DTCC

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FINAL

Asset Services Sigma- Agent Performance Report

November 2019 Data

Executive Summary

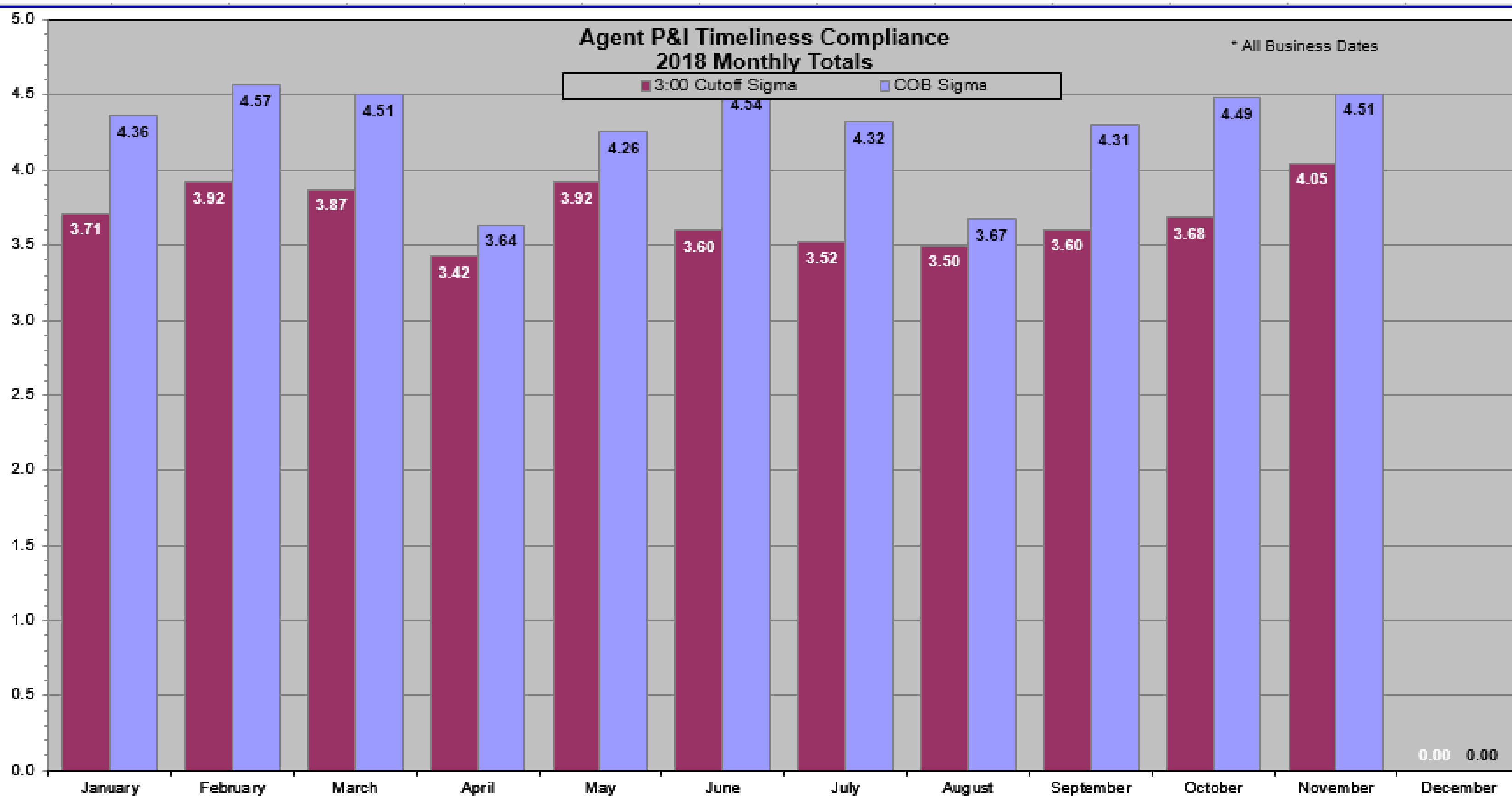
This report highlights the November 2019 performance of the top agents vs. industry targets. This report focuses on the following metrics:

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 November 2019 was 4.05σ (99.45%). 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 November 2019 was 4.22σ (99.67%).This month's performance is above the target of 3.83σ (99.00%).

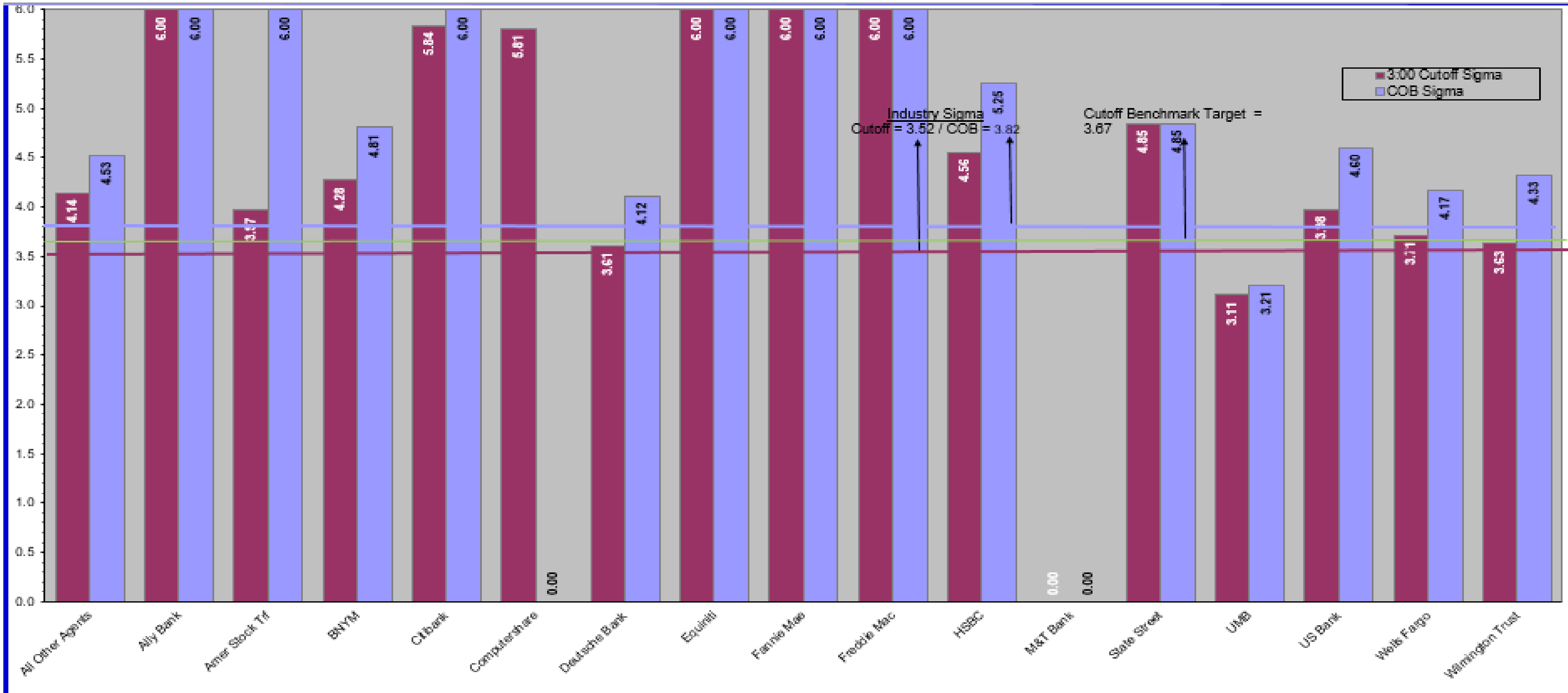
Please visit DTCC's web-site http://dtcc.com/asset-services/asset-services-performance-metrics.aspx for more detailed metric definitions and agent trend charts.

P&I Allocations Monthly Trend



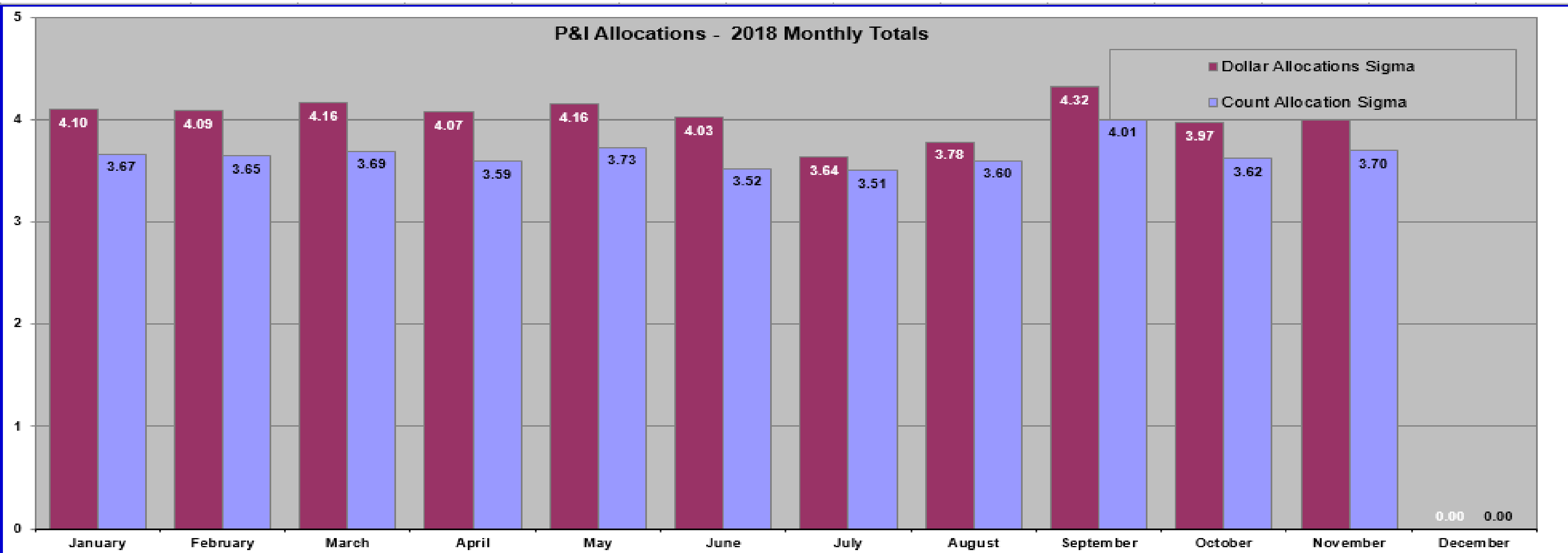
	January	February	March	April	May	June	July	August	September	October	November	December	YTD
Percent by 3:00 Cut-off	98.65%	99.23%	99.12%	97.27%	99.22%	98.19%	97.84%	97.71%	98.23%	98.54%	99.45%		98.48%
Cutoff Sigma	3.71	3.92	3.87	3.42	3.92	3.60	3.52	3.50	3.60	3.68	4.05		3.67
Percent by COB	99.79%	99.89%	99.87%	98.37%	99.71%	99.88%	99.76%	98.52%	99.75%	99.86%	99.87%		99.58%
COB Sigma	4.36	4.57	4.51	3.64	4.26	4.54	4.32	3.67	4.31	4.49	4.51		4.14

P&I Timeliness Compliance – Agent Performance



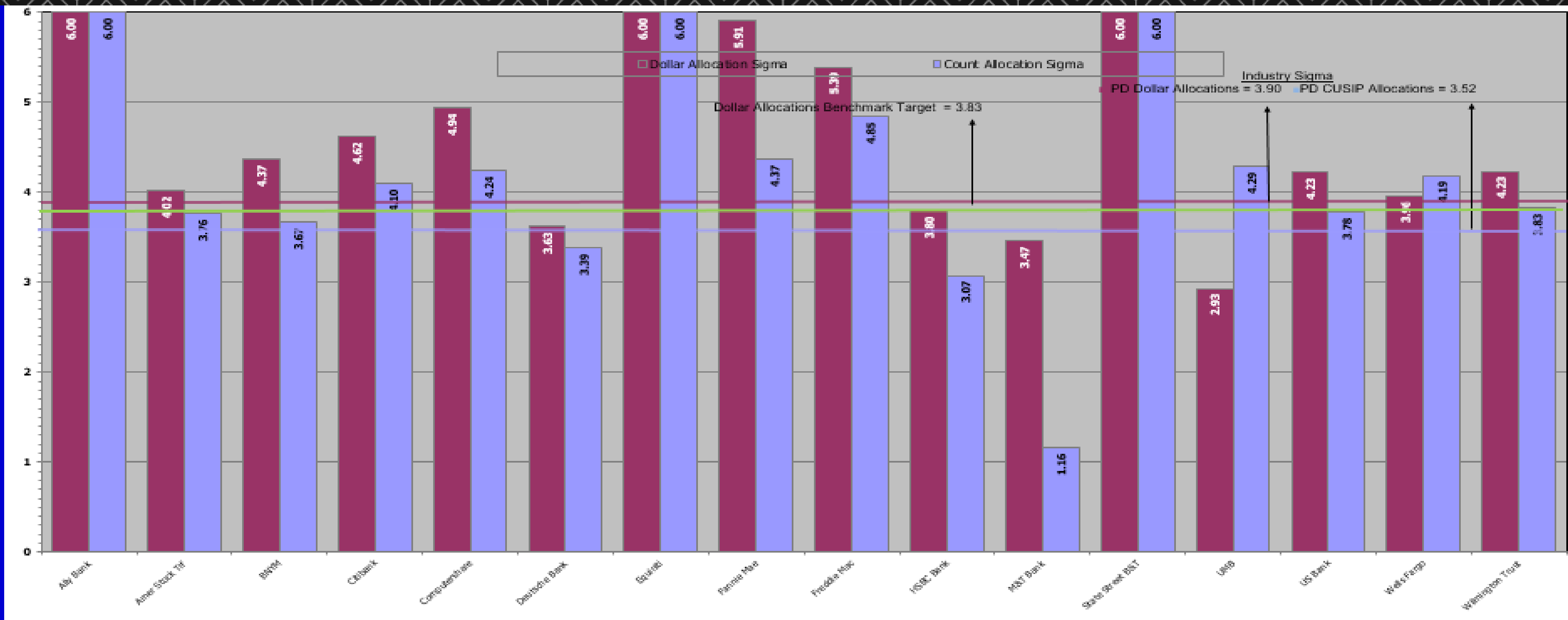
	All Other Agents	Ally Bank	Amer Stock Trf	BNYM	Citibank	Computer share	Deutsche Bank	Equiniti	Fannie Mae	Freddie Mac	HSBC	M&T Bank	State Street	US Bank	Wells Fargo	Wilmingto n Trust
% of Total Allocations	17.58%	0.24%	1.74%	27.46%	5.32%	9.29%	4.43%	2.91%	0.12%	1.19%	1.47%	0.00%	0.52%	12.77%	11.88%	2.79%
Percent by 3:00 Cut-off	99.59%	100.00%	99.32%	99.72%	100.00%	100.00%	98.25%	100.00%	100.00%	100.00%	99.89%	0.00%	99.96%	99.33%	98.65%	98.36%
Cutoff Sigma	4.14	6.00	3.97	4.28	5.84	5.81	3.61	6.00	6.00	6.00	4.56	0.00	4.85	3.98	3.71	3.63
Variance from Industry Cutoff	0.10	1.95	-0.08	0.23	1.80	1.77	-0.44	1.95	1.95	1.95	0.51	-4.05	0.80	-0.07	-0.33	-0.41
Percent by COB	99.88%	100.00%	100.00%	99.95%	100.00%	100.00%	99.56%	100.00%	100.00%	100.00%	99.99%	0.00%	99.96%	99.90%	99.63%	99.77%
COB Sigma	4.53	6.00	6.00	4.81	6.00	#NUM!	4.12	6.00	6.00	6.00	5.25	0.00	4.85	4.60	4.17	4.33

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	$351.944	$324.640	$307.729	$400.526	$350.842	$301.592		$3488.555
Allocation $ Percent	99.54%	99.52%	99.61%	99.49%	99.60%	99.42%	98.37%	98.88%	99.76%	99.32%	99.67%		99.38%
Allocation $ Sigma	4.10	4.09	4.16	4.07	4.16	4.03	3.64	3.78	4.32	3.97	4.22		4.00
Unallocated Impact (Billions $)	$1.272	$1.253	$1.296	$1.423	$1.204	$2.032	$5.288	$3.437	$0.964	$2.378	$0.989		$21.536
Total CUSIP Expected	273,962	367,084	300,356	268,925	270,102	353,786	287,170	369,275	691,765	269,952	264,677		3,717,054
CUSIP Allocations %	98.49%	98.41%	98.58%	98.18%	98.72%	97.85%	97.78%	98.22%	99.39%	98.30%	98.61%		98.50%
CUSIP Allocations Sigma	3.67	3.65	3.69	3.59	3.73	3.52	3.51	3.60	4.01	3.62	3.70		3.67
Unallocated Impact (Count)	4,131	5,853	4,255	4,885	3,450	7,594	6,381	6,564	4,222	4,592	3,671		55,598

P&I Allocations – Agent Performance



AGENT	All Other Agents	Ally 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	$56.706	$0.745	$5.326	$83.513	$16.546	$28.489	$13.025	$8.932	$0.362	$3.307	$1.209	$0.002	$1.572	$38.449	$34.751	$8.095
	18.80%	0.25%	1.77%	27.69%	5.49%	9.45%	4.32%	2.96%	0.12%	1.10%	0.40%	0.00%	0.52%	12.75%	11.52%	2.68%
Allocation $ Percent	99.82%	100.00%	99.42%	99.79%	99.91%	99.97%	98.32%	100.00%	100.00%	100.00%	98.92%	97.55%	100.00%	99.68%	99.31%	99.69%
Allocation $ Sigma	4.41	6.00	4.02	4.37	4.62	4.94	3.63	6.00	5.91	5.39	3.80	3.47	6.00	4.23	3.96	4.23
Variance from Industry $ Sigma	0.19	1.78	-0.20	0.15	0.40	0.72	-0.59	1.78	1.69	1.18	-0.42	-0.75	1.78	0.01	-0.26	0.02
CUSIP Allocations %	97.85%	100.00%	98.82%	98.51%	99.53%	99.70%	97.03%	100.00%	99.79%	99.96%	94.23%	36.84%	100.00%	98.86%	99.64%	99.02%
CUSIP Allocations Sigma	3.52	6.00	3.76	3.67	4.10	4.24	3.39	6.00	4.37	4.85	3.07	1.16	6.00	3.78	4.19	3.83
Variance from Industry CUSIP Sigma	-0.18	2.30	0.06	-0.03	0.39	0.54	-0.32	2.30	0.67	1.15	-0.63	-2.54	2.30	0.08	0.49	0.13