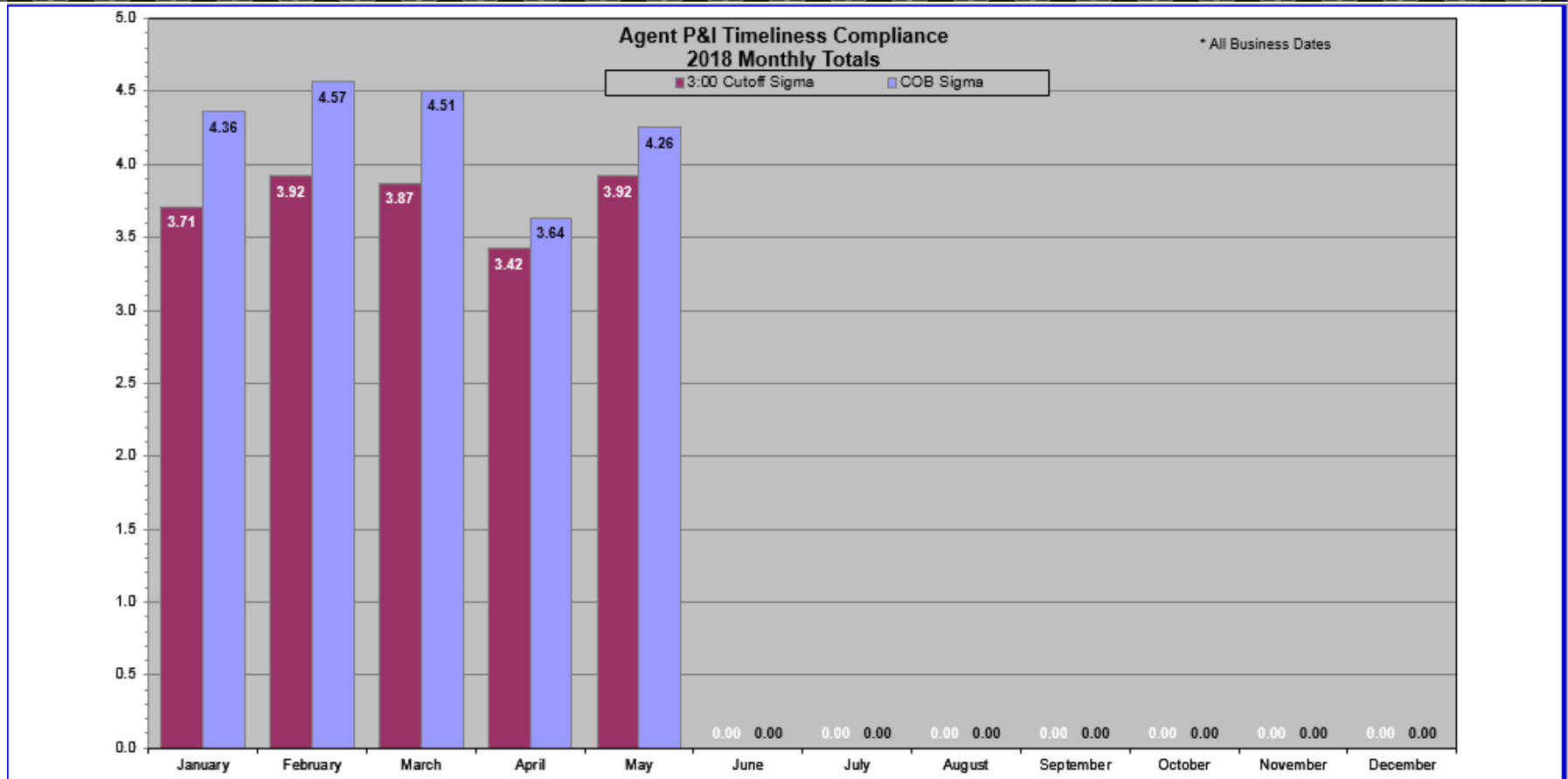
This report highlights the May 2019 performance of the top agents vs. industry targets. This report focuses on the following metrics:

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 May 2019 was 3.92σ 99.22%. 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 April 2019 was (Found in Column I of 4.16σ 99.60%. This month's performance is above the target of 3.83σ (99.00%).

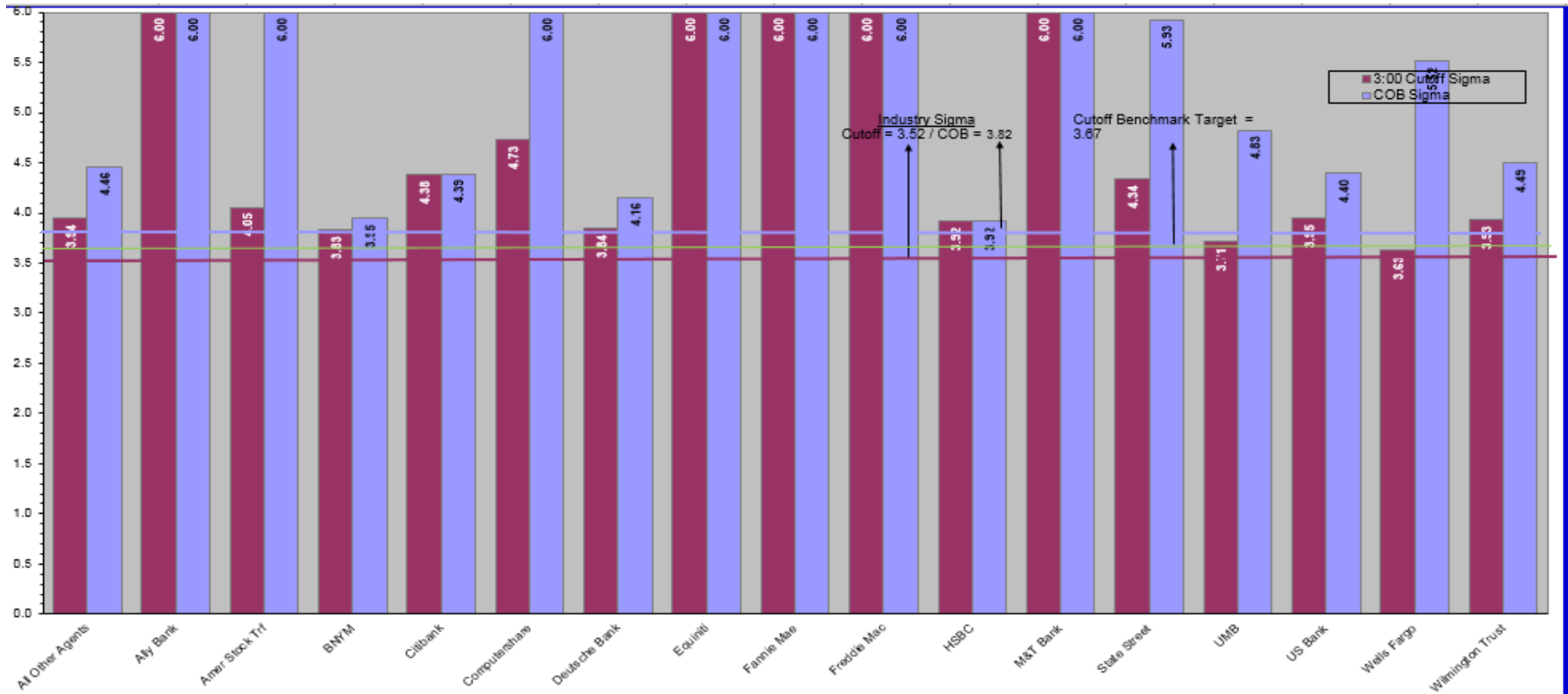
Please visit DTCC's web-site <http://dtcc.com/asset-services/asset-services-performance-metrics.aspx> for more detailed metric definitions and agent trend charts.

P&I Allocations Monthly Trend



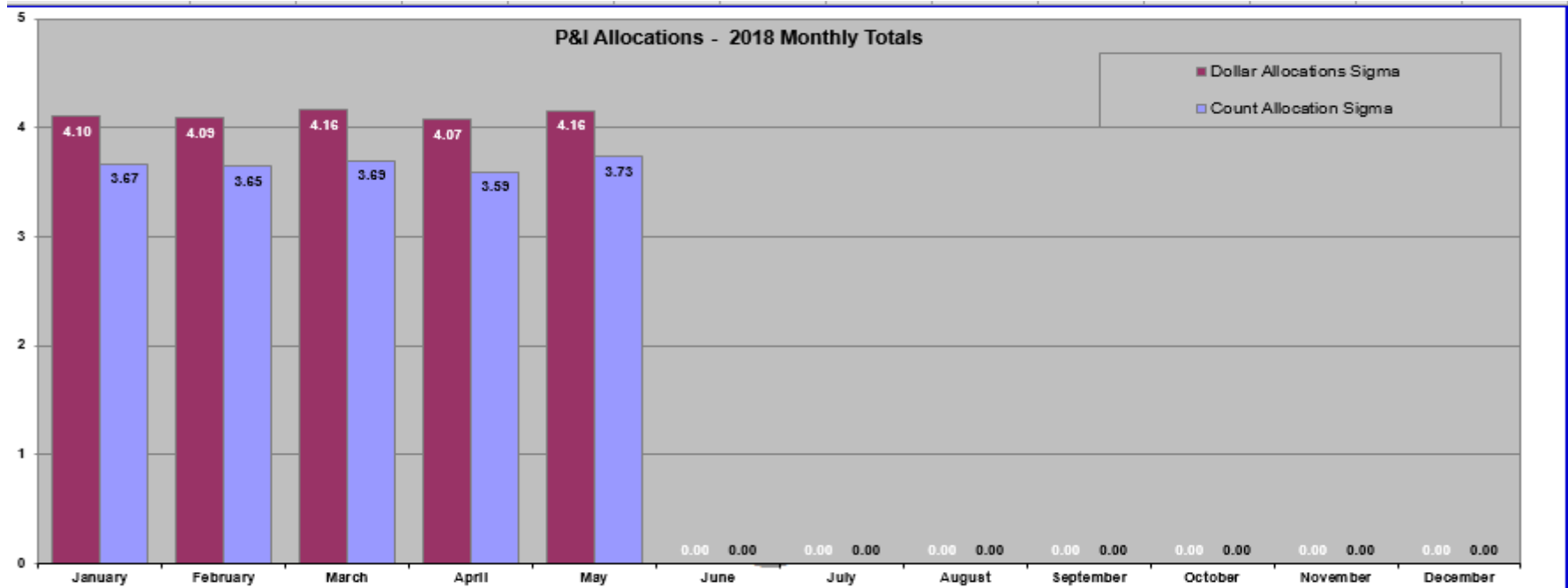
	January	February	March	April	May	June	July	August	September	October	November	December	YTD
Percent by 3:00 Cut-off	98.65%	99.23%	99.12%	97.27%	99.22%								98.71%
Cutoff Sigma	3.71	3.92	3.87	3.42	3.92								3.73
Percent by COB	99.79%	99.89%	99.87%	98.37%	99.71%								99.53%
COB Sigma	4.36	4.57	4.51	3.64	4.26								4.10

P&I Timeliness Compliance – Agent Performance



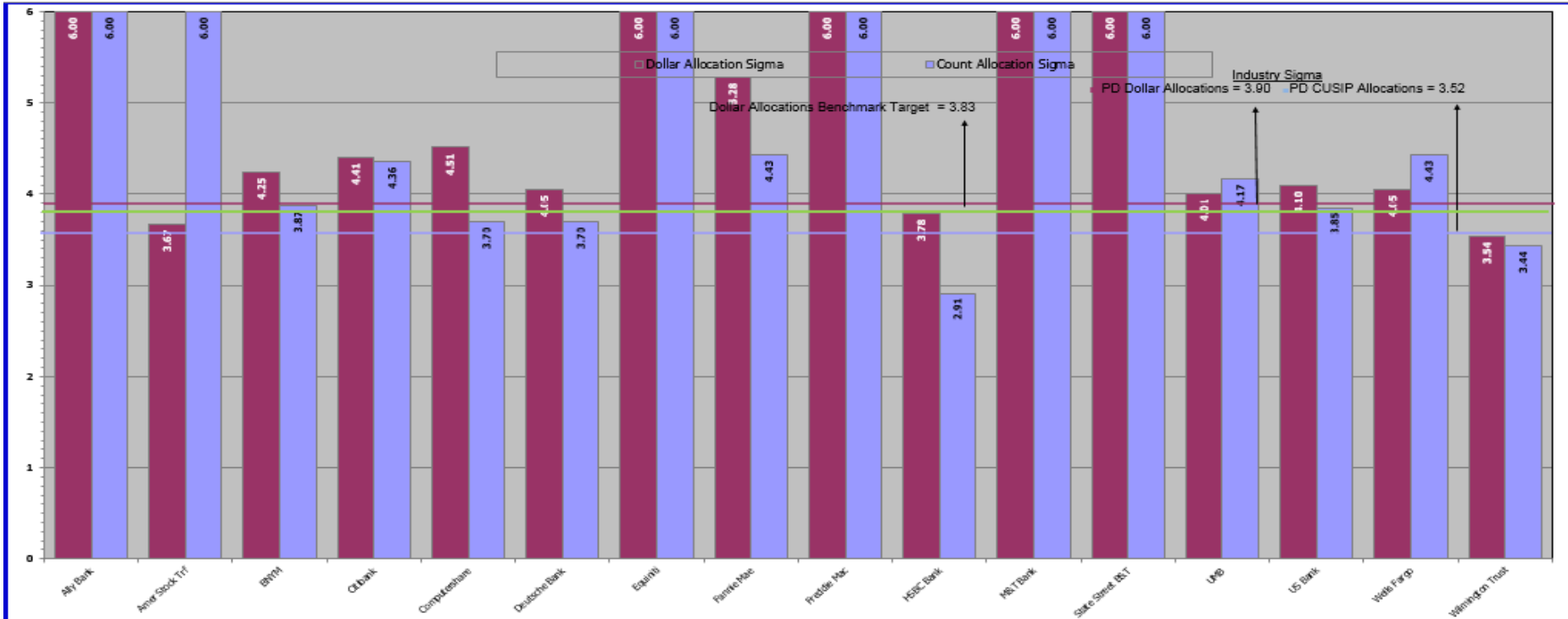
	All Other Agents	Ally Bank	Amer Stock Trf	BNYM	Citibank	Computershare	Deutsche Bank	Equiniti	Fannie Mae	Freddie Mac	HSBC	M&T Bank	State Street	US Bank	Wells Fargo	Wilmington Trust
% of Total Allocations	15.57%	0.14%	2.65%	27.22%	6.34%	9.55%	6.56%	2.96%	0.10%	1.07%	0.48%	0.00%	0.59%	13.35%	10.50%	2.72%
Percent by 3:00 Cutoff	99.27%	100.00%	99.47%	99.01%	99.80%	99.94%	99.04%	100.00%	100.00%	100.00%	99.22%	100.00%	99.77%	99.28%	98.33%	99.25%
Cutoff Sigma	3.94	6.00	4.05	3.83	4.38	4.73	3.84	6.00	6.00	6.00	3.92	6.00	4.34	3.95	3.63	3.93
Variance from Industry Cutoff Sigma	0.02	2.08	0.14	-0.09	0.46	0.81	-0.08	2.08	2.08	2.08	0.00	2.08	0.42	0.03	-0.29	0.02
Percent by COB	99.85%	100.00%	100.00%	99.28%	99.81%	100.00%	99.60%	100.00%	100.00%	100.00%	99.22%	100.00%	100.00%	99.81%	100.00%	99.86%
COB Sigma	4.46	6.00	6.00	3.95	4.39	6.00	4.16	6.00	6.00	6.00	3.92	6.00	5.93	4.40	5.52	4.49

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	\$281.044	\$304.396								\$1451.281
Allocation % Percent	99.54%	99.52%	99.61%	99.49%	99.60%								99.56%
Allocation \$ Sigma	4.10	4.09	4.16	4.07	4.16								4.12
Unallocated Impact (Billions \$)	\$1.272	\$1.253	\$1.296	\$1.423	\$1.204								\$6.448
Total CUSIP Expected	273,962	367,084	300,356	268,925	270,102								1,480,429
CUSIP Allocations %	98.49%	98.41%	98.58%	98.18%	98.72%								98.48%
CUSIP Allocations Sigma	3.67	3.65	3.69	3.59	3.73								3.66
Unallocated Impact (Count)	4,131	5,853	4,255	4,885	3,450								22,574

P&I Allocations – Agent Performance



AGENT	All Other Agents	Allg 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	\$48.525 15.93%	\$0.434 0.14%	\$8.357 2.74%	\$83.063 27.28%	\$19.354 6.36%	\$29.288 9.62%	\$19.958 6.55%	\$9.136 3.00%	\$0.297 0.10%	\$3.308 1.09%	\$1.140 0.37%	\$0.007 0.00%	\$1.463 0.48%	\$39.886 13.10%	\$31.690 10.41%	\$8.210 2.70%
Allocation %	99.52%	100.00%	98.48%	99.70%	99.82%	99.87%	99.46%	100.00%	99.99%	100.00%	98.88%	100.00%	100.00%	99.53%	99.47%	97.92%
Allocation \$ Sigma	4.09	6.00	3.67	4.25	4.41	4.51	4.05	6.00	5.28	6.00	3.78	6.00	6.00	4.10	4.05	3.54
Variance from Industry \$ Sigma	-0.03	1.88	-0.46	0.12	0.28	0.39	-0.07	1.88	1.16	1.88	-0.34	1.88	1.88	-0.02	-0.07	-0.58
CUSIP Allocations %	97.55%	100.00%	100.00%	99.12%	99.79%	98.61%	98.60%	100.00%	99.83%	100.00%	92.10%	100.00%	100.00%	99.06%	99.83%	97.35%
CUSIP Allocations \$ Sigma	3.47	6.00	6.00	3.87	4.36	3.70	3.70	6.00	4.43	6.00	2.91	6.00	6.00	3.85	4.43	3.44
Variance from Industry CUSIP Sigma	-0.27	2.27	2.27	0.14	0.62	-0.03	-0.04	2.27	0.70	2.27	-0.82	2.27	2.27	0.12	0.70	-0.30