

Logistics_160113

```

beta : 2 1.5 1 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: FALSE
missing_method: xy
missing_location: 1
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_2_1.5_1_n_400_lambda_location_l1_30_error_independent_FALSE_x_missing_location_1.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	1.810	0.023	4.103	0.033	2.438	0.012	0.00	1.80	0.000	1.326
FSCAD	0	0	1.801	0.022	4.071	0.044	2.424	0.011	0.00	1.09	0.000	1.311
FMCP	0	0	1.801	0.022	4.070	0.044	2.424	0.011	0.01	0.76	0.100	1.280
CLASSO	0	0	1.856	0.027	4.215	0.040	2.498	0.020	0.01	2.20	0.100	1.341
CSCAD	0	0	1.844	0.026	4.189	0.055	2.484	0.018	0.08	1.74	0.273	1.368
CMCP	0	0	1.845	0.026	4.191	0.055	2.484	0.018	0.15	1.44	0.359	1.486
PLASSO	0	0	0.623	0.185	1.685	0.515	0.859	0.233	0.00	2.76	0.000	1.342
PSCAD1	0	0	0.661	0.302	1.471	0.758	0.861	0.381	0.09	0.75	0.288	1.067
PSCAD2	0	0	0.702	0.318	1.566	0.820	0.916	0.417	0.12	0.82	0.327	1.067
PSCAD3	0	0	0.711	0.331	1.582	0.838	0.925	0.432	0.14	0.82	0.349	1.048
PMCP1	0	0	0.668	0.311	1.457	0.764	0.861	0.388	0.10	0.73	0.302	1.053
PMCP2	0	0	0.702	0.329	1.583	0.816	0.920	0.423	0.12	0.86	0.327	1.064
PMCP3	0	0	0.701	0.323	1.580	0.795	0.916	0.409	0.13	0.86	0.338	1.015

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	1.810	0.023	4.077	0.020	2.438	0.012	0.00	0.03	0.000	0.171

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	1.801	0.022	4.056	0.028	2.424	0.011	0.00	0.09	0.000	0.351
FMCP 0.05	0.05	NA	1.801	0.022	4.057	0.029	2.424	0.011	0.01	0.12	0.100	0.383
CLASSO 0.05	0.05	NA	1.856	0.027	4.184	0.034	2.498	0.020	0.01	0.11	0.100	0.345
CSCAD 0.05	0.05	NA	1.844	0.026	4.162	0.039	2.483	0.018	0.08	0.13	0.273	0.367
CMCP 0.05	0.05	NA	1.845	0.026	4.163	0.039	2.484	0.018	0.15	0.14	0.359	0.377
PLASSO 0.05	0.05	NA	0.623	0.185	1.673	0.518	0.859	0.233	0.00	2.27	0.000	1.370
PSCAD1 0.05	0.05	NA	0.661	0.302	1.471	0.758	0.861	0.381	0.09	0.74	0.288	1.050
PSCAD2 0.05	0.05	NA	0.702	0.318	1.566	0.820	0.916	0.417	0.12	0.82	0.327	1.067
PSCAD3 0.05	0.05	NA	0.711	0.331	1.582	0.837	0.925	0.432	0.14	0.80	0.349	1.005
PMCP1 0.05	0.05	NA	0.668	0.311	1.457	0.764	0.861	0.388	0.10	0.71	0.302	1.038
PMCP2 0.05	0.05	NA	0.702	0.329	1.583	0.816	0.920	0.423	0.12	0.84	0.327	1.051
PMCP3 0.05	0.05	NA	0.701	0.323	1.580	0.795	0.916	0.409	0.13	0.86	0.338	1.015

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.092	0.001	1.810	0.023	4.075	0.019	2.438	0.012	0.00	0.00	0.000	0.000
FSCAD 0.1*rho	0.092	0.001	1.801	0.022	4.051	0.017	2.424	0.011	0.00	0.00	0.000	0.000
FMCP 0.1*rho	0.092	0.002	1.801	0.022	4.051	0.018	2.424	0.011	0.01	0.00	0.100	0.000
CLASSO 0.1*rho	0.095	0.002	1.856	0.027	4.177	0.033	2.498	0.020	0.01	0.00	0.100	0.000
CSCAD 0.1*rho	0.095	0.003	1.844	0.026	4.153	0.032	2.483	0.018	0.08	0.00	0.273	0.000
CMCP 0.1*rho	0.095	0.003	1.845	0.026	4.154	0.034	2.484	0.018	0.15	0.00	0.359	0.000
PLASSO 0.1*rho	0.044	0.018	0.623	0.185	1.676	0.516	0.859	0.233	0.00	2.35	0.000	1.452
PSCAD1 0.1*rho	0.046	0.026	0.661	0.302	1.471	0.758	0.861	0.381	0.09	0.74	0.288	1.050
PSCAD2 0.1*rho	0.048	0.029	0.702	0.318	1.566	0.820	0.916	0.417	0.12	0.82	0.327	1.067
PSCAD3 0.1*rho	0.048	0.030	0.711	0.331	1.582	0.838	0.925	0.432	0.14	0.81	0.349	1.042
PMCP1 0.1*rho	0.046	0.028	0.668	0.311	1.457	0.764	0.861	0.388	0.10	0.72	0.302	1.045
PMCP2 0.1*rho	0.048	0.029	0.702	0.329	1.583	0.816	0.920	0.423	0.12	0.84	0.327	1.051
PMCP3 0.1*rho	0.048	0.029	0.701	0.323	1.580	0.795	0.916	0.409	0.13	0.86	0.338	1.015

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.277	0.004	1.810	0.023	4.075	0.019	2.438	0.012	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.275	0.004	1.801	0.022	4.051	0.017	2.424	0.011	0.00	0.00	0.000	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.275	0.005	1.801	0.022	4.051	0.018	2.424	0.011	0.01	0.00	0.100	0.000
CLASSO 0.3*rho	0.285	0.005	1.856	0.027	4.177	0.033	2.498	0.020	0.01	0.00	0.100	0.000
CSCAD 0.3*rho	0.285	0.008	1.844	0.026	4.153	0.032	2.483	0.018	0.08	0.00	0.273	0.000
CMCP 0.3*rho	0.285	0.008	1.845	0.026	4.154	0.034	2.484	0.018	0.15	0.00	0.359	0.000
PLASSO 0.3*rho	0.131	0.054	0.623	0.185	1.615	0.509	0.855	0.232	0.00	1.73	0.000	1.448
PSCAD1 0.3*rho	0.138	0.079	0.661	0.302	1.470	0.758	0.861	0.381	0.09	0.73	0.288	1.043
PSCAD2 0.3*rho	0.145	0.087	0.702	0.318	1.563	0.819	0.916	0.417	0.12	0.81	0.327	1.070
PSCAD3 0.3*rho	0.145	0.090	0.711	0.331	1.581	0.838	0.924	0.432	0.14	0.79	0.349	0.998
PMCP1 0.3*rho	0.138	0.083	0.668	0.311	1.457	0.764	0.861	0.388	0.10	0.71	0.302	1.038
PMCP2 0.3*rho	0.145	0.088	0.702	0.329	1.577	0.811	0.920	0.422	0.12	0.82	0.327	1.048
PMCP3 0.3*rho	0.143	0.087	0.701	0.323	1.578	0.794	0.916	0.409	0.13	0.85	0.338	1.019

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.461	0.006	1.810	0.023	4.075	0.019	2.438	0.012	0.00	0.00	0.000	0.000
FSCAD 0.5*rho	0.458	0.006	1.801	0.022	4.051	0.017	2.424	0.011	0.00	0.00	0.000	0.000
FMCP 0.5*rho	0.459	0.008	1.801	0.022	4.051	0.018	2.424	0.011	0.01	0.00	0.100	0.000
CLASSO 0.5*rho	0.475	0.008	1.856	0.027	4.177	0.033	2.498	0.020	0.01	0.00	0.100	0.000
CSCAD 0.5*rho	0.475	0.013	1.844	0.026	4.153	0.032	2.483	0.018	0.08	0.00	0.273	0.000
CMCP 0.5*rho	0.475	0.013	1.845	0.026	4.154	0.034	2.484	0.018	0.15	0.00	0.359	0.000
PLASSO 0.5*rho	0.219	0.090	0.623	0.185	1.501	0.470	0.842	0.230	0.00	1.08	0.000	1.300
PSCAD1 0.5*rho	0.229	0.132	0.661	0.302	1.468	0.757	0.861	0.381	0.09	0.71	0.288	1.008
PSCAD2 0.5*rho	0.241	0.145	0.702	0.318	1.555	0.814	0.915	0.416	0.12	0.77	0.327	1.004
PSCAD3 0.5*rho	0.242	0.150	0.711	0.331	1.563	0.818	0.922	0.429	0.14	0.74	0.349	0.970
PMCP1 0.5*rho	0.231	0.138	0.668	0.311	1.453	0.762	0.860	0.388	0.10	0.69	0.302	1.002
PMCP2 0.5*rho	0.241	0.147	0.702	0.329	1.565	0.800	0.918	0.421	0.12	0.77	0.327	0.983
PMCP3 0.5*rho	0.238	0.145	0.701	0.323	1.557	0.772	0.913	0.405	0.13	0.79	0.338	0.998

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.501	-1.810	-1.353	-0.912	0.003	0.000	0.000	-0.001	-0.001
FSCAD	0.501	-1.801	-1.348	-0.902	0.002	-0.002	-0.001	-0.001	0.000
FMCP	0.501	-1.801	-1.347	-0.903	0.001	-0.003	0.001	0.000	0.000
CLASSO	0.690	-1.856	-1.384	-0.937	0.004	0.000	0.000	0.000	0.001
CSCAD	0.682	-1.844	-1.375	-0.934	0.000	0.000	-0.001	0.001	0.001
CMCP	0.682	-1.845	-1.374	-0.935	0.001	0.000	-0.001	0.001	0.000
PLASSO	0.000	-0.333	-0.203	-0.268	0.063	0.007	0.007	-0.023	0.008
PSCAD1	0.000	0.094	0.146	-0.096	0.048	0.005	-0.003	-0.012	0.004
PSCAD2	0.000	0.144	0.177	-0.045	0.055	0.000	0.001	-0.016	0.007
PSCAD3	0.000	0.155	0.183	-0.045	0.060	0.002	0.001	-0.022	0.011
PMCP1	0.000	0.104	0.155	-0.092	0.048	-0.001	0.000	-0.014	0.004
PMCP2	0.000	0.147	0.176	-0.059	0.068	0.000	0.001	-0.022	0.011
PMCP3	0.000	0.150	0.180	-0.045	0.069	0.001	-0.004	-0.023	0.009
FULL	0.502	-1.801	-1.348	-0.901	-0.001	0.004	-0.002	-0.004	0.001
COMPLETE	0.682	-1.844	-1.378	-0.926	0.002	0.001	0.000	-0.002	0.002
LOGISTIC	0.000	0.241	0.215	0.051	0.052	-0.008	0.055	-0.078	0.028

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.018	0.023	0.023	0.019	0.013	0.014	0.011	0.011	0.010
FSCAD	0.018	0.022	0.023	0.020	0.015	0.014	0.011	0.011	0.009
FMCP	0.018	0.022	0.024	0.024	0.015	0.013	0.013	0.012	0.008
CLASSO	0.024	0.027	0.027	0.027	0.013	0.020	0.014	0.014	0.013
CSCAD	0.024	0.026	0.033	0.038	0.013	0.021	0.016	0.017	0.014
CMCP	0.024	0.026	0.030	0.038	0.014	0.022	0.018	0.017	0.014
PLASSO	0.000	0.376	0.382	0.329	0.180	0.197	0.199	0.178	0.177
PSCAD1	0.000	0.412	0.518	0.447	0.197	0.250	0.188	0.184	0.206
PSCAD2	0.000	0.415	0.530	0.478	0.234	0.262	0.248	0.211	0.231
PSCAD3	0.000	0.413	0.535	0.485	0.240	0.280	0.258	0.198	0.226
PMCP1	0.000	0.408	0.522	0.453	0.194	0.241	0.192	0.187	0.205
PMCP2	0.000	0.410	0.533	0.485	0.238	0.273	0.259	0.196	0.220
PMCP3	0.000	0.420	0.532	0.468	0.249	0.253	0.236	0.201	0.227
FULL	0.018	0.022	0.023	0.022	0.023	0.024	0.023	0.023	0.019
COMPLETE	0.023	0.025	0.027	0.028	0.025	0.030	0.027	0.026	0.023
LOGISTIC	0.000	0.441	0.540	0.414	0.385	0.396	0.399	0.377	0.345

```

beta : 2 1.5 1 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: FALSE
missing_method: xy
missing_location: 3
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_2_1.5_1_n_400_lambda_location_l1_30_error_independent_FALSE_x_missing_location_3.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	1.810	0.023	4.103	0.033	2.438	0.012	0.00	1.80	0.000	1.326
FSCAD	0	0	1.801	0.022	4.071	0.044	2.424	0.011	0.00	1.09	0.000	1.311
FMCP	0	0	1.801	0.022	4.070	0.044	2.424	0.011	0.01	0.76	0.100	1.280
CLASSO	0	0	1.856	0.027	4.215	0.040	2.498	0.020	0.01	2.20	0.100	1.341
CSCAD	0	0	1.844	0.026	4.189	0.055	2.484	0.018	0.08	1.74	0.273	1.368
CMCP	0	0	1.845	0.026	4.191	0.055	2.484	0.018	0.15	1.44	0.359	1.486
PLASSO	0	0	0.623	0.185	1.685	0.515	0.859	0.233	0.00	2.76	0.000	1.342
PSCAD1	0	0	0.661	0.302	1.471	0.758	0.861	0.381	0.09	0.75	0.288	1.067
PSCAD2	0	0	0.702	0.318	1.566	0.820	0.916	0.417	0.12	0.82	0.327	1.067
PSCAD3	0	0	0.711	0.331	1.582	0.838	0.925	0.432	0.14	0.82	0.349	1.048
PMCP1	0	0	0.668	0.311	1.457	0.764	0.861	0.388	0.10	0.73	0.302	1.053
PMCP2	0	0	0.702	0.329	1.583	0.816	0.920	0.423	0.12	0.86	0.327	1.064
PMCP3	0	0	0.701	0.323	1.580	0.795	0.916	0.409	0.13	0.86	0.338	1.015

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	1.810	0.023	4.077	0.020	2.438	0.012	0.00	0.03	0.000	0.171

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	1.801	0.022	4.056	0.028	2.424	0.011	0.00	0.09	0.000	0.351
FMCP 0.05	0.05	NA	1.801	0.022	4.057	0.029	2.424	0.011	0.01	0.12	0.100	0.383
CLASSO 0.05	0.05	NA	1.856	0.027	4.184	0.034	2.498	0.020	0.01	0.11	0.100	0.345
CSCAD 0.05	0.05	NA	1.844	0.026	4.162	0.039	2.483	0.018	0.08	0.13	0.273	0.367
CMCP 0.05	0.05	NA	1.845	0.026	4.163	0.039	2.484	0.018	0.15	0.14	0.359	0.377
PLASSO 0.05	0.05	NA	0.623	0.185	1.673	0.518	0.859	0.233	0.00	2.27	0.000	1.370
PSCAD1 0.05	0.05	NA	0.661	0.302	1.471	0.758	0.861	0.381	0.09	0.74	0.288	1.050
PSCAD2 0.05	0.05	NA	0.702	0.318	1.566	0.820	0.916	0.417	0.12	0.82	0.327	1.067
PSCAD3 0.05	0.05	NA	0.711	0.331	1.582	0.837	0.925	0.432	0.14	0.80	0.349	1.005
PMCP1 0.05	0.05	NA	0.668	0.311	1.457	0.764	0.861	0.388	0.10	0.71	0.302	1.038
PMCP2 0.05	0.05	NA	0.702	0.329	1.583	0.816	0.920	0.423	0.12	0.84	0.327	1.051
PMCP3 0.05	0.05	NA	0.701	0.323	1.580	0.795	0.916	0.409	0.13	0.86	0.338	1.015

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.092	0.001	1.810	0.023	4.075	0.019	2.438	0.012	0.00	0.00	0.000	0.000
FSCAD 0.1*rho	0.092	0.001	1.801	0.022	4.051	0.017	2.424	0.011	0.00	0.00	0.000	0.000
FMCP 0.1*rho	0.092	0.002	1.801	0.022	4.051	0.018	2.424	0.011	0.01	0.00	0.100	0.000
CLASSO 0.1*rho	0.095	0.002	1.856	0.027	4.177	0.033	2.498	0.020	0.01	0.00	0.100	0.000
CSCAD 0.1*rho	0.095	0.003	1.844	0.026	4.153	0.032	2.483	0.018	0.08	0.00	0.273	0.000
CMCP 0.1*rho	0.095	0.003	1.845	0.026	4.154	0.034	2.484	0.018	0.15	0.00	0.359	0.000
PLASSO 0.1*rho	0.044	0.018	0.623	0.185	1.676	0.516	0.859	0.233	0.00	2.35	0.000	1.452
PSCAD1 0.1*rho	0.046	0.026	0.661	0.302	1.471	0.758	0.861	0.381	0.09	0.74	0.288	1.050
PSCAD2 0.1*rho	0.048	0.029	0.702	0.318	1.566	0.820	0.916	0.417	0.12	0.82	0.327	1.067
PSCAD3 0.1*rho	0.048	0.030	0.711	0.331	1.582	0.838	0.925	0.432	0.14	0.81	0.349	1.042
PMCP1 0.1*rho	0.046	0.028	0.668	0.311	1.457	0.764	0.861	0.388	0.10	0.72	0.302	1.045
PMCP2 0.1*rho	0.048	0.029	0.702	0.329	1.583	0.816	0.920	0.423	0.12	0.84	0.327	1.051
PMCP3 0.1*rho	0.048	0.029	0.701	0.323	1.580	0.795	0.916	0.409	0.13	0.86	0.338	1.015

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.277	0.004	1.810	0.023	4.075	0.019	2.438	0.012	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.275	0.004	1.801	0.022	4.051	0.017	2.424	0.011	0.00	0.00	0.000	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.275	0.005	1.801	0.022	4.051	0.018	2.424	0.011	0.01	0.00	0.100	0.000
CLASSO 0.3*rho	0.285	0.005	1.856	0.027	4.177	0.033	2.498	0.020	0.01	0.00	0.100	0.000
CSCAD 0.3*rho	0.285	0.008	1.844	0.026	4.153	0.032	2.483	0.018	0.08	0.00	0.273	0.000
CMCP 0.3*rho	0.285	0.008	1.845	0.026	4.154	0.034	2.484	0.018	0.15	0.00	0.359	0.000
PLASSO 0.3*rho	0.131	0.054	0.623	0.185	1.615	0.509	0.855	0.232	0.00	1.73	0.000	1.448
PSCAD1 0.3*rho	0.138	0.079	0.661	0.302	1.470	0.758	0.861	0.381	0.09	0.73	0.288	1.043
PSCAD2 0.3*rho	0.145	0.087	0.702	0.318	1.563	0.819	0.916	0.417	0.12	0.81	0.327	1.070
PSCAD3 0.3*rho	0.145	0.090	0.711	0.331	1.581	0.838	0.924	0.432	0.14	0.79	0.349	0.998
PMCP1 0.3*rho	0.138	0.083	0.668	0.311	1.457	0.764	0.861	0.388	0.10	0.71	0.302	1.038
PMCP2 0.3*rho	0.145	0.088	0.702	0.329	1.577	0.811	0.920	0.422	0.12	0.82	0.327	1.048
PMCP3 0.3*rho	0.143	0.087	0.701	0.323	1.578	0.794	0.916	0.409	0.13	0.85	0.338	1.019

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.461	0.006	1.810	0.023	4.075	0.019	2.438	0.012	0.00	0.00	0.000	0.000
FSCAD 0.5*rho	0.458	0.006	1.801	0.022	4.051	0.017	2.424	0.011	0.00	0.00	0.000	0.000
FMCP 0.5*rho	0.459	0.008	1.801	0.022	4.051	0.018	2.424	0.011	0.01	0.00	0.100	0.000
CLASSO 0.5*rho	0.475	0.008	1.856	0.027	4.177	0.033	2.498	0.020	0.01	0.00	0.100	0.000
CSCAD 0.5*rho	0.475	0.013	1.844	0.026	4.153	0.032	2.483	0.018	0.08	0.00	0.273	0.000
CMCP 0.5*rho	0.475	0.013	1.845	0.026	4.154	0.034	2.484	0.018	0.15	0.00	0.359	0.000
PLASSO 0.5*rho	0.219	0.090	0.623	0.185	1.501	0.470	0.842	0.230	0.00	1.08	0.000	1.300
PSCAD1 0.5*rho	0.229	0.132	0.661	0.302	1.468	0.757	0.861	0.381	0.09	0.71	0.288	1.008
PSCAD2 0.5*rho	0.241	0.145	0.702	0.318	1.555	0.814	0.915	0.416	0.12	0.77	0.327	1.004
PSCAD3 0.5*rho	0.242	0.150	0.711	0.331	1.563	0.818	0.922	0.429	0.14	0.74	0.349	0.970
PMCP1 0.5*rho	0.231	0.138	0.668	0.311	1.453	0.762	0.860	0.388	0.10	0.69	0.302	1.002
PMCP2 0.5*rho	0.241	0.147	0.702	0.329	1.565	0.800	0.918	0.421	0.12	0.77	0.327	0.983
PMCP3 0.5*rho	0.238	0.145	0.701	0.323	1.557	0.772	0.913	0.405	0.13	0.79	0.338	0.998

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.501	-1.810	-1.353	-0.912	0.003	0.000	0.000	-0.001	-0.001
FSCAD	0.501	-1.801	-1.348	-0.902	0.002	-0.002	-0.001	-0.001	0.000
FMCP	0.501	-1.801	-1.347	-0.903	0.001	-0.003	0.001	0.000	0.000
CLASSO	0.690	-1.856	-1.384	-0.937	0.004	0.000	0.000	0.000	0.001
CSCAD	0.682	-1.844	-1.375	-0.934	0.000	0.000	-0.001	0.001	0.001
CMCP	0.682	-1.845	-1.374	-0.935	0.001	0.000	-0.001	0.001	0.000
PLASSO	0.000	-0.333	-0.203	-0.268	0.063	0.007	0.007	-0.023	0.008
PSCAD1	0.000	0.094	0.146	-0.096	0.048	0.005	-0.003	-0.012	0.004
PSCAD2	0.000	0.144	0.177	-0.045	0.055	0.000	0.001	-0.016	0.007
PSCAD3	0.000	0.155	0.183	-0.045	0.060	0.002	0.001	-0.022	0.011
PMCP1	0.000	0.104	0.155	-0.092	0.048	-0.001	0.000	-0.014	0.004
PMCP2	0.000	0.147	0.176	-0.059	0.068	0.000	0.001	-0.022	0.011
PMCP3	0.000	0.150	0.180	-0.045	0.069	0.001	-0.004	-0.023	0.009
FULL	0.502	-1.801	-1.348	-0.901	-0.001	0.004	-0.002	-0.004	0.001
COMPLETE	0.682	-1.844	-1.378	-0.926	0.002	0.001	0.000	-0.002	0.002
LOGISTIC	0.000	0.241	0.215	0.051	0.052	-0.008	0.055	-0.078	0.028

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.018	0.023	0.023	0.019	0.013	0.014	0.011	0.011	0.010
FSCAD	0.018	0.022	0.023	0.020	0.015	0.014	0.011	0.011	0.009
FMCP	0.018	0.022	0.024	0.024	0.015	0.013	0.013	0.012	0.008
CLASSO	0.024	0.027	0.027	0.027	0.013	0.020	0.014	0.014	0.013
CSCAD	0.024	0.026	0.033	0.038	0.013	0.021	0.016	0.017	0.014
CMCP	0.024	0.026	0.030	0.038	0.014	0.022	0.018	0.017	0.014
PLASSO	0.000	0.376	0.382	0.329	0.180	0.197	0.199	0.178	0.177
PSCAD1	0.000	0.412	0.518	0.447	0.197	0.250	0.188	0.184	0.206
PSCAD2	0.000	0.415	0.530	0.478	0.234	0.262	0.248	0.211	0.231
PSCAD3	0.000	0.413	0.535	0.485	0.240	0.280	0.258	0.198	0.226
PMCP1	0.000	0.408	0.522	0.453	0.194	0.241	0.192	0.187	0.205
PMCP2	0.000	0.410	0.533	0.485	0.238	0.273	0.259	0.196	0.220
PMCP3	0.000	0.420	0.532	0.468	0.249	0.253	0.236	0.201	0.227
FULL	0.018	0.022	0.023	0.022	0.023	0.024	0.023	0.023	0.019
COMPLETE	0.023	0.025	0.027	0.028	0.025	0.030	0.027	0.026	0.023
LOGISTIC	0.000	0.441	0.540	0.414	0.385	0.396	0.399	0.377	0.345

```

beta : 2 1.5 1 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: FALSE
missing_method: xy
missing_location: 8
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_2_1.5_1_n_400_lambda_location_l1_30_error_independent_FALSE_x_missing_location_8.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	1.810	0.023	4.103	0.033	2.438	0.012	0.00	1.80	0.000	1.326
FSCAD	0	0	1.801	0.022	4.071	0.044	2.424	0.011	0.00	1.09	0.000	1.311
FMCP	0	0	1.801	0.022	4.070	0.044	2.424	0.011	0.01	0.76	0.100	1.280
CLASSO	0	0	1.856	0.027	4.215	0.040	2.498	0.020	0.01	2.20	0.100	1.341
CSCAD	0	0	1.844	0.026	4.189	0.055	2.484	0.018	0.08	1.74	0.273	1.368
CMCP	0	0	1.845	0.026	4.191	0.055	2.484	0.018	0.15	1.44	0.359	1.486
PLASSO	0	0	0.623	0.185	1.685	0.515	0.859	0.233	0.00	2.76	0.000	1.342
PSCAD1	0	0	0.661	0.302	1.471	0.758	0.861	0.381	0.09	0.75	0.288	1.067
PSCAD2	0	0	0.702	0.318	1.566	0.820	0.916	0.417	0.12	0.82	0.327	1.067
PSCAD3	0	0	0.711	0.331	1.582	0.838	0.925	0.432	0.14	0.82	0.349	1.048
PMCP1	0	0	0.668	0.311	1.457	0.764	0.861	0.388	0.10	0.73	0.302	1.053
PMCP2	0	0	0.702	0.329	1.583	0.816	0.920	0.423	0.12	0.86	0.327	1.064
PMCP3	0	0	0.701	0.323	1.580	0.795	0.916	0.409	0.13	0.86	0.338	1.015

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	1.810	0.023	4.077	0.020	2.438	0.012	0.00	0.03	0.000	0.171

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	1.801	0.022	4.056	0.028	2.424	0.011	0.00	0.09	0.000	0.351
FMCP 0.05	0.05	NA	1.801	0.022	4.057	0.029	2.424	0.011	0.01	0.12	0.100	0.383
CLASSO 0.05	0.05	NA	1.856	0.027	4.184	0.034	2.498	0.020	0.01	0.11	0.100	0.345
CSCAD 0.05	0.05	NA	1.844	0.026	4.162	0.039	2.483	0.018	0.08	0.13	0.273	0.367
CMCP 0.05	0.05	NA	1.845	0.026	4.163	0.039	2.484	0.018	0.15	0.14	0.359	0.377
PLASSO 0.05	0.05	NA	0.623	0.185	1.673	0.518	0.859	0.233	0.00	2.27	0.000	1.370
PSCAD1 0.05	0.05	NA	0.661	0.302	1.471	0.758	0.861	0.381	0.09	0.74	0.288	1.050
PSCAD2 0.05	0.05	NA	0.702	0.318	1.566	0.820	0.916	0.417	0.12	0.82	0.327	1.067
PSCAD3 0.05	0.05	NA	0.711	0.331	1.582	0.837	0.925	0.432	0.14	0.80	0.349	1.005
PMCP1 0.05	0.05	NA	0.668	0.311	1.457	0.764	0.861	0.388	0.10	0.71	0.302	1.038
PMCP2 0.05	0.05	NA	0.702	0.329	1.583	0.816	0.920	0.423	0.12	0.84	0.327	1.051
PMCP3 0.05	0.05	NA	0.701	0.323	1.580	0.795	0.916	0.409	0.13	0.86	0.338	1.015

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.092	0.001	1.810	0.023	4.075	0.019	2.438	0.012	0.00	0.00	0.000	0.000
FSCAD 0.1*rho	0.092	0.001	1.801	0.022	4.051	0.017	2.424	0.011	0.00	0.00	0.000	0.000
FMCP 0.1*rho	0.092	0.002	1.801	0.022	4.051	0.018	2.424	0.011	0.01	0.00	0.100	0.000
CLASSO 0.1*rho	0.095	0.002	1.856	0.027	4.177	0.033	2.498	0.020	0.01	0.00	0.100	0.000
CSCAD 0.1*rho	0.095	0.003	1.844	0.026	4.153	0.032	2.483	0.018	0.08	0.00	0.273	0.000
CMCP 0.1*rho	0.095	0.003	1.845	0.026	4.154	0.034	2.484	0.018	0.15	0.00	0.359	0.000
PLASSO 0.1*rho	0.044	0.018	0.623	0.185	1.676	0.516	0.859	0.233	0.00	2.35	0.000	1.452
PSCAD1 0.1*rho	0.046	0.026	0.661	0.302	1.471	0.758	0.861	0.381	0.09	0.74	0.288	1.050
PSCAD2 0.1*rho	0.048	0.029	0.702	0.318	1.566	0.820	0.916	0.417	0.12	0.82	0.327	1.067
PSCAD3 0.1*rho	0.048	0.030	0.711	0.331	1.582	0.838	0.925	0.432	0.14	0.81	0.349	1.042
PMCP1 0.1*rho	0.046	0.028	0.668	0.311	1.457	0.764	0.861	0.388	0.10	0.72	0.302	1.045
PMCP2 0.1*rho	0.048	0.029	0.702	0.329	1.583	0.816	0.920	0.423	0.12	0.84	0.327	1.051
PMCP3 0.1*rho	0.048	0.029	0.701	0.323	1.580	0.795	0.916	0.409	0.13	0.86	0.338	1.015

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.277	0.004	1.810	0.023	4.075	0.019	2.438	0.012	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.275	0.004	1.801	0.022	4.051	0.017	2.424	0.011	0.00	0.00	0.000	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.275	0.005	1.801	0.022	4.051	0.018	2.424	0.011	0.01	0.00	0.100	0.000
CLASSO 0.3*rho	0.285	0.005	1.856	0.027	4.177	0.033	2.498	0.020	0.01	0.00	0.100	0.000
CSCAD 0.3*rho	0.285	0.008	1.844	0.026	4.153	0.032	2.483	0.018	0.08	0.00	0.273	0.000
CMCP 0.3*rho	0.285	0.008	1.845	0.026	4.154	0.034	2.484	0.018	0.15	0.00	0.359	0.000
PLASSO 0.3*rho	0.131	0.054	0.623	0.185	1.615	0.509	0.855	0.232	0.00	1.73	0.000	1.448
PSCAD1 0.3*rho	0.138	0.079	0.661	0.302	1.470	0.758	0.861	0.381	0.09	0.73	0.288	1.043
PSCAD2 0.3*rho	0.145	0.087	0.702	0.318	1.563	0.819	0.916	0.417	0.12	0.81	0.327	1.070
PSCAD3 0.3*rho	0.145	0.090	0.711	0.331	1.581	0.838	0.924	0.432	0.14	0.79	0.349	0.998
PMCP1 0.3*rho	0.138	0.083	0.668	0.311	1.457	0.764	0.861	0.388	0.10	0.71	0.302	1.038
PMCP2 0.3*rho	0.145	0.088	0.702	0.329	1.577	0.811	0.920	0.422	0.12	0.82	0.327	1.048
PMCP3 0.3*rho	0.143	0.087	0.701	0.323	1.578	0.794	0.916	0.409	0.13	0.85	0.338	1.019

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.461	0.006	1.810	0.023	4.075	0.019	2.438	0.012	0.00	0.00	0.000	0.000
FSCAD 0.5*rho	0.458	0.006	1.801	0.022	4.051	0.017	2.424	0.011	0.00	0.00	0.000	0.000
FMCP 0.5*rho	0.459	0.008	1.801	0.022	4.051	0.018	2.424	0.011	0.01	0.00	0.100	0.000
CLASSO 0.5*rho	0.475	0.008	1.856	0.027	4.177	0.033	2.498	0.020	0.01	0.00	0.100	0.000
CSCAD 0.5*rho	0.475	0.013	1.844	0.026	4.153	0.032	2.483	0.018	0.08	0.00	0.273	0.000
CMCP 0.5*rho	0.475	0.013	1.845	0.026	4.154	0.034	2.484	0.018	0.15	0.00	0.359	0.000
PLASSO 0.5*rho	0.219	0.090	0.623	0.185	1.501	0.470	0.842	0.230	0.00	1.08	0.000	1.300
PSCAD1 0.5*rho	0.229	0.132	0.661	0.302	1.468	0.757	0.861	0.381	0.09	0.71	0.288	1.008
PSCAD2 0.5*rho	0.241	0.145	0.702	0.318	1.555	0.814	0.915	0.416	0.12	0.77	0.327	1.004
PSCAD3 0.5*rho	0.242	0.150	0.711	0.331	1.563	0.818	0.922	0.429	0.14	0.74	0.349	0.970
PMCP1 0.5*rho	0.231	0.138	0.668	0.311	1.453	0.762	0.860	0.388	0.10	0.69	0.302	1.002
PMCP2 0.5*rho	0.241	0.147	0.702	0.329	1.565	0.800	0.918	0.421	0.12	0.77	0.327	0.983
PMCP3 0.5*rho	0.238	0.145	0.701	0.323	1.557	0.772	0.913	0.405	0.13	0.79	0.338	0.998

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.501	-1.810	-1.353	-0.912	0.003	0.000	0.000	-0.001	-0.001
FSCAD	0.501	-1.801	-1.348	-0.902	0.002	-0.002	-0.001	-0.001	0.000
FMCP	0.501	-1.801	-1.347	-0.903	0.001	-0.003	0.001	0.000	0.000
CLASSO	0.690	-1.856	-1.384	-0.937	0.004	0.000	0.000	0.000	0.001
CSCAD	0.682	-1.844	-1.375	-0.934	0.000	0.000	-0.001	0.001	0.001
CMCP	0.682	-1.845	-1.374	-0.935	0.001	0.000	-0.001	0.001	0.000
PLASSO	0.000	-0.333	-0.203	-0.268	0.063	0.007	0.007	-0.023	0.008
PSCAD1	0.000	0.094	0.146	-0.096	0.048	0.005	-0.003	-0.012	0.004
PSCAD2	0.000	0.144	0.177	-0.045	0.055	0.000	0.001	-0.016	0.007
PSCAD3	0.000	0.155	0.183	-0.045	0.060	0.002	0.001	-0.022	0.011
PMCP1	0.000	0.104	0.155	-0.092	0.048	-0.001	0.000	-0.014	0.004
PMCP2	0.000	0.147	0.176	-0.059	0.068	0.000	0.001	-0.022	0.011
PMCP3	0.000	0.150	0.180	-0.045	0.069	0.001	-0.004	-0.023	0.009
FULL	0.502	-1.801	-1.348	-0.901	-0.001	0.004	-0.002	-0.004	0.001
COMPLETE	0.682	-1.844	-1.378	-0.926	0.002	0.001	0.000	-0.002	0.002
LOGISTIC	0.000	0.241	0.215	0.051	0.052	-0.008	0.055	-0.078	0.028

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.018	0.023	0.023	0.019	0.013	0.014	0.011	0.011	0.010
FSCAD	0.018	0.022	0.023	0.020	0.015	0.014	0.011	0.011	0.009
FMCP	0.018	0.022	0.024	0.024	0.015	0.013	0.013	0.012	0.008
CLASSO	0.024	0.027	0.027	0.027	0.013	0.020	0.014	0.014	0.013
CSCAD	0.024	0.026	0.033	0.038	0.013	0.021	0.016	0.017	0.014
CMCP	0.024	0.026	0.030	0.038	0.014	0.022	0.018	0.017	0.014
PLASSO	0.000	0.376	0.382	0.329	0.180	0.197	0.199	0.178	0.177
PSCAD1	0.000	0.412	0.518	0.447	0.197	0.250	0.188	0.184	0.206
PSCAD2	0.000	0.415	0.530	0.478	0.234	0.262	0.248	0.211	0.231
PSCAD3	0.000	0.413	0.535	0.485	0.240	0.280	0.258	0.198	0.226
PMCP1	0.000	0.408	0.522	0.453	0.194	0.241	0.192	0.187	0.205
PMCP2	0.000	0.410	0.533	0.485	0.238	0.273	0.259	0.196	0.220
PMCP3	0.000	0.420	0.532	0.468	0.249	0.253	0.236	0.201	0.227
FULL	0.018	0.022	0.023	0.022	0.023	0.024	0.023	0.023	0.019
COMPLETE	0.023	0.025	0.027	0.028	0.025	0.030	0.027	0.026	0.023
LOGISTIC	0.000	0.441	0.540	0.414	0.385	0.396	0.399	0.377	0.345

```

beta : 2 1.5 1 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 1
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_2_1.5_1_n_400_lambda_location_l1_30_error_independent_TRUE_x_missing_location_1.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	1.764	0.017	4.009	0.034	2.378	0.018	0.00	2.38	0.000	1.516
FSCAD	0	0	1.752	0.016	3.958	0.045	2.358	0.015	0.00	1.04	0.000	1.363
FMCP	0	0	1.752	0.016	3.953	0.040	2.359	0.015	0.00	0.56	0.000	1.140
CLASSO	0	0	1.824	0.024	4.165	0.052	2.461	0.030	0.00	3.01	0.000	1.560
CSCAD	0	0	1.812	0.024	4.108	0.064	2.443	0.029	0.00	1.49	0.000	1.367
CMCP	0	0	1.812	0.024	4.110	0.066	2.443	0.029	0.00	1.18	0.000	1.546
PLASSO	0	0	0.530	0.203	1.621	0.561	0.787	0.280	0.00	3.43	0.000	1.305
PSCAD1	0	0	0.499	0.276	1.199	0.796	0.675	0.396	0.02	0.88	0.141	1.131
PSCAD2	0	0	0.514	0.300	1.247	0.886	0.699	0.435	0.02	0.85	0.141	1.048
PSCAD3	0	0	0.522	0.294	1.259	0.841	0.709	0.423	0.02	0.87	0.141	1.012
PMCP1	0	0	0.497	0.277	1.192	0.803	0.672	0.399	0.02	0.89	0.141	1.136
PMCP2	0	0	0.516	0.288	1.268	0.861	0.705	0.418	0.02	0.90	0.141	1.087
PMCP3	0	0	0.516	0.293	1.264	0.845	0.707	0.421	0.02	0.87	0.141	0.971

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	1.764	0.017	3.976	0.034	2.378	0.018	0.00	0.01	0.000	0.100

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	1.752	0.016	3.941	0.030	2.358	0.015	0.00	0.01	0.000	0.100
FMCP 0.05	0.05	NA	1.752	0.016	3.942	0.030	2.359	0.015	0.00	0.01	0.000	0.100
CLASSO 0.05	0.05	NA	1.824	0.024	4.118	0.052	2.461	0.030	0.00	0.06	0.000	0.343
CSCAD 0.05	0.05	NA	1.812	0.024	4.088	0.054	2.443	0.029	0.00	0.07	0.000	0.355
CMCP 0.05	0.05	NA	1.812	0.024	4.088	0.054	2.443	0.029	0.00	0.07	0.000	0.355
PLASSO 0.05	0.05	NA	0.530	0.203	1.601	0.567	0.787	0.280	0.00	2.61	0.000	1.442
PSCAD1 0.05	0.05	NA	0.499	0.276	1.197	0.797	0.675	0.396	0.02	0.82	0.141	1.086
PSCAD2 0.05	0.05	NA	0.514	0.300	1.246	0.886	0.699	0.435	0.02	0.81	0.141	1.002
PSCAD3 0.05	0.05	NA	0.522	0.294	1.258	0.841	0.709	0.423	0.02	0.82	0.141	0.947
PMCP1 0.05	0.05	NA	0.497	0.277	1.190	0.803	0.672	0.399	0.02	0.84	0.141	1.098
PMCP2 0.05	0.05	NA	0.516	0.288	1.268	0.861	0.705	0.418	0.02	0.90	0.141	1.087
PMCP3 0.05	0.05	NA	0.516	0.293	1.264	0.845	0.707	0.421	0.02	0.87	0.141	0.971

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.090	0.001	1.764	0.017	3.976	0.033	2.378	0.018	0.00	0.00	0.000	0.000
FSCAD 0.1*rho	0.089	0.001	1.752	0.016	3.941	0.028	2.358	0.015	0.00	0.00	0.000	0.000
FMCP 0.1*rho	0.089	0.001	1.752	0.016	3.941	0.028	2.359	0.015	0.00	0.00	0.000	0.000
CLASSO 0.1*rho	0.093	0.002	1.824	0.024	4.115	0.052	2.461	0.030	0.00	0.00	0.000	0.000
CSCAD 0.1*rho	0.092	0.002	1.812	0.024	4.084	0.051	2.443	0.029	0.00	0.00	0.000	0.000
CMCP 0.1*rho	0.092	0.002	1.812	0.024	4.084	0.050	2.443	0.029	0.00	0.00	0.000	0.000
PLASSO 0.1*rho	0.036	0.016	0.530	0.203	1.611	0.557	0.787	0.280	0.00	2.89	0.000	1.449
PSCAD1 0.1*rho	0.033	0.021	0.499	0.276	1.199	0.796	0.675	0.396	0.02	0.87	0.141	1.134
PSCAD2 0.1*rho	0.034	0.022	0.514	0.300	1.246	0.886	0.699	0.435	0.02	0.81	0.141	1.002
PSCAD3 0.1*rho	0.034	0.022	0.522	0.294	1.258	0.841	0.709	0.423	0.02	0.82	0.141	0.947
PMCP1 0.1*rho	0.033	0.021	0.497	0.277	1.191	0.801	0.672	0.399	0.02	0.86	0.141	1.110
PMCP2 0.1*rho	0.034	0.022	0.516	0.288	1.268	0.861	0.705	0.418	0.02	0.90	0.141	1.087
PMCP3 0.1*rho	0.034	0.022	0.516	0.293	1.264	0.845	0.707	0.421	0.02	0.87	0.141	0.971

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.269	0.004	1.764	0.017	3.976	0.033	2.378	0.018	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.266	0.003	1.752	0.016	3.941	0.028	2.358	0.015	0.00	0.00	0.000	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.267	0.003	1.752	0.016	3.941	0.028	2.359	0.015	0.00	0.00	0.000	0.000
FLASSO 0.3*rho	0.278	0.005	1.824	0.024	4.115	0.052	2.461	0.030	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.277	0.006	1.812	0.024	4.084	0.051	2.443	0.029	0.00	0.00	0.000	0.000
FMCP 0.3*rho	0.277	0.005	1.812	0.024	4.084	0.050	2.443	0.029	0.00	0.00	0.000	0.000
FLASSO 0.3*rho	0.108	0.049	0.530	0.203	1.540	0.534	0.784	0.279	0.00	1.92	0.000	1.461
FSCAD1 0.3*rho	0.099	0.062	0.499	0.276	1.197	0.796	0.675	0.396	0.02	0.82	0.141	1.086
PSCAD2 0.3*rho	0.101	0.067	0.514	0.300	1.246	0.886	0.699	0.435	0.02	0.81	0.141	1.002
PSCAD3 0.3*rho	0.103	0.066	0.522	0.294	1.258	0.841	0.709	0.423	0.02	0.82	0.141	0.947
PMCP1 0.3*rho	0.099	0.063	0.497	0.277	1.188	0.801	0.672	0.399	0.02	0.81	0.141	1.080
PMCP2 0.3*rho	0.101	0.065	0.516	0.288	1.267	0.861	0.705	0.418	0.02	0.89	0.141	1.081
PMCP3 0.3*rho	0.101	0.065	0.516	0.293	1.263	0.845	0.707	0.421	0.02	0.85	0.141	0.968

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.448	0.006	1.764	0.017	3.976	0.033	2.378	0.018	0.00	0.00	0.000	0.000
FSCAD 0.5*rho	0.444	0.005	1.752	0.016	3.941	0.028	2.358	0.015	0.00	0.00	0.000	0.000
FMCP 0.5*rho	0.444	0.006	1.752	0.016	3.941	0.028	2.359	0.015	0.00	0.00	0.000	0.000
FLASSO 0.5*rho	0.464	0.008	1.824	0.024	4.115	0.052	2.461	0.030	0.00	0.00	0.000	0.000
FSCAD 0.5*rho	0.461	0.010	1.812	0.024	4.084	0.051	2.443	0.029	0.00	0.00	0.000	0.000
FMCP 0.5*rho	0.461	0.009	1.812	0.024	4.084	0.050	2.443	0.029	0.00	0.00	0.000	0.000
FLASSO 0.5*rho	0.181	0.082	0.530	0.203	1.466	0.528	0.776	0.279	0.00	1.39	0.000	1.385
FSCAD1 0.5*rho	0.165	0.104	0.499	0.276	1.189	0.790	0.675	0.396	0.02	0.77	0.141	1.043
PSCAD2 0.5*rho	0.169	0.111	0.514	0.300	1.235	0.847	0.698	0.432	0.02	0.78	0.141	0.960
PSCAD3 0.5*rho	0.171	0.110	0.522	0.294	1.254	0.824	0.708	0.421	0.02	0.81	0.141	0.940
PMCP1 0.5*rho	0.165	0.105	0.497	0.277	1.180	0.795	0.671	0.399	0.02	0.76	0.141	1.026
PMCP2 0.5*rho	0.169	0.108	0.516	0.288	1.263	0.845	0.705	0.417	0.02	0.88	0.141	1.076
PMCP3 0.5*rho	0.169	0.108	0.516	0.293	1.258	0.829	0.706	0.420	0.02	0.84	0.141	0.961

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.501	-1.764	-1.326	-0.886	0.000	0.000	-0.002	-0.001	0.001
FSCAD	0.501	-1.752	-1.314	-0.875	0.000	-0.001	-0.002	0.000	0.000
FMCP	0.501	-1.752	-1.314	-0.875	-0.001	0.000	-0.001	0.000	0.002
CLASSO	0.708	-1.824	-1.373	-0.918	0.001	0.000	-0.002	-0.001	0.002
CSCAD	0.700	-1.812	-1.361	-0.911	0.000	0.000	-0.002	0.000	0.002
CMCP	0.700	-1.812	-1.361	-0.910	0.002	0.001	-0.001	-0.001	0.000
PLASSO	0.000	-0.312	-0.263	-0.211	0.005	-0.002	-0.010	0.005	0.012
PSCAD1	0.000	0.079	0.044	-0.030	-0.004	0.007	-0.008	-0.014	0.017
PSCAD2	0.000	0.118	0.084	0.022	0.004	-0.009	-0.007	-0.014	0.010
PSCAD3	0.000	0.120	0.086	0.022	0.008	0.002	-0.007	-0.020	0.014
PMCP1	0.000	0.080	0.048	-0.027	-0.002	0.006	-0.009	-0.012	0.017
PMCP2	0.000	0.109	0.073	0.003	-0.002	-0.004	-0.006	-0.015	0.012
PMCP3	0.000	0.121	0.085	0.020	-0.001	-0.004	-0.003	-0.016	0.015
FULL	0.501	-1.752	-1.314	-0.874	0.000	-0.001	-0.004	-0.001	0.000
COMPLETE	0.699	-1.812	-1.361	-0.906	0.003	0.000	-0.002	-0.001	0.002
LOGISTIC	0.000	0.201	0.148	0.089	0.010	-0.016	-0.009	0.003	0.013

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.019	0.017	0.021	0.019	0.013	0.012	0.010	0.012	0.013
FSCAD	0.019	0.016	0.020	0.019	0.011	0.011	0.008	0.011	0.010
FMCP	0.019	0.016	0.020	0.020	0.011	0.008	0.006	0.009	0.008
CLASSO	0.028	0.024	0.025	0.022	0.017	0.016	0.015	0.014	0.017
CSCAD	0.027	0.024	0.024	0.027	0.014	0.012	0.011	0.010	0.012
CMCP	0.027	0.024	0.024	0.025	0.016	0.012	0.011	0.012	0.015
PLASSO	0.000	0.354	0.373	0.273	0.186	0.161	0.169	0.168	0.188
PSCAD1	0.000	0.410	0.422	0.316	0.197	0.142	0.185	0.172	0.198
PSCAD2	0.000	0.416	0.438	0.330	0.201	0.172	0.189	0.181	0.222
PSCAD3	0.000	0.416	0.434	0.334	0.200	0.178	0.189	0.185	0.218
PMCP1	0.000	0.409	0.420	0.319	0.197	0.141	0.184	0.168	0.197
PMCP2	0.000	0.415	0.433	0.327	0.210	0.178	0.190	0.187	0.215
PMCP3	0.000	0.414	0.431	0.329	0.209	0.180	0.194	0.182	0.218
FULL	0.019	0.016	0.020	0.018	0.019	0.019	0.016	0.018	0.020
COMPLETE	0.027	0.023	0.024	0.021	0.023	0.021	0.022	0.021	0.023
LOGISTIC	0.000	0.436	0.453	0.320	0.291	0.284	0.264	0.274	0.294

```

beta : 2 1.5 1 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 3
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_2_1.5_1_n_400_lambda_location_l1_30_error_independent_TRUE_x_missing_location_3.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	1.764	0.017	4.009	0.034	2.378	0.018	0.00	2.38	0.000	1.516
FSCAD	0	0	1.752	0.016	3.958	0.045	2.358	0.015	0.00	1.04	0.000	1.363
FMCP	0	0	1.752	0.016	3.953	0.040	2.359	0.015	0.00	0.56	0.000	1.140
CLASSO	0	0	1.824	0.024	4.165	0.052	2.461	0.030	0.00	3.01	0.000	1.560
CSCAD	0	0	1.812	0.024	4.108	0.064	2.443	0.029	0.00	1.49	0.000	1.367
CMCP	0	0	1.812	0.024	4.110	0.066	2.443	0.029	0.00	1.18	0.000	1.546
PLASSO	0	0	0.530	0.203	1.621	0.561	0.787	0.280	0.00	3.43	0.000	1.305
PSCAD1	0	0	0.499	0.276	1.199	0.796	0.675	0.396	0.02	0.88	0.141	1.131
PSCAD2	0	0	0.514	0.300	1.247	0.886	0.699	0.435	0.02	0.85	0.141	1.048
PSCAD3	0	0	0.522	0.294	1.259	0.841	0.709	0.423	0.02	0.87	0.141	1.012
PMCP1	0	0	0.497	0.277	1.192	0.803	0.672	0.399	0.02	0.89	0.141	1.136
PMCP2	0	0	0.516	0.288	1.268	0.861	0.705	0.418	0.02	0.90	0.141	1.087
PMCP3	0	0	0.516	0.293	1.264	0.845	0.707	0.421	0.02	0.87	0.141	0.971

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	1.764	0.017	3.976	0.034	2.378	0.018	0.00	0.01	0.000	0.100

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	1.752	0.016	3.941	0.030	2.358	0.015	0.00	0.01	0.000	0.100
FMCP 0.05	0.05	NA	1.752	0.016	3.942	0.030	2.359	0.015	0.00	0.01	0.000	0.100
CLASSO 0.05	0.05	NA	1.824	0.024	4.118	0.052	2.461	0.030	0.00	0.06	0.000	0.343
CSCAD 0.05	0.05	NA	1.812	0.024	4.088	0.054	2.443	0.029	0.00	0.07	0.000	0.355
CMCP 0.05	0.05	NA	1.812	0.024	4.088	0.054	2.443	0.029	0.00	0.07	0.000	0.355
PLASSO 0.05	0.05	NA	0.530	0.203	1.601	0.567	0.787	0.280	0.00	2.61	0.000	1.442
PSCAD1 0.05	0.05	NA	0.499	0.276	1.197	0.797	0.675	0.396	0.02	0.82	0.141	1.086
PSCAD2 0.05	0.05	NA	0.514	0.300	1.246	0.886	0.699	0.435	0.02	0.81	0.141	1.002
PSCAD3 0.05	0.05	NA	0.522	0.294	1.258	0.841	0.709	0.423	0.02	0.82	0.141	0.947
PMCP1 0.05	0.05	NA	0.497	0.277	1.190	0.803	0.672	0.399	0.02	0.84	0.141	1.098
PMCP2 0.05	0.05	NA	0.516	0.288	1.268	0.861	0.705	0.418	0.02	0.90	0.141	1.087
PMCP3 0.05	0.05	NA	0.516	0.293	1.264	0.845	0.707	0.421	0.02	0.87	0.141	0.971

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.090	0.001	1.764	0.017	3.976	0.033	2.378	0.018	0.00	0.00	0.000	0.000
FSCAD 0.1*rho	0.089	0.001	1.752	0.016	3.941	0.028	2.358	0.015	0.00	0.00	0.000	0.000
FMCP 0.1*rho	0.089	0.001	1.752	0.016	3.941	0.028	2.359	0.015	0.00	0.00	0.000	0.000
CLASSO 0.1*rho	0.093	0.002	1.824	0.024	4.115	0.052	2.461	0.030	0.00	0.00	0.000	0.000
CSCAD 0.1*rho	0.092	0.002	1.812	0.024	4.084	0.051	2.443	0.029	0.00	0.00	0.000	0.000
CMCP 0.1*rho	0.092	0.002	1.812	0.024	4.084	0.050	2.443	0.029	0.00	0.00	0.000	0.000
PLASSO 0.1*rho	0.036	0.016	0.530	0.203	1.611	0.557	0.787	0.280	0.00	2.89	0.000	1.449
PSCAD1 0.1*rho	0.033	0.021	0.499	0.276	1.199	0.796	0.675	0.396	0.02	0.87	0.141	1.134
PSCAD2 0.1*rho	0.034	0.022	0.514	0.300	1.246	0.886	0.699	0.435	0.02	0.81	0.141	1.002
PSCAD3 0.1*rho	0.034	0.022	0.522	0.294	1.258	0.841	0.709	0.423	0.02	0.82	0.141	0.947
PMCP1 0.1*rho	0.033	0.021	0.497	0.277	1.191	0.801	0.672	0.399	0.02	0.86	0.141	1.110
PMCP2 0.1*rho	0.034	0.022	0.516	0.288	1.268	0.861	0.705	0.418	0.02	0.90	0.141	1.087
PMCP3 0.1*rho	0.034	0.022	0.516	0.293	1.264	0.845	0.707	0.421	0.02	0.87	0.141	0.971

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.269	0.004	1.764	0.017	3.976	0.033	2.378	0.018	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.266	0.003	1.752	0.016	3.941	0.028	2.358	0.015	0.00	0.00	0.000	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.267	0.003	1.752	0.016	3.941	0.028	2.359	0.015	0.00	0.00	0.000	0.000
FLASSO 0.3*rho	0.278	0.005	1.824	0.024	4.115	0.052	2.461	0.030	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.277	0.006	1.812	0.024	4.084	0.051	2.443	0.029	0.00	0.00	0.000	0.000
FMCP 0.3*rho	0.277	0.005	1.812	0.024	4.084	0.050	2.443	0.029	0.00	0.00	0.000	0.000
FLASSO 0.3*rho	0.108	0.049	0.530	0.203	1.540	0.534	0.784	0.279	0.00	1.92	0.000	1.461
FSCAD1 0.3*rho	0.099	0.062	0.499	0.276	1.197	0.796	0.675	0.396	0.02	0.82	0.141	1.086
PSCAD2 0.3*rho	0.101	0.067	0.514	0.300	1.246	0.886	0.699	0.435	0.02	0.81	0.141	1.002
PSCAD3 0.3*rho	0.103	0.066	0.522	0.294	1.258	0.841	0.709	0.423	0.02	0.82	0.141	0.947
PMCP1 0.3*rho	0.099	0.063	0.497	0.277	1.188	0.801	0.672	0.399	0.02	0.81	0.141	1.080
PMCP2 0.3*rho	0.101	0.065	0.516	0.288	1.267	0.861	0.705	0.418	0.02	0.89	0.141	1.081
PMCP3 0.3*rho	0.101	0.065	0.516	0.293	1.263	0.845	0.707	0.421	0.02	0.85	0.141	0.968

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.448	0.006	1.764	0.017	3.976	0.033	2.378	0.018	0.00	0.00	0.000	0.000
FSCAD 0.5*rho	0.444	0.005	1.752	0.016	3.941	0.028	2.358	0.015	0.00	0.00	0.000	0.000
FMCP 0.5*rho	0.444	0.006	1.752	0.016	3.941	0.028	2.359	0.015	0.00	0.00	0.000	0.000
FLASSO 0.5*rho	0.464	0.008	1.824	0.024	4.115	0.052	2.461	0.030	0.00	0.00	0.000	0.000
CSCAD 0.5*rho	0.461	0.010	1.812	0.024	4.084	0.051	2.443	0.029	0.00	0.00	0.000	0.000
CMCP 0.5*rho	0.461	0.009	1.812	0.024	4.084	0.050	2.443	0.029	0.00	0.00	0.000	0.000
PLASSO 0.5*rho	0.181	0.082	0.530	0.203	1.466	0.528	0.776	0.279	0.00	1.39	0.000	1.385
PSCAD1 0.5*rho	0.165	0.104	0.499	0.276	1.189	0.790	0.675	0.396	0.02	0.77	0.141	1.043
PSCAD2 0.5*rho	0.169	0.111	0.514	0.300	1.235	0.847	0.698	0.432	0.02	0.78	0.141	0.960
PSCAD3 0.5*rho	0.171	0.110	0.522	0.294	1.254	0.824	0.708	0.421	0.02	0.81	0.141	0.940
PMCP1 0.5*rho	0.165	0.105	0.497	0.277	1.180	0.795	0.671	0.399	0.02	0.76	0.141	1.026
PMCP2 0.5*rho	0.169	0.108	0.516	0.288	1.263	0.845	0.705	0.417	0.02	0.88	0.141	1.076
PMCP3 0.5*rho	0.169	0.108	0.516	0.293	1.258	0.829	0.706	0.420	0.02	0.84	0.141	0.961

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.501	-1.764	-1.326	-0.886	0.000	0.000	-0.002	-0.001	0.001
FSCAD	0.501	-1.752	-1.314	-0.875	0.000	-0.001	-0.002	0.000	0.000
FMCP	0.501	-1.752	-1.314	-0.875	-0.001	0.000	-0.001	0.000	0.002
CLASSO	0.708	-1.824	-1.373	-0.918	0.001	0.000	-0.002	-0.001	0.002
CSCAD	0.700	-1.812	-1.361	-0.911	0.000	0.000	-0.002	0.000	0.002
CMCP	0.700	-1.812	-1.361	-0.910	0.002	0.001	-0.001	-0.001	0.000
PLASSO	0.000	-0.312	-0.263	-0.211	0.005	-0.002	-0.010	0.005	0.012
PSCAD1	0.000	0.079	0.044	-0.030	-0.004	0.007	-0.008	-0.014	0.017
PSCAD2	0.000	0.118	0.084	0.022	0.004	-0.009	-0.007	-0.014	0.010
PSCAD3	0.000	0.120	0.086	0.022	0.008	0.002	-0.007	-0.020	0.014
PMCP1	0.000	0.080	0.048	-0.027	-0.002	0.006	-0.009	-0.012	0.017
PMCP2	0.000	0.109	0.073	0.003	-0.002	-0.004	-0.006	-0.015	0.012
PMCP3	0.000	0.121	0.085	0.020	-0.001	-0.004	-0.003	-0.016	0.015
FULL	0.501	-1.752	-1.314	-0.874	0.000	-0.001	-0.004	-0.001	0.000
COMPLETE	0.699	-1.812	-1.361	-0.906	0.003	0.000	-0.002	-0.001	0.002
LOGISTIC	0.000	0.201	0.148	0.089	0.010	-0.016	-0.009	0.003	0.013

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.019	0.017	0.021	0.019	0.013	0.012	0.010	0.012	0.013
FSCAD	0.019	0.016	0.020	0.019	0.011	0.011	0.008	0.011	0.010
FMCP	0.019	0.016	0.020	0.020	0.011	0.008	0.006	0.009	0.008
CLASSO	0.028	0.024	0.025	0.022	0.017	0.016	0.015	0.014	0.017
CSCAD	0.027	0.024	0.024	0.027	0.014	0.012	0.011	0.010	0.012
CMCP	0.027	0.024	0.024	0.025	0.016	0.012	0.011	0.012	0.015
PLASSO	0.000	0.354	0.373	0.273	0.186	0.161	0.169	0.168	0.188
PSCAD1	0.000	0.410	0.422	0.316	0.197	0.142	0.185	0.172	0.198
PSCAD2	0.000	0.416	0.438	0.330	0.201	0.172	0.189	0.181	0.222
PSCAD3	0.000	0.416	0.434	0.334	0.200	0.178	0.189	0.185	0.218
PMCP1	0.000	0.409	0.420	0.319	0.197	0.141	0.184	0.168	0.197
PMCP2	0.000	0.415	0.433	0.327	0.210	0.178	0.190	0.187	0.215
PMCP3	0.000	0.414	0.431	0.329	0.209	0.180	0.194	0.182	0.218
FULL	0.019	0.016	0.020	0.018	0.019	0.019	0.016	0.018	0.020
COMPLETE	0.027	0.023	0.024	0.021	0.023	0.021	0.022	0.021	0.023
LOGISTIC	0.000	0.436	0.453	0.320	0.291	0.284	0.264	0.274	0.294

```

beta : 2 1.5 1 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 8
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_2_1.5_1_n_400_lambda_location_l1_30_error_independent_TRUE_x_missing_location_8.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	1.764	0.017	4.009	0.034	2.378	0.018	0.00	2.38	0.000	1.516
FSCAD	0	0	1.752	0.016	3.958	0.045	2.358	0.015	0.00	1.04	0.000	1.363
FMCP	0	0	1.752	0.016	3.953	0.040	2.359	0.015	0.00	0.56	0.000	1.140
CLASSO	0	0	1.824	0.024	4.165	0.052	2.461	0.030	0.00	3.01	0.000	1.560
CSCAD	0	0	1.812	0.024	4.108	0.064	2.443	0.029	0.00	1.49	0.000	1.367
CMCP	0	0	1.812	0.024	4.110	0.066	2.443	0.029	0.00	1.18	0.000	1.546
PLASSO	0	0	0.530	0.203	1.621	0.561	0.787	0.280	0.00	3.43	0.000	1.305
PSCAD1	0	0	0.499	0.276	1.199	0.796	0.675	0.396	0.02	0.88	0.141	1.131
PSCAD2	0	0	0.514	0.300	1.247	0.886	0.699	0.435	0.02	0.85	0.141	1.048
PSCAD3	0	0	0.522	0.294	1.259	0.841	0.709	0.423	0.02	0.87	0.141	1.012
PMCP1	0	0	0.497	0.277	1.192	0.803	0.672	0.399	0.02	0.89	0.141	1.136
PMCP2	0	0	0.516	0.288	1.268	0.861	0.705	0.418	0.02	0.90	0.141	1.087
PMCP3	0	0	0.516	0.293	1.264	0.845	0.707	0.421	0.02	0.87	0.141	0.971

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	1.764	0.017	3.976	0.034	2.378	0.018	0.00	0.01	0.000	0.100

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	1.752	0.016	3.941	0.030	2.358	0.015	0.00	0.01	0.000	0.100
FMCP 0.05	0.05	NA	1.752	0.016	3.942	0.030	2.359	0.015	0.00	0.01	0.000	0.100
CLASSO 0.05	0.05	NA	1.824	0.024	4.118	0.052	2.461	0.030	0.00	0.06	0.000	0.343
CSCAD 0.05	0.05	NA	1.812	0.024	4.088	0.054	2.443	0.029	0.00	0.07	0.000	0.355
CMCP 0.05	0.05	NA	1.812	0.024	4.088	0.054	2.443	0.029	0.00	0.07	0.000	0.355
PLASSO 0.05	0.05	NA	0.530	0.203	1.601	0.567	0.787	0.280	0.00	2.61	0.000	1.442
PSCAD1 0.05	0.05	NA	0.499	0.276	1.197	0.797	0.675	0.396	0.02	0.82	0.141	1.086
PSCAD2 0.05	0.05	NA	0.514	0.300	1.246	0.886	0.699	0.435	0.02	0.81	0.141	1.002
PSCAD3 0.05	0.05	NA	0.522	0.294	1.258	0.841	0.709	0.423	0.02	0.82	0.141	0.947
PMCP1 0.05	0.05	NA	0.497	0.277	1.190	0.803	0.672	0.399	0.02	0.84	0.141	1.098
PMCP2 0.05	0.05	NA	0.516	0.288	1.268	0.861	0.705	0.418	0.02	0.90	0.141	1.087
PMCP3 0.05	0.05	NA	0.516	0.293	1.264	0.845	0.707	0.421	0.02	0.87	0.141	0.971

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.090	0.001	1.764	0.017	3.976	0.033	2.378	0.018	0.00	0.00	0.000	0.000
FSCAD 0.1*rho	0.089	0.001	1.752	0.016	3.941	0.028	2.358	0.015	0.00	0.00	0.000	0.000
FMCP 0.1*rho	0.089	0.001	1.752	0.016	3.941	0.028	2.359	0.015	0.00	0.00	0.000	0.000
CLASSO 0.1*rho	0.093	0.002	1.824	0.024	4.115	0.052	2.461	0.030	0.00	0.00	0.000	0.000
CSCAD 0.1*rho	0.092	0.002	1.812	0.024	4.084	0.051	2.443	0.029	0.00	0.00	0.000	0.000
CMCP 0.1*rho	0.092	0.002	1.812	0.024	4.084	0.050	2.443	0.029	0.00	0.00	0.000	0.000
PLASSO 0.1*rho	0.036	0.016	0.530	0.203	1.611	0.557	0.787	0.280	0.00	2.89	0.000	1.449
PSCAD1 0.1*rho	0.033	0.021	0.499	0.276	1.199	0.796	0.675	0.396	0.02	0.87	0.141	1.134
PSCAD2 0.1*rho	0.034	0.022	0.514	0.300	1.246	0.886	0.699	0.435	0.02	0.81	0.141	1.002
PSCAD3 0.1*rho	0.034	0.022	0.522	0.294	1.258	0.841	0.709	0.423	0.02	0.82	0.141	0.947
PMCP1 0.1*rho	0.033	0.021	0.497	0.277	1.191	0.801	0.672	0.399	0.02	0.86	0.141	1.110
PMCP2 0.1*rho	0.034	0.022	0.516	0.288	1.268	0.861	0.705	0.418	0.02	0.90	0.141	1.087
PMCP3 0.1*rho	0.034	0.022	0.516	0.293	1.264	0.845	0.707	0.421	0.02	0.87	0.141	0.971

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.269	0.004	1.764	0.017	3.976	0.033	2.378	0.018	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.266	0.003	1.752	0.016	3.941	0.028	2.358	0.015	0.00	0.00	0.000	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.267	0.003	1.752	0.016	3.941	0.028	2.359	0.015	0.00	0.00	0.000	0.000
FLASSO 0.3*rho	0.278	0.005	1.824	0.024	4.115	0.052	2.461	0.030	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.277	0.006	1.812	0.024	4.084	0.051	2.443	0.029	0.00	0.00	0.000	0.000
FMCP 0.3*rho	0.277	0.005	1.812	0.024	4.084	0.050	2.443	0.029	0.00	0.00	0.000	0.000
FLASSO 0.3*rho	0.108	0.049	0.530	0.203	1.540	0.534	0.784	0.279	0.00	1.92	0.000	1.461
FSCAD1 0.3*rho	0.099	0.062	0.499	0.276	1.197	0.796	0.675	0.396	0.02	0.82	0.141	1.086
FSCAD2 0.3*rho	0.101	0.067	0.514	0.300	1.246	0.886	0.699	0.435	0.02	0.81	0.141	1.002
FSCAD3 0.3*rho	0.103	0.066	0.522	0.294	1.258	0.841	0.709	0.423	0.02	0.82	0.141	0.947
PMCP1 0.3*rho	0.099	0.063	0.497	0.277	1.188	0.801	0.672	0.399	0.02	0.81	0.141	1.080
PMCP2 0.3*rho	0.101	0.065	0.516	0.288	1.267	0.861	0.705	0.418	0.02	0.89	0.141	1.081
PMCP3 0.3*rho	0.101	0.065	0.516	0.293	1.263	0.845	0.707	0.421	0.02	0.85	0.141	0.968

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.448	0.006	1.764	0.017	3.976	0.033	2.378	0.018	0.00	0.00	0.000	0.000
FSCAD 0.5*rho	0.444	0.005	1.752	0.016	3.941	0.028	2.358	0.015	0.00	0.00	0.000	0.000
FMCP 0.5*rho	0.444	0.006	1.752	0.016	3.941	0.028	2.359	0.015	0.00	0.00	0.000	0.000
FLASSO 0.5*rho	0.464	0.008	1.824	0.024	4.115	0.052	2.461	0.030	0.00	0.00	0.000	0.000
FSCAD 0.5*rho	0.461	0.010	1.812	0.024	4.084	0.051	2.443	0.029	0.00	0.00	0.000	0.000
FMCP 0.5*rho	0.461	0.009	1.812	0.024	4.084	0.050	2.443	0.029	0.00	0.00	0.000	0.000
FLASSO 0.5*rho	0.181	0.082	0.530	0.203	1.466	0.528	0.776	0.279	0.00	1.39	0.000	1.385
FSCAD1 0.5*rho	0.165	0.104	0.499	0.276	1.189	0.790	0.675	0.396	0.02	0.77	0.141	1.043
FSCAD2 0.5*rho	0.169	0.111	0.514	0.300	1.235	0.847	0.698	0.432	0.02	0.78	0.141	0.960
FSCAD3 0.5*rho	0.171	0.110	0.522	0.294	1.254	0.824	0.708	0.421	0.02	0.81	0.141	0.940
PMCP1 0.5*rho	0.165	0.105	0.497	0.277	1.180	0.795	0.671	0.399	0.02	0.76	0.141	1.026
PMCP2 0.5*rho	0.169	0.108	0.516	0.288	1.263	0.845	0.705	0.417	0.02	0.88	0.141	1.076
PMCP3 0.5*rho	0.169	0.108	0.516	0.293	1.258	0.829	0.706	0.420	0.02	0.84	0.141	0.961

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.501	-1.764	-1.326	-0.886	0.000	0.000	-0.002	-0.001	0.001
FSCAD	0.501	-1.752	-1.314	-0.875	0.000	-0.001	-0.002	0.000	0.000
FMCP	0.501	-1.752	-1.314	-0.875	-0.001	0.000	-0.001	0.000	0.002
CLASSO	0.708	-1.824	-1.373	-0.918	0.001	0.000	-0.002	-0.001	0.002
CSCAD	0.700	-1.812	-1.361	-0.911	0.000	0.000	-0.002	0.000	0.002
CMCP	0.700	-1.812	-1.361	-0.910	0.002	0.001	-0.001	-0.001	0.000
PLASSO	0.000	-0.312	-0.263	-0.211	0.005	-0.002	-0.010	0.005	0.012
PSCAD1	0.000	0.079	0.044	-0.030	-0.004	0.007	-0.008	-0.014	0.017
PSCAD2	0.000	0.118	0.084	0.022	0.004	-0.009	-0.007	-0.014	0.010
PSCAD3	0.000	0.120	0.086	0.022	0.008	0.002	-0.007	-0.020	0.014
PMCP1	0.000	0.080	0.048	-0.027	-0.002	0.006	-0.009	-0.012	0.017
PMCP2	0.000	0.109	0.073	0.003	-0.002	-0.004	-0.006	-0.015	0.012
PMCP3	0.000	0.121	0.085	0.020	-0.001	-0.004	-0.003	-0.016	0.015
FULL	0.501	-1.752	-1.314	-0.874	0.000	-0.001	-0.004	-0.001	0.000
COMPLETE	0.699	-1.812	-1.361	-0.906	0.003	0.000	-0.002	-0.001	0.002
LOGISTIC	0.000	0.201	0.148	0.089	0.010	-0.016	-0.009	0.003	0.013

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.019	0.017	0.021	0.019	0.013	0.012	0.010	0.012	0.013
FSCAD	0.019	0.016	0.020	0.019	0.011	0.011	0.008	0.011	0.010
FMCP	0.019	0.016	0.020	0.020	0.011	0.008	0.006	0.009	0.008
CLASSO	0.028	0.024	0.025	0.022	0.017	0.016	0.015	0.014	0.017
CSCAD	0.027	0.024	0.024	0.027	0.014	0.012	0.011	0.010	0.012
CMCP	0.027	0.024	0.024	0.025	0.016	0.012	0.011	0.012	0.015
PLASSO	0.000	0.354	0.373	0.273	0.186	0.161	0.169	0.168	0.188
PSCAD1	0.000	0.410	0.422	0.316	0.197	0.142	0.185	0.172	0.198
PSCAD2	0.000	0.416	0.438	0.330	0.201	0.172	0.189	0.181	0.222
PSCAD3	0.000	0.416	0.434	0.334	0.200	0.178	0.189	0.185	0.218
PMCP1	0.000	0.409	0.420	0.319	0.197	0.141	0.184	0.168	0.197
PMCP2	0.000	0.415	0.433	0.327	0.210	0.178	0.190	0.187	0.215
PMCP3	0.000	0.414	0.431	0.329	0.209	0.180	0.194	0.182	0.218
FULL	0.019	0.016	0.020	0.018	0.019	0.019	0.016	0.018	0.020
COMPLETE	0.027	0.023	0.024	0.021	0.023	0.021	0.022	0.021	0.023
LOGISTIC	0.000	0.436	0.453	0.320	0.291	0.284	0.264	0.274	0.294

```

beta : 2 1.5 1 0 0 0 0
intercept : 0
sample size : 600
simulation time : 100
loss_rate: 0.625
error_independent: FALSE
missing_method: xy
missing_location: 1
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_2_1.5_1_n_600_lambda_location_l1_30_error_independent_FALSE_x_missing_location_1.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	1.804	0.017	4.091	0.026	2.433	0.010	0.00	1.87	0.000	1.502
FSCAD	0	0	1.796	0.017	4.060	0.028	2.422	0.009	0.00	0.67	0.000	1.083
FMCP	0	0	1.796	0.017	4.059	0.031	2.422	0.009	0.00	0.37	0.000	0.939
CLASSO	0	0	1.847	0.021	4.194	0.035	2.492	0.015	0.00	1.89	0.000	1.569
CSCAD	0	0	1.838	0.020	4.164	0.047	2.479	0.014	0.00	1.27	0.000	1.347
CMCP	0	0	1.838	0.020	4.164	0.045	2.479	0.014	0.04	0.84	0.197	1.324
PLASSO	0	0	0.482	0.178	1.311	0.438	0.670	0.207	0.00	2.61	0.000	1.310
PSCAD1	0	0	0.532	0.280	1.132	0.625	0.680	0.341	0.00	0.72	0.000	1.064
PSCAD2	0	0	0.543	0.280	1.154	0.626	0.694	0.345	0.01	0.68	0.100	0.898
PSCAD3	0	0	0.557	0.278	1.196	0.650	0.713	0.351	0.01	0.71	0.100	0.880
PMCP1	0	0	0.531	0.272	1.118	0.589	0.675	0.327	0.00	0.70	0.000	0.980
PMCP2	0	0	0.541	0.274	1.172	0.609	0.695	0.335	0.01	0.76	0.100	0.911
PMCP3	0	0	0.557	0.277	1.207	0.649	0.717	0.349	0.01	0.72	0.100	0.842

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	1.804	0.017	4.068	0.018	2.433	0.010	0.00	0.00	0.000	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	1.796	0.017	4.049	0.015	2.422	0.009	0.00	0.01	0.000	0.100
FMCP 0.05	0.05	NA	1.796	0.017	4.050	0.015	2.422	0.009	0.00	0.01	0.000	0.100
CLASSO 0.05	0.05	NA	1.847	0.021	4.168	0.027	2.492	0.015	0.00	0.00	0.000	0.000
CSCAD 0.05	0.05	NA	1.838	0.020	4.145	0.027	2.479	0.014	0.00	0.02	0.000	0.141
CMCP 0.05	0.05	NA	1.838	0.020	4.146	0.027	2.479	0.014	0.04	0.02	0.197	0.141
PLASSO 0.05	0.05	NA	0.482	0.178	1.300	0.441	0.670	0.207	0.00	2.12	0.000	1.358
PSCAD1 0.05	0.05	NA	0.532	0.280	1.132	0.625	0.680	0.341	0.00	0.68	0.000	1.034
PSCAD2 0.05	0.05	NA	0.543	0.280	1.154	0.625	0.694	0.345	0.01	0.67	0.100	0.877
PSCAD3 0.05	0.05	NA	0.557	0.278	1.195	0.650	0.713	0.351	0.01	0.69	0.100	0.837
PMCP1 0.05	0.05	NA	0.531	0.272	1.116	0.589	0.675	0.327	0.00	0.65	0.000	0.903
PMCP2 0.05	0.05	NA	0.541	0.274	1.171	0.609	0.695	0.335	0.01	0.73	0.100	0.874
PMCP3 0.05	0.05	NA	0.557	0.277	1.207	0.649	0.717	0.349	0.01	0.72	0.100	0.842

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.092	0.001	1.804	0.017	4.068	0.018	2.433	0.010	0.00	0.00	0.000	0.000
FSCAD 0.1*rho	0.091	0.001	1.796	0.017	4.048	0.015	2.422	0.009	0.00	0.00	0.000	0.000
FMCP 0.1*rho	0.091	0.001	1.796	0.017	4.049	0.015	2.422	0.009	0.00	0.00	0.000	0.000
CLASSO 0.1*rho	0.094	0.001	1.847	0.021	4.168	0.027	2.492	0.015	0.00	0.00	0.000	0.000
CSCAD 0.1*rho	0.094	0.002	1.838	0.020	4.144	0.026	2.479	0.014	0.00	0.00	0.000	0.000
CMCP 0.1*rho	0.094	0.002	1.838	0.020	4.145	0.026	2.479	0.014	0.04	0.00	0.197	0.000
PLASSO 0.1*rho	0.033	0.014	0.482	0.178	1.304	0.437	0.670	0.207	0.00	2.23	0.000	1.362
PSCAD1 0.1*rho	0.035	0.020	0.532	0.280	1.132	0.625	0.680	0.341	0.00	0.70	0.000	1.049
PSCAD2 0.1*rho	0.035	0.020	0.543	0.280	1.154	0.625	0.694	0.345	0.01	0.67	0.100	0.877
PSCAD3 0.1*rho	0.035	0.021	0.557	0.278	1.195	0.650	0.713	0.351	0.01	0.69	0.100	0.837
PMCP1 0.1*rho	0.035	0.020	0.531	0.272	1.118	0.589	0.675	0.327	0.00	0.70	0.000	0.980
PMCP2 0.1*rho	0.034	0.020	0.541	0.274	1.172	0.609	0.695	0.335	0.01	0.75	0.100	0.892
PMCP3 0.1*rho	0.035	0.021	0.557	0.277	1.207	0.649	0.717	0.349	0.01	0.72	0.100	0.842

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.275	0.003	1.804	0.017	4.068	0.018	2.433	0.010	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.274	0.002	1.796	0.017	4.048	0.015	2.422	0.009	0.00	0.00	0.000	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.274	0.003	1.796	0.017	4.049	0.015	2.422	0.009	0.00	0.00	0.000	0.000
CLASSO 0.3*rho	0.283	0.004	1.847	0.021	4.168	0.027	2.492	0.015	0.00	0.00	0.000	0.000
CSCAD 0.3*rho	0.281	0.005	1.838	0.020	4.144	0.026	2.479	0.014	0.00	0.00	0.000	0.000
CMCP 0.3*rho	0.282	0.005	1.838	0.020	4.145	0.026	2.479	0.014	0.04	0.00	0.197	0.000
PLASSO 0.3*rho	0.100	0.042	0.482	0.178	1.254	0.420	0.667	0.206	0.00	1.56	0.000	1.274
PSCAD1 0.3*rho	0.104	0.061	0.532	0.280	1.129	0.623	0.680	0.341	0.00	0.65	0.000	0.978
PSCAD2 0.3*rho	0.104	0.061	0.543	0.280	1.152	0.623	0.694	0.345	0.01	0.65	0.100	0.857
PSCAD3 0.3*rho	0.105	0.062	0.557	0.278	1.195	0.650	0.713	0.351	0.01	0.69	0.100	0.837
PMCP1 0.3*rho	0.104	0.059	0.531	0.272	1.115	0.587	0.675	0.327	0.00	0.64	0.000	0.894
PMCP2 0.3*rho	0.103	0.059	0.541	0.274	1.171	0.609	0.695	0.335	0.01	0.74	0.100	0.895
PMCP3 0.3*rho	0.106	0.062	0.557	0.277	1.207	0.649	0.717	0.349	0.01	0.72	0.100	0.842

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.458	0.005	1.804	0.017	4.068	0.018	2.433	0.010	0.00	0.00	0.000	0.000
FSCAD 0.5*rho	0.456	0.004	1.796	0.017	4.048	0.015	2.422	0.009	0.00	0.00	0.000	0.000
FMCP 0.5*rho	0.456	0.004	1.796	0.017	4.049	0.015	2.422	0.009	0.00	0.00	0.000	0.000
CLASSO 0.5*rho	0.471	0.006	1.847	0.021	4.168	0.027	2.492	0.015	0.00	0.00	0.000	0.000
CSCAD 0.5*rho	0.469	0.008	1.838	0.020	4.144	0.026	2.479	0.014	0.00	0.00	0.000	0.000
CMCP 0.5*rho	0.469	0.009	1.838	0.020	4.145	0.026	2.479	0.014	0.04	0.00	0.197	0.000
PLASSO 0.5*rho	0.167	0.071	0.482	0.178	1.191	0.402	0.660	0.205	0.00	1.12	0.000	1.174
PSCAD1 0.5*rho	0.174	0.102	0.532	0.280	1.123	0.617	0.679	0.341	0.00	0.62	0.000	0.951
PSCAD2 0.5*rho	0.173	0.102	0.543	0.280	1.147	0.621	0.693	0.344	0.01	0.63	0.100	0.861
PSCAD3 0.5*rho	0.174	0.103	0.557	0.278	1.191	0.652	0.712	0.351	0.01	0.67	0.100	0.842
PMCP1 0.5*rho	0.173	0.098	0.531	0.272	1.107	0.581	0.674	0.327	0.00	0.58	0.000	0.855
PMCP2 0.5*rho	0.171	0.098	0.541	0.274	1.158	0.599	0.693	0.335	0.01	0.66	0.100	0.831
PMCP3 0.5*rho	0.176	0.103	0.557	0.277	1.203	0.649	0.717	0.349	0.01	0.70	0.100	0.847

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.498	-1.804	-1.357	-0.908	0.001	0.000	-0.001	0.002	0.000
FSCAD	0.498	-1.796	-1.353	-0.899	0.000	0.000	-0.002	0.001	0.000
FMCP	0.498	-1.796	-1.353	-0.900	0.000	0.001	-0.001	0.001	0.000
CLASSO	0.687	-1.847	-1.389	-0.931	0.003	-0.001	-0.001	0.000	0.002
CSCAD	0.679	-1.838	-1.383	-0.923	0.000	0.000	-0.002	-0.001	0.002
CMCP	0.679	-1.838	-1.382	-0.925	0.001	-0.001	-0.001	-0.001	0.003
PLASSO	0.000	-0.207	-0.180	-0.172	0.044	-0.010	-0.023	0.012	0.031
PSCAD1	0.000	0.190	0.121	0.021	0.036	0.001	-0.012	-0.014	0.040
PSCAD2	0.000	0.213	0.123	0.060	0.033	0.004	-0.024	-0.008	0.040
PSCAD3	0.000	0.219	0.127	0.065	0.036	-0.001	-0.025	-0.005	0.034
PMCP1	0.000	0.179	0.118	0.006	0.041	-0.005	-0.009	-0.011	0.039
PMCP2	0.000	0.210	0.125	0.055	0.038	-0.001	-0.022	-0.007	0.039
PMCP3	0.000	0.217	0.130	0.060	0.033	-0.004	-0.021	-0.005	0.036
FULL	0.498	-1.796	-1.353	-0.899	0.001	-0.002	-0.002	0.003	0.001
COMPLETE	0.679	-1.838	-1.384	-0.921	0.001	-0.002	-0.004	0.004	0.002
LOGISTIC	0.000	0.274	0.162	0.112	0.022	-0.012	-0.052	0.045	0.028

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.014	0.017	0.017	0.016	0.011	0.010	0.010	0.009	0.007
FSCAD	0.014	0.017	0.017	0.016	0.009	0.008	0.011	0.007	0.006
FMCP	0.014	0.017	0.017	0.017	0.008	0.008	0.010	0.005	0.006
CLASSO	0.021	0.021	0.023	0.020	0.011	0.009	0.010	0.011	0.011
CSCAD	0.021	0.020	0.024	0.024	0.013	0.010	0.009	0.010	0.012
CMCP	0.021	0.020	0.024	0.025	0.013	0.009	0.010	0.011	0.011
PLASSO	0.000	0.345	0.283	0.273	0.198	0.109	0.132	0.150	0.154
PSCAD1	0.000	0.412	0.333	0.340	0.225	0.098	0.136	0.156	0.169
PSCAD2	0.000	0.415	0.334	0.331	0.233	0.099	0.153	0.163	0.172
PSCAD3	0.000	0.414	0.334	0.335	0.245	0.116	0.172	0.183	0.178
PMCP1	0.000	0.420	0.322	0.337	0.221	0.094	0.124	0.153	0.164
PMCP2	0.000	0.406	0.334	0.328	0.236	0.093	0.153	0.173	0.180
PMCP3	0.000	0.417	0.333	0.339	0.247	0.121	0.168	0.183	0.184
FULL	0.014	0.018	0.017	0.017	0.019	0.018	0.018	0.018	0.015
COMPLETE	0.021	0.020	0.023	0.020	0.022	0.019	0.020	0.018	0.019
LOGISTIC	0.000	0.429	0.341	0.358	0.333	0.264	0.298	0.328	0.284

```

beta : 2 1.5 1 0 0 0 0
intercept : 0
sample size : 600
simulation time : 100
loss_rate: 0.625
error_independent: FALSE
missing_method: xy
missing_location: 3
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_2_1.5_1_n_600_lambda_location_l1_30_error_independent_FALSE_x_missing_location_3.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	1.804	0.017	4.091	0.026	2.433	0.010	0.00	1.87	0.000	1.502
FSCAD	0	0	1.796	0.017	4.060	0.028	2.422	0.009	0.00	0.67	0.000	1.083
FMCP	0	0	1.796	0.017	4.059	0.031	2.422	0.009	0.00	0.37	0.000	0.939
CLASSO	0	0	1.847	0.021	4.194	0.035	2.492	0.015	0.00	1.89	0.000	1.569
CSCAD	0	0	1.838	0.020	4.164	0.047	2.479	0.014	0.00	1.27	0.000	1.347
CMCP	0	0	1.838	0.020	4.164	0.045	2.479	0.014	0.04	0.84	0.197	1.324
PLASSO	0	0	0.482	0.178	1.311	0.438	0.670	0.207	0.00	2.61	0.000	1.310
PSCAD1	0	0	0.532	0.280	1.132	0.625	0.680	0.341	0.00	0.72	0.000	1.064
PSCAD2	0	0	0.543	0.280	1.154	0.626	0.694	0.345	0.01	0.68	0.100	0.898
PSCAD3	0	0	0.557	0.278	1.196	0.650	0.713	0.351	0.01	0.71	0.100	0.880
PMCP1	0	0	0.531	0.272	1.118	0.589	0.675	0.327	0.00	0.70	0.000	0.980
PMCP2	0	0	0.541	0.274	1.172	0.609	0.695	0.335	0.01	0.76	0.100	0.911
PMCP3	0	0	0.557	0.277	1.207	0.649	0.717	0.349	0.01	0.72	0.100	0.842

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	1.804	0.017	4.068	0.018	2.433	0.010	0.00	0.00	0.000	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	1.796	0.017	4.049	0.015	2.422	0.009	0.00	0.01	0.000	0.100
FMCP 0.05	0.05	NA	1.796	0.017	4.050	0.015	2.422	0.009	0.00	0.01	0.000	0.100
CLASSO 0.05	0.05	NA	1.847	0.021	4.168	0.027	2.492	0.015	0.00	0.00	0.000	0.000
CSCAD 0.05	0.05	NA	1.838	0.020	4.145	0.027	2.479	0.014	0.00	0.02	0.000	0.141
CMCP 0.05	0.05	NA	1.838	0.020	4.146	0.027	2.479	0.014	0.04	0.02	0.197	0.141
PLASSO 0.05	0.05	NA	0.482	0.178	1.300	0.441	0.670	0.207	0.00	2.12	0.000	1.358
PSCAD1 0.05	0.05	NA	0.532	0.280	1.132	0.625	0.680	0.341	0.00	0.68	0.000	1.034
PSCAD2 0.05	0.05	NA	0.543	0.280	1.154	0.625	0.694	0.345	0.01	0.67	0.100	0.877
PSCAD3 0.05	0.05	NA	0.557	0.278	1.195	0.650	0.713	0.351	0.01	0.69	0.100	0.837
PMCP1 0.05	0.05	NA	0.531	0.272	1.116	0.589	0.675	0.327	0.00	0.65	0.000	0.903
PMCP2 0.05	0.05	NA	0.541	0.274	1.171	0.609	0.695	0.335	0.01	0.73	0.100	0.874
PMCP3 0.05	0.05	NA	0.557	0.277	1.207	0.649	0.717	0.349	0.01	0.72	0.100	0.842

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.092	0.001	1.804	0.017	4.068	0.018	2.433	0.010	0.00	0.00	0.000	0.000
FSCAD 0.1*rho	0.091	0.001	1.796	0.017	4.048	0.015	2.422	0.009	0.00	0.00	0.000	0.000
FMCP 0.1*rho	0.091	0.001	1.796	0.017	4.049	0.015	2.422	0.009	0.00	0.00	0.000	0.000
CLASSO 0.1*rho	0.094	0.001	1.847	0.021	4.168	0.027	2.492	0.015	0.00	0.00	0.000	0.000
CSCAD 0.1*rho	0.094	0.002	1.838	0.020	4.144	0.026	2.479	0.014	0.00	0.00	0.000	0.000
CMCP 0.1*rho	0.094	0.002	1.838	0.020	4.145	0.026	2.479	0.014	0.04	0.00	0.197	0.000
PLASSO 0.1*rho	0.033	0.014	0.482	0.178	1.304	0.437	0.670	0.207	0.00	2.23	0.000	1.362
PSCAD1 0.1*rho	0.035	0.020	0.532	0.280	1.132	0.625	0.680	0.341	0.00	0.70	0.000	1.049
PSCAD2 0.1*rho	0.035	0.020	0.543	0.280	1.154	0.625	0.694	0.345	0.01	0.67	0.100	0.877
PSCAD3 0.1*rho	0.035	0.021	0.557	0.278	1.195	0.650	0.713	0.351	0.01	0.69	0.100	0.837
PMCP1 0.1*rho	0.035	0.020	0.531	0.272	1.118	0.589	0.675	0.327	0.00	0.70	0.000	0.980
PMCP2 0.1*rho	0.034	0.020	0.541	0.274	1.172	0.609	0.695	0.335	0.01	0.75	0.100	0.892
PMCP3 0.1*rho	0.035	0.021	0.557	0.277	1.207	0.649	0.717	0.349	0.01	0.72	0.100	0.842

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.275	0.003	1.804	0.017	4.068	0.018	2.433	0.010	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.274	0.002	1.796	0.017	4.048	0.015	2.422	0.009	0.00	0.00	0.000	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.274	0.003	1.796	0.017	4.049	0.015	2.422	0.009	0.00	0.00	0.000	0.000
CLASSO 0.3*rho	0.283	0.004	1.847	0.021	4.168	0.027	2.492	0.015	0.00	0.00	0.000	0.000
CSCAD 0.3*rho	0.281	0.005	1.838	0.020	4.144	0.026	2.479	0.014	0.00	0.00	0.000	0.000
CMCP 0.3*rho	0.282	0.005	1.838	0.020	4.145	0.026	2.479	0.014	0.04	0.00	0.197	0.000
PLASSO 0.3*rho	0.100	0.042	0.482	0.178	1.254	0.420	0.667	0.206	0.00	1.56	0.000	1.274
PSCAD1 0.3*rho	0.104	0.061	0.532	0.280	1.129	0.623	0.680	0.341	0.00	0.65	0.000	0.978
PSCAD2 0.3*rho	0.104	0.061	0.543	0.280	1.152	0.623	0.694	0.345	0.01	0.65	0.100	0.857
PSCAD3 0.3*rho	0.105	0.062	0.557	0.278	1.195	0.650	0.713	0.351	0.01	0.69	0.100	0.837
PMCP1 0.3*rho	0.104	0.059	0.531	0.272	1.115	0.587	0.675	0.327	0.00	0.64	0.000	0.894
PMCP2 0.3*rho	0.103	0.059	0.541	0.274	1.171	0.609	0.695	0.335	0.01	0.74	0.100	0.895
PMCP3 0.3*rho	0.106	0.062	0.557	0.277	1.207	0.649	0.717	0.349	0.01	0.72	0.100	0.842

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.458	0.005	1.804	0.017	4.068	0.018	2.433	0.010	0.00	0.00	0.000	0.000
FSCAD 0.5*rho	0.456	0.004	1.796	0.017	4.048	0.015	2.422	0.009	0.00	0.00	0.000	0.000
FMCP 0.5*rho	0.456	0.004	1.796	0.017	4.049	0.015	2.422	0.009	0.00	0.00	0.000	0.000
CLASSO 0.5*rho	0.471	0.006	1.847	0.021	4.168	0.027	2.492	0.015	0.00	0.00	0.000	0.000
CSCAD 0.5*rho	0.469	0.008	1.838	0.020	4.144	0.026	2.479	0.014	0.00	0.00	0.000	0.000
CMCP 0.5*rho	0.469	0.009	1.838	0.020	4.145	0.026	2.479	0.014	0.04	0.00	0.197	0.000
PLASSO 0.5*rho	0.167	0.071	0.482	0.178	1.191	0.402	0.660	0.205	0.00	1.12	0.000	1.174
PSCAD1 0.5*rho	0.174	0.102	0.532	0.280	1.123	0.617	0.679	0.341	0.00	0.62	0.000	0.951
PSCAD2 0.5*rho	0.173	0.102	0.543	0.280	1.147	0.621	0.693	0.344	0.01	0.63	0.100	0.861
PSCAD3 0.5*rho	0.174	0.103	0.557	0.278	1.191	0.652	0.712	0.351	0.01	0.67	0.100	0.842
PMCP1 0.5*rho	0.173	0.098	0.531	0.272	1.107	0.581	0.674	0.327	0.00	0.58	0.000	0.855
PMCP2 0.5*rho	0.171	0.098	0.541	0.274	1.158	0.599	0.693	0.335	0.01	0.66	0.100	0.831
PMCP3 0.5*rho	0.176	0.103	0.557	0.277	1.203	0.649	0.717	0.349	0.01	0.70	0.100	0.847

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.498	-1.804	-1.357	-0.908	0.001	0.000	-0.001	0.002	0.000
FSCAD	0.498	-1.796	-1.353	-0.899	0.000	0.000	-0.002	0.001	0.000
FMCP	0.498	-1.796	-1.353	-0.900	0.000	0.001	-0.001	0.001	0.000
CLASSO	0.687	-1.847	-1.389	-0.931	0.003	-0.001	-0.001	0.000	0.002
CSCAD	0.679	-1.838	-1.383	-0.923	0.000	0.000	-0.002	-0.001	0.002
CMCP	0.679	-1.838	-1.382	-0.925	0.001	-0.001	-0.001	-0.001	0.003
PLASSO	0.000	-0.207	-0.180	-0.172	0.044	-0.010	-0.023	0.012	0.031
PSCAD1	0.000	0.190	0.121	0.021	0.036	0.001	-0.012	-0.014	0.040
PSCAD2	0.000	0.213	0.123	0.060	0.033	0.004	-0.024	-0.008	0.040
PSCAD3	0.000	0.219	0.127	0.065	0.036	-0.001	-0.025	-0.005	0.034
PMCP1	0.000	0.179	0.118	0.006	0.041	-0.005	-0.009	-0.011	0.039
PMCP2	0.000	0.210	0.125	0.055	0.038	-0.001	-0.022	-0.007	0.039
PMCP3	0.000	0.217	0.130	0.060	0.033	-0.004	-0.021	-0.005	0.036
FULL	0.498	-1.796	-1.353	-0.899	0.001	-0.002	-0.002	0.003	0.001
COMPLETE	0.679	-1.838	-1.384	-0.921	0.001	-0.002	-0.004	0.004	0.002
LOGISTIC	0.000	0.274	0.162	0.112	0.022	-0.012	-0.052	0.045	0.028

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.014	0.017	0.017	0.016	0.011	0.010	0.010	0.009	0.007
FSCAD	0.014	0.017	0.017	0.016	0.009	0.008	0.011	0.007	0.006
FMCP	0.014	0.017	0.017	0.017	0.008	0.008	0.010	0.005	0.006
CLASSO	0.021	0.021	0.023	0.020	0.011	0.009	0.010	0.011	0.011
CSCAD	0.021	0.020	0.024	0.024	0.013	0.010	0.009	0.010	0.012
CMCP	0.021	0.020	0.024	0.025	0.013	0.009	0.010	0.011	0.011
PLASSO	0.000	0.345	0.283	0.273	0.198	0.109	0.132	0.150	0.154
PSCAD1	0.000	0.412	0.333	0.340	0.225	0.098	0.136	0.156	0.169
PSCAD2	0.000	0.415	0.334	0.331	0.233	0.099	0.153	0.163	0.172
PSCAD3	0.000	0.414	0.334	0.335	0.245	0.116	0.172	0.183	0.178
PMCP1	0.000	0.420	0.322	0.337	0.221	0.094	0.124	0.153	0.164
PMCP2	0.000	0.406	0.334	0.328	0.236	0.093	0.153	0.173	0.180
PMCP3	0.000	0.417	0.333	0.339	0.247	0.121	0.168	0.183	0.184
FULL	0.014	0.018	0.017	0.017	0.019	0.018	0.018	0.018	0.015
COMPLETE	0.021	0.020	0.023	0.020	0.022	0.019	0.020	0.018	0.019
LOGISTIC	0.000	0.429	0.341	0.358	0.333	0.264	0.298	0.328	0.284

```

beta : 2 1.5 1 0 0 0 0
intercept : 0
sample size : 600
simulation time : 100
loss_rate: 0.625
error_independent: FALSE
missing_method: xy
missing_location: 8
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_2_1.5_1_n_600_lambda_location_l1_30_error_independent_FALSE_x_missing_location_8.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	1.804	0.017	4.091	0.026	2.433	0.010	0.00	1.87	0.000	1.502
FSCAD	0	0	1.796	0.017	4.060	0.028	2.422	0.009	0.00	0.67	0.000	1.083
FMCP	0	0	1.796	0.017	4.059	0.031	2.422	0.009	0.00	0.37	0.000	0.939
CLASSO	0	0	1.847	0.021	4.194	0.035	2.492	0.015	0.00	1.89	0.000	1.569
CSCAD	0	0	1.838	0.020	4.164	0.047	2.479	0.014	0.00	1.27	0.000	1.347
CMCP	0	0	1.838	0.020	4.164	0.045	2.479	0.014	0.04	0.84	0.197	1.324
PLASSO	0	0	0.482	0.178	1.311	0.438	0.670	0.207	0.00	2.61	0.000	1.310
PSCAD1	0	0	0.532	0.280	1.132	0.625	0.680	0.341	0.00	0.72	0.000	1.064
PSCAD2	0	0	0.543	0.280	1.154	0.626	0.694	0.345	0.01	0.68	0.100	0.898
PSCAD3	0	0	0.557	0.278	1.196	0.650	0.713	0.351	0.01	0.71	0.100	0.880
PMCP1	0	0	0.531	0.272	1.118	0.589	0.675	0.327	0.00	0.70	0.000	0.980
PMCP2	0	0	0.541	0.274	1.172	0.609	0.695	0.335	0.01	0.76	0.100	0.911
PMCP3	0	0	0.557	0.277	1.207	0.649	0.717	0.349	0.01	0.72	0.100	0.842

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	1.804	0.017	4.068	0.018	2.433	0.010	0.00	0.00	0.000	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	1.796	0.017	4.049	0.015	2.422	0.009	0.00	0.01	0.000	0.100
FMCP 0.05	0.05	NA	1.796	0.017	4.050	0.015	2.422	0.009	0.00	0.01	0.000	0.100
CLASSO 0.05	0.05	NA	1.847	0.021	4.168	0.027	2.492	0.015	0.00	0.00	0.000	0.000
CSCAD 0.05	0.05	NA	1.838	0.020	4.145	0.027	2.479	0.014	0.00	0.02	0.000	0.141
CMCP 0.05	0.05	NA	1.838	0.020	4.146	0.027	2.479	0.014	0.04	0.02	0.197	0.141
PLASSO 0.05	0.05	NA	0.482	0.178	1.300	0.441	0.670	0.207	0.00	2.12	0.000	1.358
PSCAD1 0.05	0.05	NA	0.532	0.280	1.132	0.625	0.680	0.341	0.00	0.68	0.000	1.034
PSCAD2 0.05	0.05	NA	0.543	0.280	1.154	0.625	0.694	0.345	0.01	0.67	0.100	0.877
PSCAD3 0.05	0.05	NA	0.557	0.278	1.195	0.650	0.713	0.351	0.01	0.69	0.100	0.837
PMCP1 0.05	0.05	NA	0.531	0.272	1.116	0.589	0.675	0.327	0.00	0.65	0.000	0.903
PMCP2 0.05	0.05	NA	0.541	0.274	1.171	0.609	0.695	0.335	0.01	0.73	0.100	0.874
PMCP3 0.05	0.05	NA	0.557	0.277	1.207	0.649	0.717	0.349	0.01	0.72	0.100	0.842

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.092	0.001	1.804	0.017	4.068	0.018	2.433	0.010	0.00	0.00	0.000	0.000
FSCAD 0.1*rho	0.091	0.001	1.796	0.017	4.048	0.015	2.422	0.009	0.00	0.00	0.000	0.000
FMCP 0.1*rho	0.091	0.001	1.796	0.017	4.049	0.015	2.422	0.009	0.00	0.00	0.000	0.000
CLASSO 0.1*rho	0.094	0.001	1.847	0.021	4.168	0.027	2.492	0.015	0.00	0.00	0.000	0.000
CSCAD 0.1*rho	0.094	0.002	1.838	0.020	4.144	0.026	2.479	0.014	0.00	0.00	0.000	0.000
CMCP 0.1*rho	0.094	0.002	1.838	0.020	4.145	0.026	2.479	0.014	0.04	0.00	0.197	0.000
PLASSO 0.1*rho	0.033	0.014	0.482	0.178	1.304	0.437	0.670	0.207	0.00	2.23	0.000	1.362
PSCAD1 0.1*rho	0.035	0.020	0.532	0.280	1.132	0.625	0.680	0.341	0.00	0.70	0.000	1.049
PSCAD2 0.1*rho	0.035	0.020	0.543	0.280	1.154	0.625	0.694	0.345	0.01	0.67	0.100	0.877
PSCAD3 0.1*rho	0.035	0.021	0.557	0.278	1.195	0.650	0.713	0.351	0.01	0.69	0.100	0.837
PMCP1 0.1*rho	0.035	0.020	0.531	0.272	1.118	0.589	0.675	0.327	0.00	0.70	0.000	0.980
PMCP2 0.1*rho	0.034	0.020	0.541	0.274	1.172	0.609	0.695	0.335	0.01	0.75	0.100	0.892
PMCP3 0.1*rho	0.035	0.021	0.557	0.277	1.207	0.649	0.717	0.349	0.01	0.72	0.100	0.842

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.275	0.003	1.804	0.017	4.068	0.018	2.433	0.010	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.274	0.002	1.796	0.017	4.048	0.015	2.422	0.009	0.00	0.00	0.000	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.274	0.003	1.796	0.017	4.049	0.015	2.422	0.009	0.00	0.00	0.000	0.000
CLASSO 0.3*rho	0.283	0.004	1.847	0.021	4.168	0.027	2.492	0.015	0.00	0.00	0.000	0.000
CSCAD 0.3*rho	0.281	0.005	1.838	0.020	4.144	0.026	2.479	0.014	0.00	0.00	0.000	0.000
CMCP 0.3*rho	0.282	0.005	1.838	0.020	4.145	0.026	2.479	0.014	0.04	0.00	0.197	0.000
PLASSO 0.3*rho	0.100	0.042	0.482	0.178	1.254	0.420	0.667	0.206	0.00	1.56	0.000	1.274
PSCAD1 0.3*rho	0.104	0.061	0.532	0.280	1.129	0.623	0.680	0.341	0.00	0.65	0.000	0.978
PSCAD2 0.3*rho	0.104	0.061	0.543	0.280	1.152	0.623	0.694	0.345	0.01	0.65	0.100	0.857
PSCAD3 0.3*rho	0.105	0.062	0.557	0.278	1.195	0.650	0.713	0.351	0.01	0.69	0.100	0.837
PMCP1 0.3*rho	0.104	0.059	0.531	0.272	1.115	0.587	0.675	0.327	0.00	0.64	0.000	0.894
PMCP2 0.3*rho	0.103	0.059	0.541	0.274	1.171	0.609	0.695	0.335	0.01	0.74	0.100	0.895
PMCP3 0.3*rho	0.106	0.062	0.557	0.277	1.207	0.649	0.717	0.349	0.01	0.72	0.100	0.842

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.458	0.005	1.804	0.017	4.068	0.018	2.433	0.010	0.00	0.00	0.000	0.000
FSCAD 0.5*rho	0.456	0.004	1.796	0.017	4.048	0.015	2.422	0.009	0.00	0.00	0.000	0.000
FMCP 0.5*rho	0.456	0.004	1.796	0.017	4.049	0.015	2.422	0.009	0.00	0.00	0.000	0.000
CLASSO 0.5*rho	0.471	0.006	1.847	0.021	4.168	0.027	2.492	0.015	0.00	0.00	0.000	0.000
CSCAD 0.5*rho	0.469	0.008	1.838	0.020	4.144	0.026	2.479	0.014	0.00	0.00	0.000	0.000
CMCP 0.5*rho	0.469	0.009	1.838	0.020	4.145	0.026	2.479	0.014	0.04	0.00	0.197	0.000
PLASSO 0.5*rho	0.167	0.071	0.482	0.178	1.191	0.402	0.660	0.205	0.00	1.12	0.000	1.174
PSCAD1 0.5*rho	0.174	0.102	0.532	0.280	1.123	0.617	0.679	0.341	0.00	0.62	0.000	0.951
PSCAD2 0.5*rho	0.173	0.102	0.543	0.280	1.147	0.621	0.693	0.344	0.01	0.63	0.100	0.861
PSCAD3 0.5*rho	0.174	0.103	0.557	0.278	1.191	0.652	0.712	0.351	0.01	0.67	0.100	0.842
PMCP1 0.5*rho	0.173	0.098	0.531	0.272	1.107	0.581	0.674	0.327	0.00	0.58	0.000	0.855
PMCP2 0.5*rho	0.171	0.098	0.541	0.274	1.158	0.599	0.693	0.335	0.01	0.66	0.100	0.831
PMCP3 0.5*rho	0.176	0.103	0.557	0.277	1.203	0.649	0.717	0.349	0.01	0.70	0.100	0.847

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.498	-1.804	-1.357	-0.908	0.001	0.000	-0.001	0.002	0.000
FSCAD	0.498	-1.796	-1.353	-0.899	0.000	0.000	-0.002	0.001	0.000
FMCP	0.498	-1.796	-1.353	-0.900	0.000	0.001	-0.001	0.001	0.000
CLASSO	0.687	-1.847	-1.389	-0.931	0.003	-0.001	-0.001	0.000	0.002
CSCAD	0.679	-1.838	-1.383	-0.923	0.000	0.000	-0.002	-0.001	0.002
CMCP	0.679	-1.838	-1.382	-0.925	0.001	-0.001	-0.001	-0.001	0.003
PLASSO	0.000	-0.207	-0.180	-0.172	0.044	-0.010	-0.023	0.012	0.031
PSCAD1	0.000	0.190	0.121	0.021	0.036	0.001	-0.012	-0.014	0.040
PSCAD2	0.000	0.213	0.123	0.060	0.033	0.004	-0.024	-0.008	0.040
PSCAD3	0.000	0.219	0.127	0.065	0.036	-0.001	-0.025	-0.005	0.034
PMCP1	0.000	0.179	0.118	0.006	0.041	-0.005	-0.009	-0.011	0.039
PMCP2	0.000	0.210	0.125	0.055	0.038	-0.001	-0.022	-0.007	0.039
PMCP3	0.000	0.217	0.130	0.060	0.033	-0.004	-0.021	-0.005	0.036
FULL	0.498	-1.796	-1.353	-0.899	0.001	-0.002	-0.002	0.003	0.001
COMPLETE	0.679	-1.838	-1.384	-0.921	0.001	-0.002	-0.004	0.004	0.002
LOGISTIC	0.000	0.274	0.162	0.112	0.022	-0.012	-0.052	0.045	0.028

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.014	0.017	0.017	0.016	0.011	0.010	0.010	0.009	0.007
FSCAD	0.014	0.017	0.017	0.016	0.009	0.008	0.011	0.007	0.006
FMCP	0.014	0.017	0.017	0.017	0.008	0.008	0.010	0.005	0.006
CLASSO	0.021	0.021	0.023	0.020	0.011	0.009	0.010	0.011	0.011
CSCAD	0.021	0.020	0.024	0.024	0.013	0.010	0.009	0.010	0.012
CMCP	0.021	0.020	0.024	0.025	0.013	0.009	0.010	0.011	0.011
PLASSO	0.000	0.345	0.283	0.273	0.198	0.109	0.132	0.150	0.154
PSCAD1	0.000	0.412	0.333	0.340	0.225	0.098	0.136	0.156	0.169
PSCAD2	0.000	0.415	0.334	0.331	0.233	0.099	0.153	0.163	0.172
PSCAD3	0.000	0.414	0.334	0.335	0.245	0.116	0.172	0.183	0.178
PMCP1	0.000	0.420	0.322	0.337	0.221	0.094	0.124	0.153	0.164
PMCP2	0.000	0.406	0.334	0.328	0.236	0.093	0.153	0.173	0.180
PMCP3	0.000	0.417	0.333	0.339	0.247	0.121	0.168	0.183	0.184
FULL	0.014	0.018	0.017	0.017	0.019	0.018	0.018	0.018	0.015
COMPLETE	0.021	0.020	0.023	0.020	0.022	0.019	0.020	0.018	0.019
LOGISTIC	0.000	0.429	0.341	0.358	0.333	0.264	0.298	0.328	0.284

```

beta : 2 1.5 1 0 0 0 0
intercept : 0
sample size : 600
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 1
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_2_1.5_1_n_600_lambda_location_l1_30_error_independent_TRUE_x_missing_location_1.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	1.761	0.013	3.993	0.025	2.373	0.012	0	2.37	0	1.482
FSCAD	0	0	1.751	0.013	3.947	0.031	2.357	0.010	0	0.72	0	1.232
FMCP	0	0	1.751	0.013	3.947	0.031	2.357	0.010	0	0.46	0	1.039
CLASSO	0	0	1.819	0.019	4.139	0.034	2.455	0.021	0	2.66	0	1.380
CSCAD	0	0	1.808	0.017	4.088	0.043	2.437	0.019	0	1.10	0	1.259
CMCP	0	0	1.808	0.017	4.090	0.043	2.437	0.019	0	0.78	0	1.375
PLASSO	0	0	0.438	0.155	1.258	0.408	0.618	0.190	0	3.46	0	1.290
PSCAD1	0	0	0.402	0.214	0.906	0.577	0.522	0.283	0	0.80	0	1.054
PSCAD2	0	0	0.414	0.222	0.951	0.606	0.543	0.297	0	0.79	0	0.957
PSCAD3	0	0	0.416	0.217	0.963	0.601	0.548	0.293	0	0.82	0	0.989
PMCP1	0	0	0.406	0.217	0.910	0.592	0.525	0.286	0	0.79	0	1.047
PMCP2	0	0	0.410	0.206	0.933	0.578	0.535	0.278	0	0.80	0	0.910
PMCP3	0	0	0.415	0.217	0.963	0.589	0.548	0.289	0	0.83	0	0.900

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	1.761	0.013	3.967	0.022	2.373	0.012	0	0.00	0	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	1.751	0.013	3.938	0.019	2.357	0.010	0	0.00	0	0.000
FMCP 0.05	0.05	NA	1.751	0.013	3.939	0.019	2.357	0.010	0	0.00	0	0.000
CLASSO 0.05	0.05	NA	1.819	0.019	4.104	0.036	2.455	0.021	0	0.00	0	0.000
CSCAD 0.05	0.05	NA	1.808	0.017	4.074	0.036	2.436	0.019	0	0.03	0	0.171
CMCP 0.05	0.05	NA	1.808	0.017	4.075	0.036	2.437	0.019	0	0.03	0	0.171
PLASSO 0.05	0.05	NA	0.438	0.155	1.235	0.412	0.617	0.190	0	2.53	0	1.460
PSCAD1 0.05	0.05	NA	0.402	0.214	0.905	0.577	0.522	0.283	0	0.76	0	1.026
PSCAD2 0.05	0.05	NA	0.414	0.222	0.951	0.606	0.543	0.297	0	0.78	0	0.949
PSCAD3 0.05	0.05	NA	0.416	0.217	0.963	0.601	0.548	0.293	0	0.80	0	0.953
PMCP1 0.05	0.05	NA	0.406	0.217	0.910	0.592	0.525	0.286	0	0.78	0	1.040
PMCP2 0.05	0.05	NA	0.410	0.206	0.933	0.578	0.535	0.278	0	0.80	0	0.910
PMCP3 0.05	0.05	NA	0.415	0.217	0.963	0.589	0.548	0.289	0	0.83	0	0.900

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.089	0.001	1.761	0.013	3.967	0.022	2.373	0.012	0	0.00	0	0.000
FSCAD 0.1*rho	0.088	0.001	1.751	0.013	3.938	0.019	2.357	0.010	0	0.00	0	0.000
FMCP 0.1*rho	0.089	0.001	1.751	0.013	3.939	0.019	2.357	0.010	0	0.00	0	0.000
CLASSO 0.1*rho	0.092	0.001	1.819	0.019	4.104	0.036	2.455	0.021	0	0.00	0	0.000
CSCAD 0.1*rho	0.092	0.002	1.808	0.017	4.072	0.034	2.436	0.019	0	0.00	0	0.000
CMCP 0.1*rho	0.092	0.002	1.808	0.017	4.074	0.034	2.437	0.019	0	0.00	0	0.000
PLASSO 0.1*rho	0.030	0.013	0.438	0.155	1.250	0.404	0.618	0.190	0	2.94	0	1.455
PSCAD1 0.1*rho	0.027	0.016	0.402	0.214	0.905	0.576	0.522	0.283	0	0.77	0	1.024
PSCAD2 0.1*rho	0.027	0.017	0.414	0.222	0.951	0.606	0.543	0.297	0	0.79	0	0.957
PSCAD3 0.1*rho	0.027	0.016	0.416	0.217	0.963	0.601	0.548	0.293	0	0.80	0	0.953
PMCP1 0.1*rho	0.027	0.016	0.406	0.217	0.910	0.592	0.525	0.286	0	0.78	0	1.040
PMCP2 0.1*rho	0.027	0.015	0.410	0.206	0.933	0.578	0.535	0.278	0	0.80	0	0.910
PMCP3 0.1*rho	0.027	0.016	0.415	0.217	0.963	0.589	0.548	0.289	0	0.83	0	0.900

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.268	0.003	1.761	0.013	3.967	0.022	2.373	0.012	0	0.00	0	0.000
FSCAD 0.3*rho	0.265	0.003	1.751	0.013	3.938	0.019	2.357	0.010	0	0.00	0	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.266	0.003	1.751	0.013	3.939	0.019	2.357	0.010	0	0.00	0	0.000
CLASSO 0.3*rho	0.277	0.004	1.819	0.019	4.104	0.036	2.455	0.021	0	0.00	0	0.000
CSCAD 0.3*rho	0.275	0.005	1.808	0.017	4.072	0.034	2.436	0.019	0	0.00	0	0.000
CMCP 0.3*rho	0.276	0.005	1.808	0.017	4.074	0.034	2.437	0.019	0	0.00	0	0.000
PLASSO 0.3*rho	0.089	0.038	0.438	0.155	1.189	0.392	0.614	0.188	0	1.99	0	1.467
PSCAD1 0.3*rho	0.081	0.047	0.402	0.214	0.902	0.574	0.522	0.282	0	0.74	0	1.021
PSCAD2 0.3*rho	0.080	0.050	0.414	0.222	0.950	0.604	0.543	0.296	0	0.77	0	0.952
PSCAD3 0.3*rho	0.080	0.048	0.416	0.217	0.963	0.601	0.548	0.293	0	0.80	0	0.953
PMCP1 0.3*rho	0.081	0.048	0.406	0.217	0.906	0.585	0.525	0.286	0	0.75	0	1.019
PMCP2 0.3*rho	0.080	0.046	0.410	0.206	0.931	0.576	0.535	0.278	0	0.79	0	0.913
PMCP3 0.3*rho	0.080	0.049	0.415	0.217	0.963	0.589	0.548	0.289	0	0.83	0	0.900

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.446	0.005	1.761	0.013	3.967	0.022	2.373	0.012	0	0.00	0	0.000
FSCAD 0.5*rho	0.442	0.005	1.751	0.013	3.938	0.019	2.357	0.010	0	0.00	0	0.000
FMCP 0.5*rho	0.443	0.005	1.751	0.013	3.939	0.019	2.357	0.010	0	0.00	0	0.000
CLASSO 0.5*rho	0.462	0.007	1.819	0.019	4.104	0.036	2.455	0.021	0	0.00	0	0.000
CSCAD 0.5*rho	0.459	0.008	1.808	0.017	4.072	0.034	2.436	0.019	0	0.00	0	0.000
CMCP 0.5*rho	0.459	0.008	1.808	0.017	4.074	0.034	2.437	0.019	0	0.00	0	0.000
PLASSO 0.5*rho	0.148	0.063	0.438	0.155	1.119	0.363	0.606	0.186	0	1.40	0	1.326
PSCAD1 0.5*rho	0.134	0.078	0.402	0.214	0.894	0.563	0.521	0.281	0	0.68	0	0.931
PSCAD2 0.5*rho	0.134	0.083	0.414	0.222	0.939	0.589	0.541	0.295	0	0.72	0	0.889
PSCAD3 0.5*rho	0.133	0.080	0.416	0.217	0.953	0.586	0.547	0.291	0	0.76	0	0.911
PMCP1 0.5*rho	0.135	0.080	0.406	0.217	0.899	0.574	0.524	0.285	0	0.71	0	0.957
PMCP2 0.5*rho	0.133	0.076	0.410	0.206	0.922	0.563	0.534	0.277	0	0.74	0	0.848
PMCP3 0.5*rho	0.133	0.082	0.415	0.217	0.954	0.574	0.547	0.287	0	0.79	0	0.856

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.500	-1.761	-1.323	-0.884	0.000	0.001	0.000	0.000	-0.001
FSCAD	0.500	-1.751	-1.313	-0.874	0.000	0.000	-0.001	0.000	0.000
FMCP	0.501	-1.751	-1.313	-0.875	-0.001	0.000	0.000	0.000	-0.001
CLASSO	0.704	-1.819	-1.371	-0.914	-0.002	0.000	0.000	0.000	-0.002
CSCAD	0.696	-1.808	-1.360	-0.905	-0.001	-0.001	0.000	-0.001	-0.001
CMCP	0.697	-1.808	-1.360	-0.906	0.000	-0.001	-0.001	0.000	-0.001
PLASSO	0.000	-0.196	-0.179	-0.130	-0.012	-0.009	-0.005	-0.002	-0.020
PSCAD1	0.000	0.120	0.073	0.035	-0.011	-0.022	0.004	-0.006	-0.021
PSCAD2	0.000	0.140	0.089	0.061	-0.012	-0.014	0.005	-0.009	-0.008
PSCAD3	0.000	0.145	0.093	0.066	-0.008	-0.020	0.004	-0.010	-0.009
PMCP1	0.000	0.121	0.073	0.039	-0.012	-0.022	0.004	-0.007	-0.024
PMCP2	0.000	0.126	0.079	0.043	-0.005	-0.020	0.006	-0.012	-0.006
PMCP3	0.000	0.143	0.091	0.064	-0.009	-0.017	0.006	-0.014	-0.014
FULL	0.500	-1.751	-1.313	-0.874	0.000	0.001	0.000	0.000	-0.003
COMPLETE	0.696	-1.808	-1.359	-0.903	-0.002	0.001	-0.001	0.000	-0.004
LOGISTIC	0.000	0.190	0.128	0.095	-0.016	-0.014	-0.004	-0.011	-0.042

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.015	0.013	0.016	0.015	0.011	0.010	0.007	0.012	0.009
FSCAD	0.015	0.013	0.014	0.015	0.006	0.008	0.004	0.008	0.006
FMCP	0.015	0.013	0.015	0.016	0.006	0.007	0.003	0.009	0.006
CLASSO	0.023	0.019	0.018	0.019	0.013	0.011	0.010	0.015	0.010
CSCAD	0.022	0.017	0.018	0.021	0.010	0.008	0.010	0.012	0.006
CMCP	0.022	0.017	0.018	0.023	0.010	0.008	0.008	0.012	0.009
PLASSO	0.000	0.330	0.280	0.236	0.147	0.126	0.121	0.146	0.126
PSCAD1	0.000	0.335	0.280	0.262	0.145	0.116	0.112	0.138	0.090
PSCAD2	0.000	0.341	0.284	0.258	0.155	0.124	0.118	0.147	0.122
PSCAD3	0.000	0.337	0.284	0.250	0.156	0.136	0.118	0.152	0.132
PMCP1	0.000	0.333	0.286	0.261	0.142	0.117	0.113	0.142	0.096
PMCP2	0.000	0.326	0.286	0.250	0.149	0.133	0.118	0.149	0.122
PMCP3	0.000	0.334	0.282	0.255	0.155	0.139	0.120	0.149	0.131
FULL	0.015	0.013	0.015	0.015	0.016	0.014	0.012	0.017	0.015
COMPLETE	0.022	0.017	0.018	0.018	0.018	0.016	0.016	0.020	0.016
LOGISTIC	0.000	0.349	0.290	0.254	0.221	0.203	0.183	0.210	0.196

```

beta : 2 1.5 1 0 0 0 0
intercept : 0
sample size : 600
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 3
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_2_1.5_1_n_600_lambda_location_l1_30_error_independent_TRUE_x_missing_location_3.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	1.761	0.013	3.993	0.025	2.373	0.012	0	2.37	0	1.482
FSCAD	0	0	1.751	0.013	3.947	0.031	2.357	0.010	0	0.72	0	1.232
FMCP	0	0	1.751	0.013	3.947	0.031	2.357	0.010	0	0.46	0	1.039
CLASSO	0	0	1.819	0.019	4.139	0.034	2.455	0.021	0	2.66	0	1.380
CSCAD	0	0	1.808	0.017	4.088	0.043	2.437	0.019	0	1.10	0	1.259
CMCP	0	0	1.808	0.017	4.090	0.043	2.437	0.019	0	0.78	0	1.375
PLASSO	0	0	0.438	0.155	1.258	0.408	0.618	0.190	0	3.46	0	1.290
PSCAD1	0	0	0.402	0.214	0.906	0.577	0.522	0.283	0	0.80	0	1.054
PSCAD2	0	0	0.414	0.222	0.951	0.606	0.543	0.297	0	0.79	0	0.957
PSCAD3	0	0	0.416	0.217	0.963	0.601	0.548	0.293	0	0.82	0	0.989
PMCP1	0	0	0.406	0.217	0.910	0.592	0.525	0.286	0	0.79	0	1.047
PMCP2	0	0	0.410	0.206	0.933	0.578	0.535	0.278	0	0.80	0	0.910
PMCP3	0	0	0.415	0.217	0.963	0.589	0.548	0.289	0	0.83	0	0.900

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	1.761	0.013	3.967	0.022	2.373	0.012	0	0.00	0	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	1.751	0.013	3.938	0.019	2.357	0.010	0	0.00	0	0.000
FMCP 0.05	0.05	NA	1.751	0.013	3.939	0.019	2.357	0.010	0	0.00	0	0.000
CLASSO 0.05	0.05	NA	1.819	0.019	4.104	0.036	2.455	0.021	0	0.00	0	0.000
CSCAD 0.05	0.05	NA	1.808	0.017	4.074	0.036	2.436	0.019	0	0.03	0	0.171
CMCP 0.05	0.05	NA	1.808	0.017	4.075	0.036	2.437	0.019	0	0.03	0	0.171
PLASSO 0.05	0.05	NA	0.438	0.155	1.235	0.412	0.617	0.190	0	2.53	0	1.460
PSCAD1 0.05	0.05	NA	0.402	0.214	0.905	0.577	0.522	0.283	0	0.76	0	1.026
PSCAD2 0.05	0.05	NA	0.414	0.222	0.951	0.606	0.543	0.297	0	0.78	0	0.949
PSCAD3 0.05	0.05	NA	0.416	0.217	0.963	0.601	0.548	0.293	0	0.80	0	0.953
PMCP1 0.05	0.05	NA	0.406	0.217	0.910	0.592	0.525	0.286	0	0.78	0	1.040
PMCP2 0.05	0.05	NA	0.410	0.206	0.933	0.578	0.535	0.278	0	0.80	0	0.910
PMCP3 0.05	0.05	NA	0.415	0.217	0.963	0.589	0.548	0.289	0	0.83	0	0.900

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.089	0.001	1.761	0.013	3.967	0.022	2.373	0.012	0	0.00	0	0.000
FSCAD 0.1*rho	0.088	0.001	1.751	0.013	3.938	0.019	2.357	0.010	0	0.00	0	0.000
FMCP 0.1*rho	0.089	0.001	1.751	0.013	3.939	0.019	2.357	0.010	0	0.00	0	0.000
CLASSO 0.1*rho	0.092	0.001	1.819	0.019	4.104	0.036	2.455	0.021	0	0.00	0	0.000
CSCAD 0.1*rho	0.092	0.002	1.808	0.017	4.072	0.034	2.436	0.019	0	0.00	0	0.000
CMCP 0.1*rho	0.092	0.002	1.808	0.017	4.074	0.034	2.437	0.019	0	0.00	0	0.000
PLASSO 0.1*rho	0.030	0.013	0.438	0.155	1.250	0.404	0.618	0.190	0	2.94	0	1.455
PSCAD1 0.1*rho	0.027	0.016	0.402	0.214	0.905	0.576	0.522	0.283	0	0.77	0	1.024
PSCAD2 0.1*rho	0.027	0.017	0.414	0.222	0.951	0.606	0.543	0.297	0	0.79	0	0.957
PSCAD3 0.1*rho	0.027	0.016	0.416	0.217	0.963	0.601	0.548	0.293	0	0.80	0	0.953
PMCP1 0.1*rho	0.027	0.016	0.406	0.217	0.910	0.592	0.525	0.286	0	0.78	0	1.040
PMCP2 0.1*rho	0.027	0.015	0.410	0.206	0.933	0.578	0.535	0.278	0	0.80	0	0.910
PMCP3 0.1*rho	0.027	0.016	0.415	0.217	0.963	0.589	0.548	0.289	0	0.83	0	0.900

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.268	0.003	1.761	0.013	3.967	0.022	2.373	0.012	0	0.00	0	0.000
FSCAD 0.3*rho	0.265	0.003	1.751	0.013	3.938	0.019	2.357	0.010	0	0.00	0	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.266	0.003	1.751	0.013	3.939	0.019	2.357	0.010	0	0.00	0	0.000
CLASSO 0.3*rho	0.277	0.004	1.819	0.019	4.104	0.036	2.455	0.021	0	0.00	0	0.000
CSCAD 0.3*rho	0.275	0.005	1.808	0.017	4.072	0.034	2.436	0.019	0	0.00	0	0.000
CMCP 0.3*rho	0.276	0.005	1.808	0.017	4.074	0.034	2.437	0.019	0	0.00	0	0.000
PLASSO 0.3*rho	0.089	0.038	0.438	0.155	1.189	0.392	0.614	0.188	0	1.99	0	1.467
PSCAD1 0.3*rho	0.081	0.047	0.402	0.214	0.902	0.574	0.522	0.282	0	0.74	0	1.021
PSCAD2 0.3*rho	0.080	0.050	0.414	0.222	0.950	0.604	0.543	0.296	0	0.77	0	0.952
PSCAD3 0.3*rho	0.080	0.048	0.416	0.217	0.963	0.601	0.548	0.293	0	0.80	0	0.953
PMCP1 0.3*rho	0.081	0.048	0.406	0.217	0.906	0.585	0.525	0.286	0	0.75	0	1.019
PMCP2 0.3*rho	0.080	0.046	0.410	0.206	0.931	0.576	0.535	0.278	0	0.79	0	0.913
PMCP3 0.3*rho	0.080	0.049	0.415	0.217	0.963	0.589	0.548	0.289	0	0.83	0	0.900

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.446	0.005	1.761	0.013	3.967	0.022	2.373	0.012	0	0.00	0	0.000
FSCAD 0.5*rho	0.442	0.005	1.751	0.013	3.938	0.019	2.357	0.010	0	0.00	0	0.000
FMCP 0.5*rho	0.443	0.005	1.751	0.013	3.939	0.019	2.357	0.010	0	0.00	0	0.000
CLASSO 0.5*rho	0.462	0.007	1.819	0.019	4.104	0.036	2.455	0.021	0	0.00	0	0.000
CSCAD 0.5*rho	0.459	0.008	1.808	0.017	4.072	0.034	2.436	0.019	0	0.00	0	0.000
CMCP 0.5*rho	0.459	0.008	1.808	0.017	4.074	0.034	2.437	0.019	0	0.00	0	0.000
PLASSO 0.5*rho	0.148	0.063	0.438	0.155	1.119	0.363	0.606	0.186	0	1.40	0	1.326
PSCAD1 0.5*rho	0.134	0.078	0.402	0.214	0.894	0.563	0.521	0.281	0	0.68	0	0.931
PSCAD2 0.5*rho	0.134	0.083	0.414	0.222	0.939	0.589	0.541	0.295	0	0.72	0	0.889
PSCAD3 0.5*rho	0.133	0.080	0.416	0.217	0.953	0.586	0.547	0.291	0	0.76	0	0.911
PMCP1 0.5*rho	0.135	0.080	0.406	0.217	0.899	0.574	0.524	0.285	0	0.71	0	0.957
PMCP2 0.5*rho	0.133	0.076	0.410	0.206	0.922	0.563	0.534	0.277	0	0.74	0	0.848
PMCP3 0.5*rho	0.133	0.082	0.415	0.217	0.954	0.574	0.547	0.287	0	0.79	0	0.856

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.500	-1.761	-1.323	-0.884	0.000	0.001	0.000	0.000	-0.001
FSCAD	0.500	-1.751	-1.313	-0.874	0.000	0.000	-0.001	0.000	0.000
FMCP	0.501	-1.751	-1.313	-0.875	-0.001	0.000	0.000	0.000	-0.001
CLASSO	0.704	-1.819	-1.371	-0.914	-0.002	0.000	0.000	0.000	-0.002
CSCAD	0.696	-1.808	-1.360	-0.905	-0.001	-0.001	0.000	-0.001	-0.001
CMCP	0.697	-1.808	-1.360	-0.906	0.000	-0.001	-0.001	0.000	-0.001
PLASSO	0.000	-0.196	-0.179	-0.130	-0.012	-0.009	-0.005	-0.002	-0.020
PSCAD1	0.000	0.120	0.073	0.035	-0.011	-0.022	0.004	-0.006	-0.021
PSCAD2	0.000	0.140	0.089	0.061	-0.012	-0.014	0.005	-0.009	-0.008
PSCAD3	0.000	0.145	0.093	0.066	-0.008	-0.020	0.004	-0.010	-0.009
PMCP1	0.000	0.121	0.073	0.039	-0.012	-0.022	0.004	-0.007	-0.024
PMCP2	0.000	0.126	0.079	0.043	-0.005	-0.020	0.006	-0.012	-0.006
PMCP3	0.000	0.143	0.091	0.064	-0.009	-0.017	0.006	-0.014	-0.014
FULL	0.500	-1.751	-1.313	-0.874	0.000	0.001	0.000	0.000	-0.003
COMPLETE	0.696	-1.808	-1.359	-0.903	-0.002	0.001	-0.001	0.000	-0.004
LOGISTIC	0.000	0.190	0.128	0.095	-0.016	-0.014	-0.004	-0.011	-0.042

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.015	0.013	0.016	0.015	0.011	0.010	0.007	0.012	0.009
FSCAD	0.015	0.013	0.014	0.015	0.006	0.008	0.004	0.008	0.006
FMCP	0.015	0.013	0.015	0.016	0.006	0.007	0.003	0.009	0.006
CLASSO	0.023	0.019	0.018	0.019	0.013	0.011	0.010	0.015	0.010
CSCAD	0.022	0.017	0.018	0.021	0.010	0.008	0.010	0.012	0.006
CMCP	0.022	0.017	0.018	0.023	0.010	0.008	0.008	0.012	0.009
PLASSO	0.000	0.330	0.280	0.236	0.147	0.126	0.121	0.146	0.126
PSCAD1	0.000	0.335	0.280	0.262	0.145	0.116	0.112	0.138	0.090
PSCAD2	0.000	0.341	0.284	0.258	0.155	0.124	0.118	0.147	0.122
PSCAD3	0.000	0.337	0.284	0.250	0.156	0.136	0.118	0.152	0.132
PMCP1	0.000	0.333	0.286	0.261	0.142	0.117	0.113	0.142	0.096
PMCP2	0.000	0.326	0.286	0.250	0.149	0.133	0.118	0.149	0.122
PMCP3	0.000	0.334	0.282	0.255	0.155	0.139	0.120	0.149	0.131
FULL	0.015	0.013	0.015	0.015	0.016	0.014	0.012	0.017	0.015
COMPLETE	0.022	0.017	0.018	0.018	0.018	0.016	0.016	0.020	0.016
LOGISTIC	0.000	0.349	0.290	0.254	0.221	0.203	0.183	0.210	0.196

```

beta : 2 1.5 1 0 0 0 0
intercept : 0
sample size : 600
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 8
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_2_1.5_1_n_600_lambda_location_l1_30_error_independent_TRUE_x_missing_location_8.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	1.761	0.013	3.993	0.025	2.373	0.012	0	2.37	0	1.482
FSCAD	0	0	1.751	0.013	3.947	0.031	2.357	0.010	0	0.72	0	1.232
FMCP	0	0	1.751	0.013	3.947	0.031	2.357	0.010	0	0.46	0	1.039
CLASSO	0	0	1.819	0.019	4.139	0.034	2.455	0.021	0	2.66	0	1.380
CSCAD	0	0	1.808	0.017	4.088	0.043	2.437	0.019	0	1.10	0	1.259
CMCP	0	0	1.808	0.017	4.090	0.043	2.437	0.019	0	0.78	0	1.375
PLASSO	0	0	0.438	0.155	1.258	0.408	0.618	0.190	0	3.46	0	1.290
PSCAD1	0	0	0.402	0.214	0.906	0.577	0.522	0.283	0	0.80	0	1.054
PSCAD2	0	0	0.414	0.222	0.951	0.606	0.543	0.297	0	0.79	0	0.957
PSCAD3	0	0	0.416	0.217	0.963	0.601	0.548	0.293	0	0.82	0	0.989
PMCP1	0	0	0.406	0.217	0.910	0.592	0.525	0.286	0	0.79	0	1.047
PMCP2	0	0	0.410	0.206	0.933	0.578	0.535	0.278	0	0.80	0	0.910
PMCP3	0	0	0.415	0.217	0.963	0.589	0.548	0.289	0	0.83	0	0.900

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	1.761	0.013	3.967	0.022	2.373	0.012	0	0.00	0	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	1.751	0.013	3.938	0.019	2.357	0.010	0	0.00	0	0.000
FMCP 0.05	0.05	NA	1.751	0.013	3.939	0.019	2.357	0.010	0	0.00	0	0.000
CLASSO 0.05	0.05	NA	1.819	0.019	4.104	0.036	2.455	0.021	0	0.00	0	0.000
CSCAD 0.05	0.05	NA	1.808	0.017	4.074	0.036	2.436	0.019	0	0.03	0	0.171
CMCP 0.05	0.05	NA	1.808	0.017	4.075	0.036	2.437	0.019	0	0.03	0	0.171
PLASSO 0.05	0.05	NA	0.438	0.155	1.235	0.412	0.617	0.190	0	2.53	0	1.460
PSCAD1 0.05	0.05	NA	0.402	0.214	0.905	0.577	0.522	0.283	0	0.76	0	1.026
PSCAD2 0.05	0.05	NA	0.414	0.222	0.951	0.606	0.543	0.297	0	0.78	0	0.949
PSCAD3 0.05	0.05	NA	0.416	0.217	0.963	0.601	0.548	0.293	0	0.80	0	0.953
PMCP1 0.05	0.05	NA	0.406	0.217	0.910	0.592	0.525	0.286	0	0.78	0	1.040
PMCP2 0.05	0.05	NA	0.410	0.206	0.933	0.578	0.535	0.278	0	0.80	0	0.910
PMCP3 0.05	0.05	NA	0.415	0.217	0.963	0.589	0.548	0.289	0	0.83	0	0.900

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.089	0.001	1.761	0.013	3.967	0.022	2.373	0.012	0	0.00	0	0.000
FSCAD 0.1*rho	0.088	0.001	1.751	0.013	3.938	0.019	2.357	0.010	0	0.00	0	0.000
FMCP 0.1*rho	0.089	0.001	1.751	0.013	3.939	0.019	2.357	0.010	0	0.00	0	0.000
CLASSO 0.1*rho	0.092	0.001	1.819	0.019	4.104	0.036	2.455	0.021	0	0.00	0	0.000
CSCAD 0.1*rho	0.092	0.002	1.808	0.017	4.072	0.034	2.436	0.019	0	0.00	0	0.000
CMCP 0.1*rho	0.092	0.002	1.808	0.017	4.074	0.034	2.437	0.019	0	0.00	0	0.000
PLASSO 0.1*rho	0.030	0.013	0.438	0.155	1.250	0.404	0.618	0.190	0	2.94	0	1.455
PSCAD1 0.1*rho	0.027	0.016	0.402	0.214	0.905	0.576	0.522	0.283	0	0.77	0	1.024
PSCAD2 0.1*rho	0.027	0.017	0.414	0.222	0.951	0.606	0.543	0.297	0	0.79	0	0.957
PSCAD3 0.1*rho	0.027	0.016	0.416	0.217	0.963	0.601	0.548	0.293	0	0.80	0	0.953
PMCP1 0.1*rho	0.027	0.016	0.406	0.217	0.910	0.592	0.525	0.286	0	0.78	0	1.040
PMCP2 0.1*rho	0.027	0.015	0.410	0.206	0.933	0.578	0.535	0.278	0	0.80	0	0.910
PMCP3 0.1*rho	0.027	0.016	0.415	0.217	0.963	0.589	0.548	0.289	0	0.83	0	0.900

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.268	0.003	1.761	0.013	3.967	0.022	2.373	0.012	0	0.00	0	0.000
FSCAD 0.3*rho	0.265	0.003	1.751	0.013	3.938	0.019	2.357	0.010	0	0.00	0	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.266	0.003	1.751	0.013	3.939	0.019	2.357	0.010	0	0.00	0	0.000
CLASSO 0.3*rho	0.277	0.004	1.819	0.019	4.104	0.036	2.455	0.021	0	0.00	0	0.000
CSCAD 0.3*rho	0.275	0.005	1.808	0.017	4.072	0.034	2.436	0.019	0	0.00	0	0.000
CMCP 0.3*rho	0.276	0.005	1.808	0.017	4.074	0.034	2.437	0.019	0	0.00	0	0.000
PLASSO 0.3*rho	0.089	0.038	0.438	0.155	1.189	0.392	0.614	0.188	0	1.99	0	1.467
PSCAD1 0.3*rho	0.081	0.047	0.402	0.214	0.902	0.574	0.522	0.282	0	0.74	0	1.021
PSCAD2 0.3*rho	0.080	0.050	0.414	0.222	0.950	0.604	0.543	0.296	0	0.77	0	0.952
PSCAD3 0.3*rho	0.080	0.048	0.416	0.217	0.963	0.601	0.548	0.293	0	0.80	0	0.953
PMCP1 0.3*rho	0.081	0.048	0.406	0.217	0.906	0.585	0.525	0.286	0	0.75	0	1.019
PMCP2 0.3*rho	0.080	0.046	0.410	0.206	0.931	0.576	0.535	0.278	0	0.79	0	0.913
PMCP3 0.3*rho	0.080	0.049	0.415	0.217	0.963	0.589	0.548	0.289	0	0.83	0	0.900

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.446	0.005	1.761	0.013	3.967	0.022	2.373	0.012	0	0.00	0	0.000
FSCAD 0.5*rho	0.442	0.005	1.751	0.013	3.938	0.019	2.357	0.010	0	0.00	0	0.000
FMCP 0.5*rho	0.443	0.005	1.751	0.013	3.939	0.019	2.357	0.010	0	0.00	0	0.000
CLASSO 0.5*rho	0.462	0.007	1.819	0.019	4.104	0.036	2.455	0.021	0	0.00	0	0.000
CSCAD 0.5*rho	0.459	0.008	1.808	0.017	4.072	0.034	2.436	0.019	0	0.00	0	0.000
CMCP 0.5*rho	0.459	0.008	1.808	0.017	4.074	0.034	2.437	0.019	0	0.00	0	0.000
PLASSO 0.5*rho	0.148	0.063	0.438	0.155	1.119	0.363	0.606	0.186	0	1.40	0	1.326
PSCAD1 0.5*rho	0.134	0.078	0.402	0.214	0.894	0.563	0.521	0.281	0	0.68	0	0.931
PSCAD2 0.5*rho	0.134	0.083	0.414	0.222	0.939	0.589	0.541	0.295	0	0.72	0	0.889
PSCAD3 0.5*rho	0.133	0.080	0.416	0.217	0.953	0.586	0.547	0.291	0	0.76	0	0.911
PMCP1 0.5*rho	0.135	0.080	0.406	0.217	0.899	0.574	0.524	0.285	0	0.71	0	0.957
PMCP2 0.5*rho	0.133	0.076	0.410	0.206	0.922	0.563	0.534	0.277	0	0.74	0	0.848
PMCP3 0.5*rho	0.133	0.082	0.415	0.217	0.954	0.574	0.547	0.287	0	0.79	0	0.856

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.500	-1.761	-1.323	-0.884	0.000	0.001	0.000	0.000	-0.001
FSCAD	0.500	-1.751	-1.313	-0.874	0.000	0.000	-0.001	0.000	0.000
FMCP	0.501	-1.751	-1.313	-0.875	-0.001	0.000	0.000	0.000	-0.001
CLASSO	0.704	-1.819	-1.371	-0.914	-0.002	0.000	0.000	0.000	-0.002
CSCAD	0.696	-1.808	-1.360	-0.905	-0.001	-0.001	0.000	-0.001	-0.001
CMCP	0.697	-1.808	-1.360	-0.906	0.000	-0.001	-0.001	0.000	-0.001
PLASSO	0.000	-0.196	-0.179	-0.130	-0.012	-0.009	-0.005	-0.002	-0.020
PSCAD1	0.000	0.120	0.073	0.035	-0.011	-0.022	0.004	-0.006	-0.021
PSCAD2	0.000	0.140	0.089	0.061	-0.012	-0.014	0.005	-0.009	-0.008
PSCAD3	0.000	0.145	0.093	0.066	-0.008	-0.020	0.004	-0.010	-0.009
PMCP1	0.000	0.121	0.073	0.039	-0.012	-0.022	0.004	-0.007	-0.024
PMCP2	0.000	0.126	0.079	0.043	-0.005	-0.020	0.006	-0.012	-0.006
PMCP3	0.000	0.143	0.091	0.064	-0.009	-0.017	0.006	-0.014	-0.014
FULL	0.500	-1.751	-1.313	-0.874	0.000	0.001	0.000	0.000	-0.003
COMPLETE	0.696	-1.808	-1.359	-0.903	-0.002	0.001	-0.001	0.000	-0.004
LOGISTIC	0.000	0.190	0.128	0.095	-0.016	-0.014	-0.004	-0.011	-0.042

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.015	0.013	0.016	0.015	0.011	0.010	0.007	0.012	0.009
FSCAD	0.015	0.013	0.014	0.015	0.006	0.008	0.004	0.008	0.006
FMCP	0.015	0.013	0.015	0.016	0.006	0.007	0.003	0.009	0.006
CLASSO	0.023	0.019	0.018	0.019	0.013	0.011	0.010	0.015	0.010
CSCAD	0.022	0.017	0.018	0.021	0.010	0.008	0.010	0.012	0.006
CMCP	0.022	0.017	0.018	0.023	0.010	0.008	0.008	0.012	0.009
PLASSO	0.000	0.330	0.280	0.236	0.147	0.126	0.121	0.146	0.126
PSCAD1	0.000	0.335	0.280	0.262	0.145	0.116	0.112	0.138	0.090
PSCAD2	0.000	0.341	0.284	0.258	0.155	0.124	0.118	0.147	0.122
PSCAD3	0.000	0.337	0.284	0.250	0.156	0.136	0.118	0.152	0.132
PMCP1	0.000	0.333	0.286	0.261	0.142	0.117	0.113	0.142	0.096
PMCP2	0.000	0.326	0.286	0.250	0.149	0.133	0.118	0.149	0.122
PMCP3	0.000	0.334	0.282	0.255	0.155	0.139	0.120	0.149	0.131
FULL	0.015	0.013	0.015	0.015	0.016	0.014	0.012	0.017	0.015
COMPLETE	0.022	0.017	0.018	0.018	0.018	0.016	0.016	0.020	0.016
LOGISTIC	0.000	0.349	0.290	0.254	0.221	0.203	0.183	0.210	0.196

```

beta : 3 1.5 0.5 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: FALSE
missing_method: xy
missing_location: 1
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_1.5_0.5_n_400_lambda_location_l1_30_error_independent_FALSE_x_missing_location_1.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.747	0.019	4.611	0.033	3.106	0.013	0.03	1.77	0.171	1.434
FSCAD	0	0	2.738	0.019	4.592	0.041	3.093	0.013	0.36	1.15	0.482	1.410
FMCP	0	0	2.738	0.019	4.595	0.044	3.093	0.013	0.39	1.21	0.490	1.513
CLASSO	0	0	2.806	0.024	4.715	0.044	3.172	0.021	0.15	2.06	0.359	1.588
CSCAD	0	0	2.795	0.024	4.691	0.056	3.158	0.021	0.37	1.49	0.485	1.534
CMCP	0	0	2.795	0.024	4.691	0.053	3.158	0.021	0.48	1.15	0.502	1.572
PLASSO	0	0	0.717	0.319	1.859	0.763	0.958	0.376	0.09	2.96	0.288	1.286
PSCAD1	0	0	0.807	0.520	1.896	1.281	1.075	0.658	0.42	0.75	0.496	1.058
PSCAD2	0	0	0.835	0.531	1.951	1.284	1.108	0.662	0.37	0.79	0.485	0.998
PSCAD3	0	0	0.830	0.534	1.943	1.305	1.103	0.670	0.36	0.80	0.482	1.015
PMCP1	0	0	0.805	0.529	1.868	1.266	1.065	0.660	0.41	0.72	0.494	1.045
PMCP2	0	0	0.815	0.536	1.918	1.290	1.086	0.671	0.36	0.82	0.482	1.009
PMCP3	0	0	0.824	0.538	1.937	1.292	1.097	0.672	0.35	0.83	0.479	1.016

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.747	0.019	4.585	0.022	3.106	0.013	0.03	0.02	0.171	0.141

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.738	0.019	4.571	0.027	3.093	0.013	0.36	0.05	0.482	0.219
FMCP 0.05	0.05	NA	2.738	0.019	4.570	0.027	3.093	0.013	0.39	0.06	0.490	0.239
CLASSO 0.05	0.05	NA	2.806	0.024	4.681	0.031	3.172	0.021	0.15	0.05	0.359	0.219
CSCAD 0.05	0.05	NA	2.795	0.024	4.666	0.035	3.158	0.021	0.37	0.10	0.485	0.333
CMCP 0.05	0.05	NA	2.795	0.024	4.665	0.033	3.158	0.021	0.48	0.08	0.502	0.273
PLASSO 0.05	0.05	NA	0.717	0.319	1.843	0.764	0.958	0.376	0.09	2.33	0.288	1.295
PSCAD1 0.05	0.05	NA	0.807	0.520	1.896	1.281	1.075	0.658	0.42	0.75	0.496	1.058
PSCAD2 0.05	0.05	NA	0.835	0.531	1.951	1.284	1.108	0.662	0.37	0.79	0.485	0.998
PSCAD3 0.05	0.05	NA	0.830	0.534	1.943	1.305	1.103	0.670	0.36	0.80	0.482	1.015
PMCP1 0.05	0.05	NA	0.805	0.529	1.867	1.266	1.065	0.660	0.41	0.71	0.494	1.028
PMCP2 0.05	0.05	NA	0.815	0.536	1.917	1.290	1.086	0.671	0.36	0.81	0.482	1.002
PMCP3 0.05	0.05	NA	0.824	0.538	1.937	1.292	1.097	0.672	0.35	0.83	0.479	1.016

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.094	0.002	2.747	0.019	4.584	0.022	3.106	0.013	0.03	0.00	0.171	0.000
FSCAD 0.1*rho	0.096	0.004	2.738	0.019	4.569	0.023	3.093	0.013	0.36	0.00	0.482	0.000
FMCP 0.1*rho	0.096	0.004	2.738	0.019	4.567	0.024	3.093	0.013	0.39	0.00	0.490	0.000
CLASSO 0.1*rho	0.096	0.002	2.806	0.024	4.678	0.032	3.172	0.021	0.15	0.00	0.359	0.000
CSCAD 0.1*rho	0.097	0.003	2.795	0.024	4.661	0.030	3.158	0.021	0.37	0.00	0.485	0.000
CMCP 0.1*rho	0.097	0.003	2.795	0.024	4.661	0.030	3.158	0.021	0.48	0.00	0.502	0.000
PLASSO 0.1*rho	0.059	0.028	0.717	0.319	1.840	0.766	0.958	0.376	0.09	2.31	0.288	1.323
PSCAD1 0.1*rho	0.083	0.041	0.807	0.520	1.896	1.281	1.075	0.658	0.42	0.74	0.496	1.041
PSCAD2 0.1*rho	0.081	0.037	0.835	0.531	1.951	1.284	1.108	0.662	0.37	0.79	0.485	0.998
PSCAD3 0.1*rho	0.081	0.038	0.830	0.534	1.943	1.305	1.103	0.670	0.36	0.80	0.482	1.015
PMCP1 0.1*rho	0.082	0.038	0.805	0.529	1.867	1.265	1.065	0.660	0.41	0.70	0.494	1.000
PMCP2 0.1*rho	0.080	0.039	0.815	0.536	1.918	1.290	1.086	0.671	0.36	0.82	0.482	1.009
PMCP3 0.1*rho	0.080	0.039	0.824	0.538	1.937	1.292	1.097	0.672	0.35	0.83	0.479	1.016

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.283	0.007	2.747	0.019	4.584	0.022	3.106	0.013	0.03	0.00	0.171	0.000
FSCAD 0.3*rho	0.288	0.011	2.738	0.019	4.569	0.023	3.093	0.013	0.36	0.00	0.482	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.287	0.011	2.738	0.019	4.567	0.024	3.093	0.013	0.39	0.00	0.490	0.000
CLASSO 0.3*rho	0.288	0.007	2.806	0.024	4.678	0.032	3.172	0.021	0.15	0.00	0.359	0.000
CSCAD 0.3*rho	0.292	0.008	2.795	0.024	4.661	0.030	3.158	0.021	0.37	0.00	0.485	0.000
CMCP 0.3*rho	0.292	0.008	2.795	0.024	4.661	0.030	3.158	0.021	0.48	0.00	0.502	0.000
PLASSO 0.3*rho	0.176	0.083	0.717	0.319	1.732	0.744	0.947	0.377	0.09	1.50	0.288	1.360
PSCAD1 0.3*rho	0.250	0.122	0.807	0.520	1.883	1.281	1.073	0.658	0.42	0.69	0.496	1.012
PSCAD2 0.3*rho	0.243	0.111	0.835	0.531	1.941	1.282	1.106	0.662	0.37	0.76	0.485	0.976
PSCAD3 0.3*rho	0.244	0.115	0.830	0.534	1.939	1.307	1.102	0.671	0.36	0.78	0.482	1.011
PMCP1 0.3*rho	0.247	0.115	0.805	0.529	1.849	1.263	1.062	0.660	0.41	0.64	0.494	0.948
PMCP2 0.3*rho	0.240	0.118	0.815	0.536	1.910	1.292	1.085	0.672	0.36	0.78	0.482	0.991
PMCP3 0.3*rho	0.240	0.117	0.824	0.538	1.925	1.294	1.095	0.672	0.35	0.78	0.479	0.991

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.471	0.012	2.747	0.019	4.584	0.022	3.106	0.013	0.03	0.00	0.171	0.000
FSCAD 0.5*rho	0.480	0.018	2.738	0.019	4.569	0.023	3.093	0.013	0.36	0.00	0.482	0.000
FMCP 0.5*rho	0.478	0.019	2.738	0.019	4.567	0.024	3.093	0.013	0.39	0.00	0.490	0.000
CLASSO 0.5*rho	0.480	0.011	2.806	0.024	4.678	0.032	3.172	0.021	0.15	0.00	0.359	0.000
CSCAD 0.5*rho	0.487	0.013	2.795	0.024	4.661	0.030	3.158	0.021	0.37	0.00	0.485	0.000
CMCP 0.5*rho	0.487	0.014	2.795	0.024	4.661	0.030	3.158	0.021	0.48	0.00	0.502	0.000
PLASSO 0.5*rho	0.293	0.138	0.717	0.319	1.593	0.670	0.927	0.375	0.09	0.90	0.288	1.133
PSCAD1 0.5*rho	0.417	0.203	0.807	0.520	1.809	1.219	1.059	0.654	0.42	0.52	0.496	0.893
PSCAD2 0.5*rho	0.405	0.185	0.835	0.531	1.888	1.239	1.096	0.662	0.37	0.62	0.485	0.896
PSCAD3 0.5*rho	0.406	0.192	0.830	0.534	1.887	1.250	1.093	0.668	0.36	0.66	0.482	0.934
PMCP1 0.5*rho	0.412	0.192	0.805	0.529	1.786	1.216	1.050	0.659	0.41	0.48	0.494	0.858
PMCP2 0.5*rho	0.400	0.196	0.815	0.536	1.860	1.246	1.076	0.670	0.36	0.65	0.482	0.914
PMCP3 0.5*rho	0.401	0.196	0.824	0.538	1.880	1.249	1.086	0.671	0.35	0.67	0.479	0.933

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.501	-2.747	-1.372	-0.464	0.001	0.003	0.001	0.000	0.000
FSCAD	0.501	-2.738	-1.359	-0.471	0.001	0.002	0.000	0.000	0.000
FMCP	0.501	-2.738	-1.361	-0.468	-0.002	0.003	0.000	0.000	0.000
CLASSO	0.684	-2.806	-1.403	-0.470	0.001	-0.001	0.000	0.000	0.001
CSCAD	0.677	-2.795	-1.391	-0.475	0.001	-0.001	0.000	-0.002	0.001
CMCP	0.677	-2.795	-1.391	-0.475	0.001	-0.002	-0.002	-0.001	0.001
PLASSO	0.000	-0.434	-0.207	-0.094	-0.007	0.014	0.009	-0.010	0.011
PSCAD1	0.000	0.278	0.175	-0.044	-0.012	-0.007	0.004	-0.042	0.011
PSCAD2	0.000	0.332	0.203	-0.003	-0.009	0.000	0.001	-0.043	0.005
PSCAD3	0.000	0.355	0.241	-0.002	-0.010	0.008	-0.005	-0.045	0.007
PMCP1	0.000	0.278	0.178	-0.048	-0.014	-0.005	0.010	-0.042	0.007
PMCP2	0.000	0.337	0.223	-0.009	-0.005	0.005	0.003	-0.043	0.008
PMCP3	0.000	0.351	0.235	-0.005	-0.005	0.005	0.002	-0.047	0.010
FULL	0.501	-2.738	-1.367	-0.452	-0.006	0.005	-0.002	0.002	0.001
COMPLETE	0.675	-2.795	-1.396	-0.459	-0.005	0.001	-0.002	-0.001	0.002
LOGISTIC	0.000	0.534	0.289	0.108	-0.041	0.038	-0.023	-0.014	0.022

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.016	0.019	0.021	0.020	0.011	0.012	0.011	0.010	0.013
FSCAD	0.016	0.019	0.025	0.030	0.014	0.011	0.013	0.010	0.013
FMCP	0.016	0.019	0.024	0.030	0.016	0.012	0.012	0.013	0.014
CLASSO	0.026	0.024	0.025	0.022	0.015	0.014	0.013	0.013	0.016
CSCAD	0.026	0.024	0.031	0.029	0.016	0.015	0.013	0.013	0.015
CMCP	0.026	0.024	0.031	0.029	0.016	0.014	0.012	0.014	0.017
PLASSO	0.000	0.535	0.477	0.292	0.210	0.205	0.203	0.209	0.234
PSCAD1	0.000	0.713	0.663	0.448	0.250	0.247	0.243	0.274	0.283
PSCAD2	0.000	0.717	0.671	0.429	0.252	0.293	0.258	0.274	0.289
PSCAD3	0.000	0.721	0.634	0.435	0.259	0.286	0.263	0.273	0.292
PMCP1	0.000	0.714	0.666	0.438	0.238	0.230	0.242	0.274	0.280
PMCP2	0.000	0.719	0.637	0.431	0.251	0.284	0.249	0.276	0.290
PMCP3	0.000	0.722	0.632	0.432	0.253	0.289	0.263	0.274	0.292
FULL	0.016	0.019	0.022	0.021	0.022	0.021	0.021	0.021	0.022
COMPLETE	0.026	0.024	0.026	0.025	0.025	0.024	0.024	0.024	0.025
LOGISTIC	0.000	0.771	0.664	0.450	0.428	0.424	0.415	0.426	0.430

```

beta : 3 1.5 0.5 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: FALSE
missing_method: xy
missing_location: 3
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_1.5_0.5_n_400_lambda_location_l1_30_error_independent_FALSE_x_missing_location_3.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.747	0.019	4.611	0.033	3.106	0.013	0.03	1.77	0.171	1.434
FSCAD	0	0	2.738	0.019	4.592	0.041	3.093	0.013	0.36	1.15	0.482	1.410
FMCP	0	0	2.738	0.019	4.595	0.044	3.093	0.013	0.39	1.21	0.490	1.513
CLASSO	0	0	2.806	0.024	4.715	0.044	3.172	0.021	0.15	2.06	0.359	1.588
CSCAD	0	0	2.795	0.024	4.691	0.056	3.158	0.021	0.37	1.49	0.485	1.534
CMCP	0	0	2.795	0.024	4.691	0.053	3.158	0.021	0.48	1.15	0.502	1.572
PLASSO	0	0	0.717	0.319	1.859	0.763	0.958	0.376	0.09	2.96	0.288	1.286
PSCAD1	0	0	0.807	0.520	1.896	1.281	1.075	0.658	0.42	0.75	0.496	1.058
PSCAD2	0	0	0.835	0.531	1.951	1.284	1.108	0.662	0.37	0.79	0.485	0.998
PSCAD3	0	0	0.830	0.534	1.943	1.305	1.103	0.670	0.36	0.80	0.482	1.015
PMCP1	0	0	0.805	0.529	1.868	1.266	1.065	0.660	0.41	0.72	0.494	1.045
PMCP2	0	0	0.815	0.536	1.918	1.290	1.086	0.671	0.36	0.82	0.482	1.009
PMCP3	0	0	0.824	0.538	1.937	1.292	1.097	0.672	0.35	0.83	0.479	1.016

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.747	0.019	4.585	0.022	3.106	0.013	0.03	0.02	0.171	0.141

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.738	0.019	4.571	0.027	3.093	0.013	0.36	0.05	0.482	0.219
FMCP 0.05	0.05	NA	2.738	0.019	4.570	0.027	3.093	0.013	0.39	0.06	0.490	0.239
CLASSO 0.05	0.05	NA	2.806	0.024	4.681	0.031	3.172	0.021	0.15	0.05	0.359	0.219
CSCAD 0.05	0.05	NA	2.795	0.024	4.666	0.035	3.158	0.021	0.37	0.10	0.485	0.333
CMCP 0.05	0.05	NA	2.795	0.024	4.665	0.033	3.158	0.021	0.48	0.08	0.502	0.273
PLASSO 0.05	0.05	NA	0.717	0.319	1.843	0.764	0.958	0.376	0.09	2.33	0.288	1.295
PSCAD1 0.05	0.05	NA	0.807	0.520	1.896	1.281	1.075	0.658	0.42	0.75	0.496	1.058
PSCAD2 0.05	0.05	NA	0.835	0.531	1.951	1.284	1.108	0.662	0.37	0.79	0.485	0.998
PSCAD3 0.05	0.05	NA	0.830	0.534	1.943	1.305	1.103	0.670	0.36	0.80	0.482	1.015
PMCP1 0.05	0.05	NA	0.805	0.529	1.867	1.266	1.065	0.660	0.41	0.71	0.494	1.028
PMCP2 0.05	0.05	NA	0.815	0.536	1.917	1.290	1.086	0.671	0.36	0.81	0.482	1.002
PMCP3 0.05	0.05	NA	0.824	0.538	1.937	1.292	1.097	0.672	0.35	0.83	0.479	1.016

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.094	0.002	2.747	0.019	4.584	0.022	3.106	0.013	0.03	0.00	0.171	0.000
FSCAD 0.1*rho	0.096	0.004	2.738	0.019	4.569	0.023	3.093	0.013	0.36	0.00	0.482	0.000
FMCP 0.1*rho	0.096	0.004	2.738	0.019	4.567	0.024	3.093	0.013	0.39	0.00	0.490	0.000
CLASSO 0.1*rho	0.096	0.002	2.806	0.024	4.678	0.032	3.172	0.021	0.15	0.00	0.359	0.000
CSCAD 0.1*rho	0.097	0.003	2.795	0.024	4.661	0.030	3.158	0.021	0.37	0.00	0.485	0.000
CMCP 0.1*rho	0.097	0.003	2.795	0.024	4.661	0.030	3.158	0.021	0.48	0.00	0.502	0.000
PLASSO 0.1*rho	0.059	0.028	0.717	0.319	1.840	0.766	0.958	0.376	0.09	2.31	0.288	1.323
PSCAD1 0.1*rho	0.083	0.041	0.807	0.520	1.896	1.281	1.075	0.658	0.42	0.74	0.496	1.041
PSCAD2 0.1*rho	0.081	0.037	0.835	0.531	1.951	1.284	1.108	0.662	0.37	0.79	0.485	0.998
PSCAD3 0.1*rho	0.081	0.038	0.830	0.534	1.943	1.305	1.103	0.670	0.36	0.80	0.482	1.015
PMCP1 0.1*rho	0.082	0.038	0.805	0.529	1.867	1.265	1.065	0.660	0.41	0.70	0.494	1.000
PMCP2 0.1*rho	0.080	0.039	0.815	0.536	1.918	1.290	1.086	0.671	0.36	0.82	0.482	1.009
PMCP3 0.1*rho	0.080	0.039	0.824	0.538	1.937	1.292	1.097	0.672	0.35	0.83	0.479	1.016

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.283	0.007	2.747	0.019	4.584	0.022	3.106	0.013	0.03	0.00	0.171	0.000
FSCAD 0.3*rho	0.288	0.011	2.738	0.019	4.569	0.023	3.093	0.013	0.36	0.00	0.482	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.287	0.011	2.738	0.019	4.567	0.024	3.093	0.013	0.39	0.00	0.490	0.000
CLASSO 0.3*rho	0.288	0.007	2.806	0.024	4.678	0.032	3.172	0.021	0.15	0.00	0.359	0.000
CSCAD 0.3*rho	0.292	0.008	2.795	0.024	4.661	0.030	3.158	0.021	0.37	0.00	0.485	0.000
CMCP 0.3*rho	0.292	0.008	2.795	0.024	4.661	0.030	3.158	0.021	0.48	0.00	0.502	0.000
PLASSO 0.3*rho	0.176	0.083	0.717	0.319	1.732	0.744	0.947	0.377	0.09	1.50	0.288	1.360
PSCAD1 0.3*rho	0.250	0.122	0.807	0.520	1.883	1.281	1.073	0.658	0.42	0.69	0.496	1.012
PSCAD2 0.3*rho	0.243	0.111	0.835	0.531	1.941	1.282	1.106	0.662	0.37	0.76	0.485	0.976
PSCAD3 0.3*rho	0.244	0.115	0.830	0.534	1.939	1.307	1.102	0.671	0.36	0.78	0.482	1.011
PMCP1 0.3*rho	0.247	0.115	0.805	0.529	1.849	1.263	1.062	0.660	0.41	0.64	0.494	0.948
PMCP2 0.3*rho	0.240	0.118	0.815	0.536	1.910	1.292	1.085	0.672	0.36	0.78	0.482	0.991
PMCP3 0.3*rho	0.240	0.117	0.824	0.538	1.925	1.294	1.095	0.672	0.35	0.78	0.479	0.991

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.471	0.012	2.747	0.019	4.584	0.022	3.106	0.013	0.03	0.00	0.171	0.000
FSCAD 0.5*rho	0.480	0.018	2.738	0.019	4.569	0.023	3.093	0.013	0.36	0.00	0.482	0.000
FMCP 0.5*rho	0.478	0.019	2.738	0.019	4.567	0.024	3.093	0.013	0.39	0.00	0.490	0.000
CLASSO 0.5*rho	0.480	0.011	2.806	0.024	4.678	0.032	3.172	0.021	0.15	0.00	0.359	0.000
CSCAD 0.5*rho	0.487	0.013	2.795	0.024	4.661	0.030	3.158	0.021	0.37	0.00	0.485	0.000
CMCP 0.5*rho	0.487	0.014	2.795	0.024	4.661	0.030	3.158	0.021	0.48	0.00	0.502	0.000
PLASSO 0.5*rho	0.293	0.138	0.717	0.319	1.593	0.670	0.927	0.375	0.09	0.90	0.288	1.133
PSCAD1 0.5*rho	0.417	0.203	0.807	0.520	1.809	1.219	1.059	0.654	0.42	0.52	0.496	0.893
PSCAD2 0.5*rho	0.405	0.185	0.835	0.531	1.888	1.239	1.096	0.662	0.37	0.62	0.485	0.896
PSCAD3 0.5*rho	0.406	0.192	0.830	0.534	1.887	1.250	1.093	0.668	0.36	0.66	0.482	0.934
PMCP1 0.5*rho	0.412	0.192	0.805	0.529	1.786	1.216	1.050	0.659	0.41	0.48	0.494	0.858
PMCP2 0.5*rho	0.400	0.196	0.815	0.536	1.860	1.246	1.076	0.670	0.36	0.65	0.482	0.914
PMCP3 0.5*rho	0.401	0.196	0.824	0.538	1.880	1.249	1.086	0.671	0.35	0.67	0.479	0.933

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.501	-2.747	-1.372	-0.464	0.001	0.003	0.001	0.000	0.000
FSCAD	0.501	-2.738	-1.359	-0.471	0.001	0.002	0.000	0.000	0.000
FMCP	0.501	-2.738	-1.361	-0.468	-0.002	0.003	0.000	0.000	0.000
CLASSO	0.684	-2.806	-1.403	-0.470	0.001	-0.001	0.000	0.000	0.001
CSCAD	0.677	-2.795	-1.391	-0.475	0.001	-0.001	0.000	-0.002	0.001
CMCP	0.677	-2.795	-1.391	-0.475	0.001	-0.002	-0.002	-0.001	0.001
PLASSO	0.000	-0.434	-0.207	-0.094	-0.007	0.014	0.009	-0.010	0.011
PSCAD1	0.000	0.278	0.175	-0.044	-0.012	-0.007	0.004	-0.042	0.011
PSCAD2	0.000	0.332	0.203	-0.003	-0.009	0.000	0.001	-0.043	0.005
PSCAD3	0.000	0.355	0.241	-0.002	-0.010	0.008	-0.005	-0.045	0.007
PMCP1	0.000	0.278	0.178	-0.048	-0.014	-0.005	0.010	-0.042	0.007
PMCP2	0.000	0.337	0.223	-0.009	-0.005	0.005	0.003	-0.043	0.008
PMCP3	0.000	0.351	0.235	-0.005	-0.005	0.005	0.002	-0.047	0.010
FULL	0.501	-2.738	-1.367	-0.452	-0.006	0.005	-0.002	0.002	0.001
COMPLETE	0.675	-2.795	-1.396	-0.459	-0.005	0.001	-0.002	-0.001	0.002
LOGISTIC	0.000	0.534	0.289	0.108	-0.041	0.038	-0.023	-0.014	0.022

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.016	0.019	0.021	0.020	0.011	0.012	0.011	0.010	0.013
FSCAD	0.016	0.019	0.025	0.030	0.014	0.011	0.013	0.010	0.013
FMCP	0.016	0.019	0.024	0.030	0.016	0.012	0.012	0.013	0.014
CLASSO	0.026	0.024	0.025	0.022	0.015	0.014	0.013	0.013	0.016
CSCAD	0.026	0.024	0.031	0.029	0.016	0.015	0.013	0.013	0.015
CMCP	0.026	0.024	0.031	0.029	0.016	0.014	0.012	0.014	0.017
PLASSO	0.000	0.535	0.477	0.292	0.210	0.205	0.203	0.209	0.234
PSCAD1	0.000	0.713	0.663	0.448	0.250	0.247	0.243	0.274	0.283
PSCAD2	0.000	0.717	0.671	0.429	0.252	0.293	0.258	0.274	0.289
PSCAD3	0.000	0.721	0.634	0.435	0.259	0.286	0.263	0.273	0.292
PMCP1	0.000	0.714	0.666	0.438	0.238	0.230	0.242	0.274	0.280
PMCP2	0.000	0.719	0.637	0.431	0.251	0.284	0.249	0.276	0.290
PMCP3	0.000	0.722	0.632	0.432	0.253	0.289	0.263	0.274	0.292
FULL	0.016	0.019	0.022	0.021	0.022	0.021	0.021	0.021	0.022
COMPLETE	0.026	0.024	0.026	0.025	0.025	0.024	0.024	0.024	0.025
LOGISTIC	0.000	0.771	0.664	0.450	0.428	0.424	0.415	0.426	0.430

```

beta : 3 1.5 0.5 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: FALSE
missing_method: xy
missing_location: 8
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_1.5_0.5_n_400_lambda_location_l1_30_error_independent_FALSE_x_missing_location_8.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.747	0.019	4.611	0.033	3.106	0.013	0.03	1.77	0.171	1.434
FSCAD	0	0	2.738	0.019	4.592	0.041	3.093	0.013	0.36	1.15	0.482	1.410
FMCP	0	0	2.738	0.019	4.595	0.044	3.093	0.013	0.39	1.21	0.490	1.513
CLASSO	0	0	2.806	0.024	4.715	0.044	3.172	0.021	0.15	2.06	0.359	1.588
CSCAD	0	0	2.795	0.024	4.691	0.056	3.158	0.021	0.37	1.49	0.485	1.534
CMCP	0	0	2.795	0.024	4.691	0.053	3.158	0.021	0.48	1.15	0.502	1.572
PLASSO	0	0	0.717	0.319	1.859	0.763	0.958	0.376	0.09	2.96	0.288	1.286
PSCAD1	0	0	0.807	0.520	1.896	1.281	1.075	0.658	0.42	0.75	0.496	1.058
PSCAD2	0	0	0.835	0.531	1.951	1.284	1.108	0.662	0.37	0.79	0.485	0.998
PSCAD3	0	0	0.830	0.534	1.943	1.305	1.103	0.670	0.36	0.80	0.482	1.015
PMCP1	0	0	0.805	0.529	1.868	1.266	1.065	0.660	0.41	0.72	0.494	1.045
PMCP2	0	0	0.815	0.536	1.918	1.290	1.086	0.671	0.36	0.82	0.482	1.009
PMCP3	0	0	0.824	0.538	1.937	1.292	1.097	0.672	0.35	0.83	0.479	1.016

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.747	0.019	4.585	0.022	3.106	0.013	0.03	0.02	0.171	0.141

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.738	0.019	4.571	0.027	3.093	0.013	0.36	0.05	0.482	0.219
FMCP 0.05	0.05	NA	2.738	0.019	4.570	0.027	3.093	0.013	0.39	0.06	0.490	0.239
CLASSO 0.05	0.05	NA	2.806	0.024	4.681	0.031	3.172	0.021	0.15	0.05	0.359	0.219
CSCAD 0.05	0.05	NA	2.795	0.024	4.666	0.035	3.158	0.021	0.37	0.10	0.485	0.333
CMCP 0.05	0.05	NA	2.795	0.024	4.665	0.033	3.158	0.021	0.48	0.08	0.502	0.273
PLASSO 0.05	0.05	NA	0.717	0.319	1.843	0.764	0.958	0.376	0.09	2.33	0.288	1.295
PSCAD1 0.05	0.05	NA	0.807	0.520	1.896	1.281	1.075	0.658	0.42	0.75	0.496	1.058
PSCAD2 0.05	0.05	NA	0.835	0.531	1.951	1.284	1.108	0.662	0.37	0.79	0.485	0.998
PSCAD3 0.05	0.05	NA	0.830	0.534	1.943	1.305	1.103	0.670	0.36	0.80	0.482	1.015
PMCP1 0.05	0.05	NA	0.805	0.529	1.867	1.266	1.065	0.660	0.41	0.71	0.494	1.028
PMCP2 0.05	0.05	NA	0.815	0.536	1.917	1.290	1.086	0.671	0.36	0.81	0.482	1.002
PMCP3 0.05	0.05	NA	0.824	0.538	1.937	1.292	1.097	0.672	0.35	0.83	0.479	1.016

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.094	0.002	2.747	0.019	4.584	0.022	3.106	0.013	0.03	0.00	0.171	0.000
FSCAD 0.1*rho	0.096	0.004	2.738	0.019	4.569	0.023	3.093	0.013	0.36	0.00	0.482	0.000
FMCP 0.1*rho	0.096	0.004	2.738	0.019	4.567	0.024	3.093	0.013	0.39	0.00	0.490	0.000
CLASSO 0.1*rho	0.096	0.002	2.806	0.024	4.678	0.032	3.172	0.021	0.15	0.00	0.359	0.000
CSCAD 0.1*rho	0.097	0.003	2.795	0.024	4.661	0.030	3.158	0.021	0.37	0.00	0.485	0.000
CMCP 0.1*rho	0.097	0.003	2.795	0.024	4.661	0.030	3.158	0.021	0.48	0.00	0.502	0.000
PLASSO 0.1*rho	0.059	0.028	0.717	0.319	1.840	0.766	0.958	0.376	0.09	2.31	0.288	1.323
PSCAD1 0.1*rho	0.083	0.041	0.807	0.520	1.896	1.281	1.075	0.658	0.42	0.74	0.496	1.041
PSCAD2 0.1*rho	0.081	0.037	0.835	0.531	1.951	1.284	1.108	0.662	0.37	0.79	0.485	0.998
PSCAD3 0.1*rho	0.081	0.038	0.830	0.534	1.943	1.305	1.103	0.670	0.36	0.80	0.482	1.015
PMCP1 0.1*rho	0.082	0.038	0.805	0.529	1.867	1.265	1.065	0.660	0.41	0.70	0.494	1.000
PMCP2 0.1*rho	0.080	0.039	0.815	0.536	1.918	1.290	1.086	0.671	0.36	0.82	0.482	1.009
PMCP3 0.1*rho	0.080	0.039	0.824	0.538	1.937	1.292	1.097	0.672	0.35	0.83	0.479	1.016

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.283	0.007	2.747	0.019	4.584	0.022	3.106	0.013	0.03	0.00	0.171	0.000
FSCAD 0.3*rho	0.288	0.011	2.738	0.019	4.569	0.023	3.093	0.013	0.36	0.00	0.482	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.287	0.011	2.738	0.019	4.567	0.024	3.093	0.013	0.39	0.00	0.490	0.000
CLASSO 0.3*rho	0.288	0.007	2.806	0.024	4.678	0.032	3.172	0.021	0.15	0.00	0.359	0.000
CSCAD 0.3*rho	0.292	0.008	2.795	0.024	4.661	0.030	3.158	0.021	0.37	0.00	0.485	0.000
CMCP 0.3*rho	0.292	0.008	2.795	0.024	4.661	0.030	3.158	0.021	0.48	0.00	0.502	0.000
PLASSO 0.3*rho	0.176	0.083	0.717	0.319	1.732	0.744	0.947	0.377	0.09	1.50	0.288	1.360
PSCAD1 0.3*rho	0.250	0.122	0.807	0.520	1.883	1.281	1.073	0.658	0.42	0.69	0.496	1.012
PSCAD2 0.3*rho	0.243	0.111	0.835	0.531	1.941	1.282	1.106	0.662	0.37	0.76	0.485	0.976
PSCAD3 0.3*rho	0.244	0.115	0.830	0.534	1.939	1.307	1.102	0.671	0.36	0.78	0.482	1.011
PMCP1 0.3*rho	0.247	0.115	0.805	0.529	1.849	1.263	1.062	0.660	0.41	0.64	0.494	0.948
PMCP2 0.3*rho	0.240	0.118	0.815	0.536	1.910	1.292	1.085	0.672	0.36	0.78	0.482	0.991
PMCP3 0.3*rho	0.240	0.117	0.824	0.538	1.925	1.294	1.095	0.672	0.35	0.78	0.479	0.991

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.471	0.012	2.747	0.019	4.584	0.022	3.106	0.013	0.03	0.00	0.171	0.000
FSCAD 0.5*rho	0.480	0.018	2.738	0.019	4.569	0.023	3.093	0.013	0.36	0.00	0.482	0.000
FMCP 0.5*rho	0.478	0.019	2.738	0.019	4.567	0.024	3.093	0.013	0.39	0.00	0.490	0.000
CLASSO 0.5*rho	0.480	0.011	2.806	0.024	4.678	0.032	3.172	0.021	0.15	0.00	0.359	0.000
CSCAD 0.5*rho	0.487	0.013	2.795	0.024	4.661	0.030	3.158	0.021	0.37	0.00	0.485	0.000
CMCP 0.5*rho	0.487	0.014	2.795	0.024	4.661	0.030	3.158	0.021	0.48	0.00	0.502	0.000
PLASSO 0.5*rho	0.293	0.138	0.717	0.319	1.593	0.670	0.927	0.375	0.09	0.90	0.288	1.133
PSCAD1 0.5*rho	0.417	0.203	0.807	0.520	1.809	1.219	1.059	0.654	0.42	0.52	0.496	0.893
PSCAD2 0.5*rho	0.405	0.185	0.835	0.531	1.888	1.239	1.096	0.662	0.37	0.62	0.485	0.896
PSCAD3 0.5*rho	0.406	0.192	0.830	0.534	1.887	1.250	1.093	0.668	0.36	0.66	0.482	0.934
PMCP1 0.5*rho	0.412	0.192	0.805	0.529	1.786	1.216	1.050	0.659	0.41	0.48	0.494	0.858
PMCP2 0.5*rho	0.400	0.196	0.815	0.536	1.860	1.246	1.076	0.670	0.36	0.65	0.482	0.914
PMCP3 0.5*rho	0.401	0.196	0.824	0.538	1.880	1.249	1.086	0.671	0.35	0.67	0.479	0.933

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.501	-2.747	-1.372	-0.464	0.001	0.003	0.001	0.000	0.000
FSCAD	0.501	-2.738	-1.359	-0.471	0.001	0.002	0.000	0.000	0.000
FMCP	0.501	-2.738	-1.361	-0.468	-0.002	0.003	0.000	0.000	0.000
CLASSO	0.684	-2.806	-1.403	-0.470	0.001	-0.001	0.000	0.000	0.001
CSCAD	0.677	-2.795	-1.391	-0.475	0.001	-0.001	0.000	-0.002	0.001
CMCP	0.677	-2.795	-1.391	-0.475	0.001	-0.002	-0.002	-0.001	0.001
PLASSO	0.000	-0.434	-0.207	-0.094	-0.007	0.014	0.009	-0.010	0.011
PSCAD1	0.000	0.278	0.175	-0.044	-0.012	-0.007	0.004	-0.042	0.011
PSCAD2	0.000	0.332	0.203	-0.003	-0.009	0.000	0.001	-0.043	0.005
PSCAD3	0.000	0.355	0.241	-0.002	-0.010	0.008	-0.005	-0.045	0.007
PMCP1	0.000	0.278	0.178	-0.048	-0.014	-0.005	0.010	-0.042	0.007
PMCP2	0.000	0.337	0.223	-0.009	-0.005	0.005	0.003	-0.043	0.008
PMCP3	0.000	0.351	0.235	-0.005	-0.005	0.005	0.002	-0.047	0.010
FULL	0.501	-2.738	-1.367	-0.452	-0.006	0.005	-0.002	0.002	0.001
COMPLETE	0.675	-2.795	-1.396	-0.459	-0.005	0.001	-0.002	-0.001	0.002
LOGISTIC	0.000	0.534	0.289	0.108	-0.041	0.038	-0.023	-0.014	0.022

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.016	0.019	0.021	0.020	0.011	0.012	0.011	0.010	0.013
FSCAD	0.016	0.019	0.025	0.030	0.014	0.011	0.013	0.010	0.013
FMCP	0.016	0.019	0.024	0.030	0.016	0.012	0.012	0.013	0.014
CLASSO	0.026	0.024	0.025	0.022	0.015	0.014	0.013	0.013	0.016
CSCAD	0.026	0.024	0.031	0.029	0.016	0.015	0.013	0.013	0.015
CMCP	0.026	0.024	0.031	0.029	0.016	0.014	0.012	0.014	0.017
PLASSO	0.000	0.535	0.477	0.292	0.210	0.205	0.203	0.209	0.234
PSCAD1	0.000	0.713	0.663	0.448	0.250	0.247	0.243	0.274	0.283
PSCAD2	0.000	0.717	0.671	0.429	0.252	0.293	0.258	0.274	0.289
PSCAD3	0.000	0.721	0.634	0.435	0.259	0.286	0.263	0.273	0.292
PMCP1	0.000	0.714	0.666	0.438	0.238	0.230	0.242	0.274	0.280
PMCP2	0.000	0.719	0.637	0.431	0.251	0.284	0.249	0.276	0.290
PMCP3	0.000	0.722	0.632	0.432	0.253	0.289	0.263	0.274	0.292
FULL	0.016	0.019	0.022	0.021	0.022	0.021	0.021	0.021	0.022
COMPLETE	0.026	0.024	0.026	0.025	0.025	0.024	0.024	0.024	0.025
LOGISTIC	0.000	0.771	0.664	0.450	0.428	0.424	0.415	0.426	0.430

```

beta : 3 1.5 0.5 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 1
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_1.5_0.5_n_400_lambda_location_l1_30_error_independent_TRUE_x_missing_location_1.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.699	0.017	4.543	0.031	3.055	0.015	0.01	2.28	0.100	1.464
FSCAD	0	0	2.687	0.016	4.510	0.038	3.039	0.013	0.12	1.50	0.327	1.508
FMCP	0	0	2.687	0.016	4.510	0.036	3.040	0.013	0.21	1.04	0.409	1.530
CLASSO	0	0	2.773	0.024	4.678	0.044	3.139	0.025	0.11	2.63	0.314	1.495
CSCAD	0	0	2.758	0.022	4.643	0.050	3.122	0.022	0.26	1.56	0.441	1.713
CMCP	0	0	2.758	0.022	4.641	0.050	3.121	0.022	0.36	1.16	0.482	1.650
PLASSO	0	0	0.695	0.280	1.728	0.596	0.899	0.310	0.08	3.24	0.273	1.319
PSCAD1	0	0	0.635	0.389	1.437	0.856	0.832	0.466	0.38	0.80	0.488	0.953
PSCAD2	0	0	0.641	0.407	1.480	0.885	0.853	0.485	0.36	0.78	0.482	0.894
PSCAD3	0	0	0.648	0.412	1.500	0.926	0.860	0.497	0.37	0.80	0.485	0.899
PMCP1	0	0	0.639	0.400	1.461	0.882	0.840	0.474	0.39	0.84	0.490	0.972
PMCP2	0	0	0.640	0.404	1.471	0.883	0.849	0.484	0.38	0.76	0.488	0.878
PMCP3	0	0	0.645	0.415	1.501	0.939	0.858	0.503	0.34	0.79	0.476	0.902

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.699	0.017	4.515	0.028	3.055	0.015	0.01	0.02	0.100	0.141

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.687	0.016	4.490	0.030	3.039	0.013	0.12	0.01	0.327	0.100
FMCP 0.05	0.05	NA	2.687	0.016	4.493	0.031	3.039	0.013	0.21	0.02	0.409	0.141
CLASSO 0.05	0.05	NA	2.773	0.024	4.638	0.045	3.139	0.025	0.11	0.02	0.314	0.141
CSCAD 0.05	0.05	NA	2.758	0.022	4.616	0.043	3.122	0.022	0.26	0.03	0.441	0.171
CMCP 0.05	0.05	NA	2.758	0.022	4.616	0.043	3.121	0.022	0.36	0.03	0.482	0.171
PLASSO 0.05	0.05	NA	0.695	0.280	1.707	0.598	0.899	0.310	0.08	2.51	0.273	1.425
PSCAD1 0.05	0.05	NA	0.635	0.389	1.436	0.856	0.832	0.466	0.38	0.74	0.488	0.895
PSCAD2 0.05	0.05	NA	0.641	0.407	1.479	0.885	0.853	0.485	0.36	0.76	0.482	0.854
PSCAD3 0.05	0.05	NA	0.648	0.412	1.500	0.926	0.860	0.497	0.37	0.79	0.485	0.880
PMCP1 0.05	0.05	NA	0.639	0.400	1.460	0.883	0.840	0.474	0.39	0.81	0.490	0.961
PMCP2 0.05	0.05	NA	0.640	0.404	1.471	0.883	0.849	0.484	0.38	0.76	0.488	0.878
PMCP3 0.05	0.05	NA	0.645	0.415	1.501	0.939	0.858	0.503	0.34	0.79	0.476	0.902

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.093	0.002	2.699	0.017	4.513	0.026	3.055	0.015	0.01	0.00	0.100	0.000
FSCAD 0.1*rho	0.093	0.004	2.687	0.016	4.490	0.029	3.039	0.013	0.12	0.00	0.327	0.000
FMCP 0.1*rho	0.093	0.004	2.687	0.016	4.491	0.030	3.039	0.013	0.21	0.00	0.409	0.000
CLASSO 0.1*rho	0.095	0.003	2.773	0.024	4.637	0.044	3.139	0.025	0.11	0.00	0.314	0.000
CSCAD 0.1*rho	0.096	0.003	2.758	0.022	4.614	0.041	3.121	0.022	0.26	0.00	0.441	0.000
CMCP 0.1*rho	0.096	0.003	2.758	0.022	4.614	0.041	3.121	0.022	0.36	0.00	0.482	0.000
PLASSO 0.1*rho	0.051	0.030	0.695	0.280	1.704	0.590	0.899	0.310	0.08	2.55	0.273	1.466
PSCAD1 0.1*rho	0.072	0.041	0.635	0.389	1.436	0.856	0.832	0.466	0.38	0.74	0.488	0.895
PSCAD2 0.1*rho	0.070	0.042	0.641	0.407	1.479	0.885	0.853	0.485	0.36	0.76	0.482	0.854
PSCAD3 0.1*rho	0.070	0.042	0.648	0.412	1.500	0.926	0.860	0.497	0.37	0.79	0.485	0.880
PMCP1 0.1*rho	0.071	0.041	0.639	0.400	1.460	0.882	0.840	0.474	0.39	0.83	0.490	0.965
PMCP2 0.1*rho	0.070	0.042	0.640	0.404	1.471	0.883	0.849	0.484	0.38	0.76	0.488	0.878
PMCP3 0.1*rho	0.069	0.043	0.645	0.415	1.501	0.939	0.858	0.503	0.34	0.79	0.476	0.902

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.278	0.007	2.699	0.017	4.513	0.026	3.055	0.015	0.01	0.00	0.100	0.000
FSCAD 0.3*rho	0.279	0.011	2.687	0.016	4.490	0.029	3.039	0.013	0.12	0.00	0.327	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.280	0.012	2.687	0.016	4.491	0.030	3.039	0.013	0.21	0.00	0.409	0.000
CLASSO 0.3*rho	0.286	0.008	2.773	0.024	4.637	0.044	3.139	0.025	0.11	0.00	0.314	0.000
CSCAD 0.3*rho	0.288	0.009	2.758	0.022	4.614	0.041	3.121	0.022	0.26	0.00	0.441	0.000
CMCP 0.3*rho	0.289	0.010	2.758	0.022	4.614	0.041	3.121	0.022	0.36	0.00	0.482	0.000
PLASSO 0.3*rho	0.154	0.091	0.695	0.280	1.592	0.527	0.890	0.307	0.08	1.56	0.273	1.445
PSCAD1 0.3*rho	0.216	0.124	0.635	0.389	1.415	0.823	0.830	0.463	0.38	0.66	0.488	0.807
PSCAD2 0.3*rho	0.210	0.126	0.641	0.407	1.466	0.859	0.851	0.483	0.36	0.71	0.482	0.808
PSCAD3 0.3*rho	0.210	0.127	0.648	0.412	1.490	0.903	0.859	0.495	0.37	0.76	0.485	0.842
PMCP1 0.3*rho	0.213	0.124	0.639	0.400	1.430	0.843	0.837	0.471	0.39	0.68	0.490	0.827
PMCP2 0.3*rho	0.211	0.126	0.640	0.404	1.454	0.858	0.847	0.482	0.38	0.70	0.488	0.810
PMCP3 0.3*rho	0.207	0.130	0.645	0.415	1.475	0.896	0.854	0.499	0.34	0.72	0.476	0.817

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.463	0.012	2.699	0.017	4.513	0.026	3.055	0.015	0.01	0.00	0.100	0.000
FSCAD 0.5*rho	0.466	0.018	2.687	0.016	4.490	0.029	3.039	0.013	0.12	0.00	0.327	0.000
FMCP 0.5*rho	0.466	0.020	2.687	0.016	4.491	0.030	3.039	0.013	0.21	0.00	0.409	0.000
CLASSO 0.5*rho	0.477	0.013	2.773	0.024	4.637	0.044	3.139	0.025	0.11	0.00	0.314	0.000
CSCAD 0.5*rho	0.481	0.016	2.758	0.022	4.614	0.041	3.121	0.022	0.26	0.00	0.441	0.000
CMCP 0.5*rho	0.481	0.017	2.758	0.022	4.614	0.041	3.121	0.022	0.36	0.00	0.482	0.000
PLASSO 0.5*rho	0.257	0.152	0.695	0.280	1.494	0.510	0.874	0.308	0.08	1.07	0.273	1.335
PSCAD1 0.5*rho	0.360	0.207	0.635	0.389	1.295	0.754	0.800	0.455	0.38	0.36	0.488	0.612
PSCAD2 0.5*rho	0.351	0.210	0.641	0.407	1.340	0.797	0.819	0.476	0.36	0.41	0.482	0.653
PSCAD3 0.5*rho	0.350	0.212	0.648	0.412	1.359	0.841	0.825	0.488	0.37	0.45	0.485	0.687
PMCP1 0.5*rho	0.355	0.206	0.639	0.400	1.322	0.797	0.810	0.465	0.39	0.41	0.490	0.712
PMCP2 0.5*rho	0.351	0.211	0.640	0.404	1.329	0.790	0.815	0.474	0.38	0.40	0.488	0.651
PMCP3 0.5*rho	0.344	0.217	0.645	0.415	1.356	0.834	0.824	0.491	0.34	0.44	0.476	0.671

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.504	-2.699	-1.356	-0.459	0.000	0.001	-0.001	0.000	0.000
FSCAD	0.504	-2.687	-1.344	-0.459	-0.002	0.002	-0.001	-0.001	-0.001
FMCP	0.504	-2.687	-1.344	-0.461	-0.001	0.002	0.000	0.000	0.001
CLASSO	0.698	-2.773	-1.394	-0.470	-0.001	-0.001	0.000	0.000	0.001
CSCAD	0.691	-2.758	-1.382	-0.473	0.000	-0.001	-0.001	0.000	0.002
CMCP	0.691	-2.758	-1.382	-0.474	-0.001	0.000	0.000	-0.001	0.001
PLASSO	0.000	-0.474	-0.297	-0.146	-0.010	-0.015	-0.019	0.014	0.001
PSCAD1	0.000	0.214	0.089	-0.088	-0.003	0.004	-0.025	0.022	0.006
PSCAD2	0.000	0.248	0.108	-0.061	-0.009	-0.002	-0.026	0.022	0.002
PSCAD3	0.000	0.276	0.133	-0.050	-0.019	0.005	-0.024	0.017	0.006
PMCP1	0.000	0.207	0.080	-0.087	-0.013	-0.003	-0.027	0.023	0.000
PMCP2	0.000	0.236	0.096	-0.057	-0.017	0.001	-0.025	0.021	0.002
PMCP3	0.000	0.286	0.140	-0.042	-0.026	0.000	-0.027	0.013	0.003
FULL	0.504	-2.687	-1.344	-0.447	0.000	0.001	-0.001	0.000	0.000
COMPLETE	0.689	-2.758	-1.380	-0.458	-0.001	-0.002	-0.002	-0.001	0.003
LOGISTIC	0.000	0.409	0.201	0.069	-0.016	-0.027	-0.030	0.016	0.013

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.017	0.017	0.016	0.016	0.010	0.012	0.011	0.011	0.011
FSCAD	0.017	0.016	0.017	0.025	0.008	0.011	0.009	0.010	0.011
FMCP	0.017	0.016	0.016	0.025	0.009	0.012	0.009	0.011	0.008
CLASSO	0.024	0.024	0.021	0.021	0.012	0.013	0.015	0.015	0.012
CSCAD	0.023	0.022	0.022	0.026	0.011	0.012	0.015	0.014	0.014
CMCP	0.023	0.022	0.022	0.026	0.013	0.011	0.013	0.014	0.012
PLASSO	0.000	0.538	0.282	0.252	0.168	0.140	0.198	0.179	0.151
PSCAD1	0.000	0.622	0.361	0.404	0.189	0.113	0.227	0.214	0.161
PSCAD2	0.000	0.635	0.361	0.402	0.203	0.128	0.236	0.230	0.169
PSCAD3	0.000	0.627	0.352	0.403	0.220	0.141	0.240	0.240	0.177
PMCP1	0.000	0.642	0.362	0.399	0.195	0.124	0.228	0.205	0.168
PMCP2	0.000	0.631	0.370	0.403	0.204	0.131	0.238	0.221	0.173
PMCP3	0.000	0.629	0.351	0.403	0.207	0.131	0.241	0.242	0.180
FULL	0.017	0.016	0.016	0.016	0.016	0.018	0.017	0.018	0.017
COMPLETE	0.023	0.022	0.020	0.020	0.019	0.020	0.021	0.022	0.020
LOGISTIC	0.000	0.666	0.364	0.348	0.300	0.271	0.319	0.332	0.268

```

beta : 3 1.5 0.5 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 3
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_1.5_0.5_n_400_lambda_location_l1_30_error_independent_TRUE_x_missing_location_3.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.699	0.017	4.543	0.031	3.055	0.015	0.01	2.28	0.100	1.464
FSCAD	0	0	2.687	0.016	4.510	0.038	3.039	0.013	0.12	1.50	0.327	1.508
FMCP	0	0	2.687	0.016	4.510	0.036	3.040	0.013	0.21	1.04	0.409	1.530
CLASSO	0	0	2.773	0.024	4.678	0.044	3.139	0.025	0.11	2.63	0.314	1.495
CSCAD	0	0	2.758	0.022	4.643	0.050	3.122	0.022	0.26	1.56	0.441	1.713
CMCP	0	0	2.758	0.022	4.641	0.050	3.121	0.022	0.36	1.16	0.482	1.650
PLASSO	0	0	0.695	0.280	1.728	0.596	0.899	0.310	0.08	3.24	0.273	1.319
PSCAD1	0	0	0.635	0.389	1.437	0.856	0.832	0.466	0.38	0.80	0.488	0.953
PSCAD2	0	0	0.641	0.407	1.480	0.885	0.853	0.485	0.36	0.78	0.482	0.894
PSCAD3	0	0	0.648	0.412	1.500	0.926	0.860	0.497	0.37	0.80	0.485	0.899
PMCP1	0	0	0.639	0.400	1.461	0.882	0.840	0.474	0.39	0.84	0.490	0.972
PMCP2	0	0	0.640	0.404	1.471	0.883	0.849	0.484	0.38	0.76	0.488	0.878
PMCP3	0	0	0.645	0.415	1.501	0.939	0.858	0.503	0.34	0.79	0.476	0.902

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.699	0.017	4.515	0.028	3.055	0.015	0.01	0.02	0.100	0.141

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.687	0.016	4.490	0.030	3.039	0.013	0.12	0.01	0.327	0.100
FMCP 0.05	0.05	NA	2.687	0.016	4.493	0.031	3.039	0.013	0.21	0.02	0.409	0.141
CLASSO 0.05	0.05	NA	2.773	0.024	4.638	0.045	3.139	0.025	0.11	0.02	0.314	0.141
CSCAD 0.05	0.05	NA	2.758	0.022	4.616	0.043	3.122	0.022	0.26	0.03	0.441	0.171
CMCP 0.05	0.05	NA	2.758	0.022	4.616	0.043	3.121	0.022	0.36	0.03	0.482	0.171
PLASSO 0.05	0.05	NA	0.695	0.280	1.707	0.598	0.899	0.310	0.08	2.51	0.273	1.425
PSCAD1 0.05	0.05	NA	0.635	0.389	1.436	0.856	0.832	0.466	0.38	0.74	0.488	0.895
PSCAD2 0.05	0.05	NA	0.641	0.407	1.479	0.885	0.853	0.485	0.36	0.76	0.482	0.854
PSCAD3 0.05	0.05	NA	0.648	0.412	1.500	0.926	0.860	0.497	0.37	0.79	0.485	0.880
PMCP1 0.05	0.05	NA	0.639	0.400	1.460	0.883	0.840	0.474	0.39	0.81	0.490	0.961
PMCP2 0.05	0.05	NA	0.640	0.404	1.471	0.883	0.849	0.484	0.38	0.76	0.488	0.878
PMCP3 0.05	0.05	NA	0.645	0.415	1.501	0.939	0.858	0.503	0.34	0.79	0.476	0.902

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.093	0.002	2.699	0.017	4.513	0.026	3.055	0.015	0.01	0.00	0.100	0.000
FSCAD 0.1*rho	0.093	0.004	2.687	0.016	4.490	0.029	3.039	0.013	0.12	0.00	0.327	0.000
FMCP 0.1*rho	0.093	0.004	2.687	0.016	4.491	0.030	3.039	0.013	0.21	0.00	0.409	0.000
CLASSO 0.1*rho	0.095	0.003	2.773	0.024	4.637	0.044	3.139	0.025	0.11	0.00	0.314	0.000
CSCAD 0.1*rho	0.096	0.003	2.758	0.022	4.614	0.041	3.121	0.022	0.26	0.00	0.441	0.000
CMCP 0.1*rho	0.096	0.003	2.758	0.022	4.614	0.041	3.121	0.022	0.36	0.00	0.482	0.000
PLASSO 0.1*rho	0.051	0.030	0.695	0.280	1.704	0.590	0.899	0.310	0.08	2.55	0.273	1.466
PSCAD1 0.1*rho	0.072	0.041	0.635	0.389	1.436	0.856	0.832	0.466	0.38	0.74	0.488	0.895
PSCAD2 0.1*rho	0.070	0.042	0.641	0.407	1.479	0.885	0.853	0.485	0.36	0.76	0.482	0.854
PSCAD3 0.1*rho	0.070	0.042	0.648	0.412	1.500	0.926	0.860	0.497	0.37	0.79	0.485	0.880
PMCP1 0.1*rho	0.071	0.041	0.639	0.400	1.460	0.882	0.840	0.474	0.39	0.83	0.490	0.965
PMCP2 0.1*rho	0.070	0.042	0.640	0.404	1.471	0.883	0.849	0.484	0.38	0.76	0.488	0.878
PMCP3 0.1*rho	0.069	0.043	0.645	0.415	1.501	0.939	0.858	0.503	0.34	0.79	0.476	0.902

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.278	0.007	2.699	0.017	4.513	0.026	3.055	0.015	0.01	0.00	0.100	0.000
FSCAD 0.3*rho	0.279	0.011	2.687	0.016	4.490	0.029	3.039	0.013	0.12	0.00	0.327	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.280	0.012	2.687	0.016	4.491	0.030	3.039	0.013	0.21	0.00	0.409	0.000
CLASSO 0.3*rho	0.286	0.008	2.773	0.024	4.637	0.044	3.139	0.025	0.11	0.00	0.314	0.000
CSCAD 0.3*rho	0.288	0.009	2.758	0.022	4.614	0.041	3.121	0.022	0.26	0.00	0.441	0.000
CMCP 0.3*rho	0.289	0.010	2.758	0.022	4.614	0.041	3.121	0.022	0.36	0.00	0.482	0.000
PLASSO 0.3*rho	0.154	0.091	0.695	0.280	1.592	0.527	0.890	0.307	0.08	1.56	0.273	1.445
PSCAD1 0.3*rho	0.216	0.124	0.635	0.389	1.415	0.823	0.830	0.463	0.38	0.66	0.488	0.807
PSCAD2 0.3*rho	0.210	0.126	0.641	0.407	1.466	0.859	0.851	0.483	0.36	0.71	0.482	0.808
PSCAD3 0.3*rho	0.210	0.127	0.648	0.412	1.490	0.903	0.859	0.495	0.37	0.76	0.485	0.842
PMCP1 0.3*rho	0.213	0.124	0.639	0.400	1.430	0.843	0.837	0.471	0.39	0.68	0.490	0.827
PMCP2 0.3*rho	0.211	0.126	0.640	0.404	1.454	0.858	0.847	0.482	0.38	0.70	0.488	0.810
PMCP3 0.3*rho	0.207	0.130	0.645	0.415	1.475	0.896	0.854	0.499	0.34	0.72	0.476	0.817

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.463	0.012	2.699	0.017	4.513	0.026	3.055	0.015	0.01	0.00	0.100	0.000
FSCAD 0.5*rho	0.466	0.018	2.687	0.016	4.490	0.029	3.039	0.013	0.12	0.00	0.327	0.000
FMCP 0.5*rho	0.466	0.020	2.687	0.016	4.491	0.030	3.039	0.013	0.21	0.00	0.409	0.000
CLASSO 0.5*rho	0.477	0.013	2.773	0.024	4.637	0.044	3.139	0.025	0.11	0.00	0.314	0.000
CSCAD 0.5*rho	0.481	0.016	2.758	0.022	4.614	0.041	3.121	0.022	0.26	0.00	0.441	0.000
CMCP 0.5*rho	0.481	0.017	2.758	0.022	4.614	0.041	3.121	0.022	0.36	0.00	0.482	0.000
PLASSO 0.5*rho	0.257	0.152	0.695	0.280	1.494	0.510	0.874	0.308	0.08	1.07	0.273	1.335
PSCAD1 0.5*rho	0.360	0.207	0.635	0.389	1.295	0.754	0.800	0.455	0.38	0.36	0.488	0.612
PSCAD2 0.5*rho	0.351	0.210	0.641	0.407	1.340	0.797	0.819	0.476	0.36	0.41	0.482	0.653
PSCAD3 0.5*rho	0.350	0.212	0.648	0.412	1.359	0.841	0.825	0.488	0.37	0.45	0.485	0.687
PMCP1 0.5*rho	0.355	0.206	0.639	0.400	1.322	0.797	0.810	0.465	0.39	0.41	0.490	0.712
PMCP2 0.5*rho	0.351	0.211	0.640	0.404	1.329	0.790	0.815	0.474	0.38	0.40	0.488	0.651
PMCP3 0.5*rho	0.344	0.217	0.645	0.415	1.356	0.834	0.824	0.491	0.34	0.44	0.476	0.671

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.504	-2.699	-1.356	-0.459	0.000	0.001	-0.001	0.000	0.000
FSCAD	0.504	-2.687	-1.344	-0.459	-0.002	0.002	-0.001	-0.001	-0.001
FMCP	0.504	-2.687	-1.344	-0.461	-0.001	0.002	0.000	0.000	0.001
CLASSO	0.698	-2.773	-1.394	-0.470	-0.001	-0.001	0.000	0.000	0.001
CSCAD	0.691	-2.758	-1.382	-0.473	0.000	-0.001	-0.001	0.000	0.002
CMCP	0.691	-2.758	-1.382	-0.474	-0.001	0.000	0.000	-0.001	0.001
PLASSO	0.000	-0.474	-0.297	-0.146	-0.010	-0.015	-0.019	0.014	0.001
PSCAD1	0.000	0.214	0.089	-0.088	-0.003	0.004	-0.025	0.022	0.006
PSCAD2	0.000	0.248	0.108	-0.061	-0.009	-0.002	-0.026	0.022	0.002
PSCAD3	0.000	0.276	0.133	-0.050	-0.019	0.005	-0.024	0.017	0.006
PMCP1	0.000	0.207	0.080	-0.087	-0.013	-0.003	-0.027	0.023	0.000
PMCP2	0.000	0.236	0.096	-0.057	-0.017	0.001	-0.025	0.021	0.002
PMCP3	0.000	0.286	0.140	-0.042	-0.026	0.000	-0.027	0.013	0.003
FULL	0.504	-2.687	-1.344	-0.447	0.000	0.001	-0.001	0.000	0.000
COMPLETE	0.689	-2.758	-1.380	-0.458	-0.001	-0.002	-0.002	-0.001	0.003
LOGISTIC	0.000	0.409	0.201	0.069	-0.016	-0.027	-0.030	0.016	0.013

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.017	0.017	0.016	0.016	0.010	0.012	0.011	0.011	0.011
FSCAD	0.017	0.016	0.017	0.025	0.008	0.011	0.009	0.010	0.011
FMCP	0.017	0.016	0.016	0.025	0.009	0.012	0.009	0.011	0.008
CLASSO	0.024	0.024	0.021	0.021	0.012	0.013	0.015	0.015	0.012
CSCAD	0.023	0.022	0.022	0.026	0.011	0.012	0.015	0.014	0.014
CMCP	0.023	0.022	0.022	0.026	0.013	0.011	0.013	0.014	0.012
PLASSO	0.000	0.538	0.282	0.252	0.168	0.140	0.198	0.179	0.151
PSCAD1	0.000	0.622	0.361	0.404	0.189	0.113	0.227	0.214	0.161
PSCAD2	0.000	0.635	0.361	0.402	0.203	0.128	0.236	0.230	0.169
PSCAD3	0.000	0.627	0.352	0.403	0.220	0.141	0.240	0.240	0.177
PMCP1	0.000	0.642	0.362	0.399	0.195	0.124	0.228	0.205	0.168
PMCP2	0.000	0.631	0.370	0.403	0.204	0.131	0.238	0.221	0.173
PMCP3	0.000	0.629	0.351	0.403	0.207	0.131	0.241	0.242	0.180
FULL	0.017	0.016	0.016	0.016	0.016	0.018	0.017	0.018	0.017
COMPLETE	0.023	0.022	0.020	0.020	0.019	0.020	0.021	0.022	0.020
LOGISTIC	0.000	0.666	0.364	0.348	0.300	0.271	0.319	0.332	0.268

```

beta : 3 1.5 0.5 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 8
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_1.5_0.5_n_400_lambda_location_l1_30_error_independent_TRUE_x_missing_location_8.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.699	0.017	4.543	0.031	3.055	0.015	0.01	2.28	0.100	1.464
FSCAD	0	0	2.687	0.016	4.510	0.038	3.039	0.013	0.12	1.50	0.327	1.508
FMCP	0	0	2.687	0.016	4.510	0.036	3.040	0.013	0.21	1.04	0.409	1.530
CLASSO	0	0	2.773	0.024	4.678	0.044	3.139	0.025	0.11	2.63	0.314	1.495
CSCAD	0	0	2.758	0.022	4.643	0.050	3.122	0.022	0.26	1.56	0.441	1.713
CMCP	0	0	2.758	0.022	4.641	0.050	3.121	0.022	0.36	1.16	0.482	1.650
PLASSO	0	0	0.695	0.280	1.728	0.596	0.899	0.310	0.08	3.24	0.273	1.319
PSCAD1	0	0	0.635	0.389	1.437	0.856	0.832	0.466	0.38	0.80	0.488	0.953
PSCAD2	0	0	0.641	0.407	1.480	0.885	0.853	0.485	0.36	0.78	0.482	0.894
PSCAD3	0	0	0.648	0.412	1.500	0.926	0.860	0.497	0.37	0.80	0.485	0.899
PMCP1	0	0	0.639	0.400	1.461	0.882	0.840	0.474	0.39	0.84	0.490	0.972
PMCP2	0	0	0.640	0.404	1.471	0.883	0.849	0.484	0.38	0.76	0.488	0.878
PMCP3	0	0	0.645	0.415	1.501	0.939	0.858	0.503	0.34	0.79	0.476	0.902

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.699	0.017	4.515	0.028	3.055	0.015	0.01	0.02	0.100	0.141

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.687	0.016	4.490	0.030	3.039	0.013	0.12	0.01	0.327	0.100
FMCP 0.05	0.05	NA	2.687	0.016	4.493	0.031	3.039	0.013	0.21	0.02	0.409	0.141
CLASSO 0.05	0.05	NA	2.773	0.024	4.638	0.045	3.139	0.025	0.11	0.02	0.314	0.141
CSCAD 0.05	0.05	NA	2.758	0.022	4.616	0.043	3.122	0.022	0.26	0.03	0.441	0.171
CMCP 0.05	0.05	NA	2.758	0.022	4.616	0.043	3.121	0.022	0.36	0.03	0.482	0.171
PLASSO 0.05	0.05	NA	0.695	0.280	1.707	0.598	0.899	0.310	0.08	2.51	0.273	1.425
PSCAD1 0.05	0.05	NA	0.635	0.389	1.436	0.856	0.832	0.466	0.38	0.74	0.488	0.895
PSCAD2 0.05	0.05	NA	0.641	0.407	1.479	0.885	0.853	0.485	0.36	0.76	0.482	0.854
PSCAD3 0.05	0.05	NA	0.648	0.412	1.500	0.926	0.860	0.497	0.37	0.79	0.485	0.880
PMCP1 0.05	0.05	NA	0.639	0.400	1.460	0.883	0.840	0.474	0.39	0.81	0.490	0.961
PMCP2 0.05	0.05	NA	0.640	0.404	1.471	0.883	0.849	0.484	0.38	0.76	0.488	0.878
PMCP3 0.05	0.05	NA	0.645	0.415	1.501	0.939	0.858	0.503	0.34	0.79	0.476	0.902

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.093	0.002	2.699	0.017	4.513	0.026	3.055	0.015	0.01	0.00	0.100	0.000
FSCAD 0.1*rho	0.093	0.004	2.687	0.016	4.490	0.029	3.039	0.013	0.12	0.00	0.327	0.000
FMCP 0.1*rho	0.093	0.004	2.687	0.016	4.491	0.030	3.039	0.013	0.21	0.00	0.409	0.000
CLASSO 0.1*rho	0.095	0.003	2.773	0.024	4.637	0.044	3.139	0.025	0.11	0.00	0.314	0.000
CSCAD 0.1*rho	0.096	0.003	2.758	0.022	4.614	0.041	3.121	0.022	0.26	0.00	0.441	0.000
CMCP 0.1*rho	0.096	0.003	2.758	0.022	4.614	0.041	3.121	0.022	0.36	0.00	0.482	0.000
PLASSO 0.1*rho	0.051	0.030	0.695	0.280	1.704	0.590	0.899	0.310	0.08	2.55	0.273	1.466
PSCAD1 0.1*rho	0.072	0.041	0.635	0.389	1.436	0.856	0.832	0.466	0.38	0.74	0.488	0.895
PSCAD2 0.1*rho	0.070	0.042	0.641	0.407	1.479	0.885	0.853	0.485	0.36	0.76	0.482	0.854
PSCAD3 0.1*rho	0.070	0.042	0.648	0.412	1.500	0.926	0.860	0.497	0.37	0.79	0.485	0.880
PMCP1 0.1*rho	0.071	0.041	0.639	0.400	1.460	0.882	0.840	0.474	0.39	0.83	0.490	0.965
PMCP2 0.1*rho	0.070	0.042	0.640	0.404	1.471	0.883	0.849	0.484	0.38	0.76	0.488	0.878
PMCP3 0.1*rho	0.069	0.043	0.645	0.415	1.501	0.939	0.858	0.503	0.34	0.79	0.476	0.902

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.278	0.007	2.699	0.017	4.513	0.026	3.055	0.015	0.01	0.00	0.100	0.000
FSCAD 0.3*rho	0.279	0.011	2.687	0.016	4.490	0.029	3.039	0.013	0.12	0.00	0.327	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.280	0.012	2.687	0.016	4.491	0.030	3.039	0.013	0.21	0.00	0.409	0.000
CLASSO 0.3*rho	0.286	0.008	2.773	0.024	4.637	0.044	3.139	0.025	0.11	0.00	0.314	0.000
CSCAD 0.3*rho	0.288	0.009	2.758	0.022	4.614	0.041	3.121	0.022	0.26	0.00	0.441	0.000
CMCP 0.3*rho	0.289	0.010	2.758	0.022	4.614	0.041	3.121	0.022	0.36	0.00	0.482	0.000
PLASSO 0.3*rho	0.154	0.091	0.695	0.280	1.592	0.527	0.890	0.307	0.08	1.56	0.273	1.445
PSCAD1 0.3*rho	0.216	0.124	0.635	0.389	1.415	0.823	0.830	0.463	0.38	0.66	0.488	0.807
PSCAD2 0.3*rho	0.210	0.126	0.641	0.407	1.466	0.859	0.851	0.483	0.36	0.71	0.482	0.808
PSCAD3 0.3*rho	0.210	0.127	0.648	0.412	1.490	0.903	0.859	0.495	0.37	0.76	0.485	0.842
PMCP1 0.3*rho	0.213	0.124	0.639	0.400	1.430	0.843	0.837	0.471	0.39	0.68	0.490	0.827
PMCP2 0.3*rho	0.211	0.126	0.640	0.404	1.454	0.858	0.847	0.482	0.38	0.70	0.488	0.810
PMCP3 0.3*rho	0.207	0.130	0.645	0.415	1.475	0.896	0.854	0.499	0.34	0.72	0.476	0.817

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.463	0.012	2.699	0.017	4.513	0.026	3.055	0.015	0.01	0.00	0.100	0.000
FSCAD 0.5*rho	0.466	0.018	2.687	0.016	4.490	0.029	3.039	0.013	0.12	0.00	0.327	0.000
FMCP 0.5*rho	0.466	0.020	2.687	0.016	4.491	0.030	3.039	0.013	0.21	0.00	0.409	0.000
CLASSO 0.5*rho	0.477	0.013	2.773	0.024	4.637	0.044	3.139	0.025	0.11	0.00	0.314	0.000
CSCAD 0.5*rho	0.481	0.016	2.758	0.022	4.614	0.041	3.121	0.022	0.26	0.00	0.441	0.000
CMCP 0.5*rho	0.481	0.017	2.758	0.022	4.614	0.041	3.121	0.022	0.36	0.00	0.482	0.000
PLASSO 0.5*rho	0.257	0.152	0.695	0.280	1.494	0.510	0.874	0.308	0.08	1.07	0.273	1.335
PSCAD1 0.5*rho	0.360	0.207	0.635	0.389	1.295	0.754	0.800	0.455	0.38	0.36	0.488	0.612
PSCAD2 0.5*rho	0.351	0.210	0.641	0.407	1.340	0.797	0.819	0.476	0.36	0.41	0.482	0.653
PSCAD3 0.5*rho	0.350	0.212	0.648	0.412	1.359	0.841	0.825	0.488	0.37	0.45	0.485	0.687
PMCP1 0.5*rho	0.355	0.206	0.639	0.400	1.322	0.797	0.810	0.465	0.39	0.41	0.490	0.712
PMCP2 0.5*rho	0.351	0.211	0.640	0.404	1.329	0.790	0.815	0.474	0.38	0.40	0.488	0.651
PMCP3 0.5*rho	0.344	0.217	0.645	0.415	1.356	0.834	0.824	0.491	0.34	0.44	0.476	0.671

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.504	-2.699	-1.356	-0.459	0.000	0.001	-0.001	0.000	0.000
FSCAD	0.504	-2.687	-1.344	-0.459	-0.002	0.002	-0.001	-0.001	-0.001
FMCP	0.504	-2.687	-1.344	-0.461	-0.001	0.002	0.000	0.000	0.001
CLASSO	0.698	-2.773	-1.394	-0.470	-0.001	-0.001	0.000	0.000	0.001
CSCAD	0.691	-2.758	-1.382	-0.473	0.000	-0.001	-0.001	0.000	0.002
CMCP	0.691	-2.758	-1.382	-0.474	-0.001	0.000	0.000	-0.001	0.001
PLASSO	0.000	-0.474	-0.297	-0.146	-0.010	-0.015	-0.019	0.014	0.001
PSCAD1	0.000	0.214	0.089	-0.088	-0.003	0.004	-0.025	0.022	0.006
PSCAD2	0.000	0.248	0.108	-0.061	-0.009	-0.002	-0.026	0.022	0.002
PSCAD3	0.000	0.276	0.133	-0.050	-0.019	0.005	-0.024	0.017	0.006
PMCP1	0.000	0.207	0.080	-0.087	-0.013	-0.003	-0.027	0.023	0.000
PMCP2	0.000	0.236	0.096	-0.057	-0.017	0.001	-0.025	0.021	0.002
PMCP3	0.000	0.286	0.140	-0.042	-0.026	0.000	-0.027	0.013	0.003
FULL	0.504	-2.687	-1.344	-0.447	0.000	0.001	-0.001	0.000	0.000
COMPLETE	0.689	-2.758	-1.380	-0.458	-0.001	-0.002	-0.002	-0.001	0.003
LOGISTIC	0.000	0.409	0.201	0.069	-0.016	-0.027	-0.030	0.016	0.013

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.017	0.017	0.016	0.016	0.010	0.012	0.011	0.011	0.011
FSCAD	0.017	0.016	0.017	0.025	0.008	0.011	0.009	0.010	0.011
FMCP	0.017	0.016	0.016	0.025	0.009	0.012	0.009	0.011	0.008
CLASSO	0.024	0.024	0.021	0.021	0.012	0.013	0.015	0.015	0.012
CSCAD	0.023	0.022	0.022	0.026	0.011	0.012	0.015	0.014	0.014
CMCP	0.023	0.022	0.022	0.026	0.013	0.011	0.013	0.014	0.012
PLASSO	0.000	0.538	0.282	0.252	0.168	0.140	0.198	0.179	0.151
PSCAD1	0.000	0.622	0.361	0.404	0.189	0.113	0.227	0.214	0.161
PSCAD2	0.000	0.635	0.361	0.402	0.203	0.128	0.236	0.230	0.169
PSCAD3	0.000	0.627	0.352	0.403	0.220	0.141	0.240	0.240	0.177
PMCP1	0.000	0.642	0.362	0.399	0.195	0.124	0.228	0.205	0.168
PMCP2	0.000	0.631	0.370	0.403	0.204	0.131	0.238	0.221	0.173
PMCP3	0.000	0.629	0.351	0.403	0.207	0.131	0.241	0.242	0.180
FULL	0.017	0.016	0.016	0.016	0.016	0.018	0.017	0.018	0.017
COMPLETE	0.023	0.022	0.020	0.020	0.019	0.020	0.021	0.022	0.020
LOGISTIC	0.000	0.666	0.364	0.348	0.300	0.271	0.319	0.332	0.268

```

beta : 3 1.5 0.5 0 0 0 0
intercept : 0
sample size : 600
simulation time : 100
loss_rate: 0.625
error_independent: FALSE
missing_method: xy
missing_location: 1
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_1.5_0.5_n_600_lambda_location_l1_30_error_independent_FALSE_x_missing_location_1.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.741	0.013	4.599	0.028	3.102	0.011	0.03	1.78	0.171	1.548
FSCAD	0	0	2.733	0.013	4.579	0.036	3.092	0.010	0.18	1.14	0.386	1.393
FMCP	0	0	2.733	0.013	4.580	0.036	3.091	0.010	0.26	0.91	0.441	1.408
CLASSO	0	0	2.799	0.020	4.703	0.039	3.167	0.017	0.18	1.81	0.386	1.581
CSCAD	0	0	2.788	0.020	4.684	0.051	3.154	0.015	0.42	1.22	0.496	1.521
CMCP	0	0	2.788	0.019	4.683	0.052	3.154	0.015	0.46	1.02	0.501	1.449
PLASSO	0	0	0.588	0.267	1.570	0.643	0.801	0.303	0.08	3.05	0.273	1.282
PSCAD1	0	0	0.640	0.320	1.466	0.875	0.840	0.411	0.37	0.81	0.485	1.125
PSCAD2	0	0	0.677	0.361	1.557	0.953	0.889	0.455	0.34	0.88	0.476	1.104
PSCAD3	0	0	0.681	0.360	1.573	0.948	0.896	0.454	0.34	0.89	0.476	1.091
PMCP1	0	0	0.642	0.324	1.460	0.855	0.840	0.408	0.36	0.82	0.482	1.104
PMCP2	0	0	0.673	0.361	1.546	0.947	0.884	0.453	0.34	0.85	0.476	1.077
PMCP3	0	0	0.679	0.362	1.563	0.953	0.892	0.456	0.34	0.88	0.476	1.094

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.741	0.013	4.578	0.020	3.102	0.011	0.03	0.01	0.171	0.100

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.733	0.013	4.563	0.018	3.092	0.010	0.18	0.02	0.386	0.141
FMCP 0.05	0.05	NA	2.733	0.013	4.563	0.019	3.091	0.009	0.26	0.02	0.441	0.141
CLASSO 0.05	0.05	NA	2.799	0.020	4.678	0.025	3.167	0.017	0.18	0.01	0.386	0.100
CSCAD 0.05	0.05	NA	2.788	0.020	4.663	0.031	3.154	0.015	0.42	0.07	0.496	0.293
CMCP 0.05	0.05	NA	2.788	0.019	4.663	0.032	3.154	0.015	0.46	0.08	0.501	0.339
PLASSO 0.05	0.05	NA	0.588	0.267	1.554	0.646	0.801	0.303	0.08	2.35	0.273	1.381
PSCAD1 0.05	0.05	NA	0.640	0.320	1.466	0.875	0.840	0.411	0.37	0.81	0.485	1.125
PSCAD2 0.05	0.05	NA	0.677	0.361	1.556	0.953	0.889	0.455	0.34	0.86	0.476	1.101
PSCAD3 0.05	0.05	NA	0.681	0.360	1.573	0.948	0.896	0.454	0.34	0.89	0.476	1.091
PMCP1 0.05	0.05	NA	0.642	0.324	1.459	0.855	0.840	0.408	0.36	0.79	0.482	1.066
PMCP2 0.05	0.05	NA	0.673	0.361	1.546	0.947	0.884	0.453	0.34	0.85	0.476	1.077
PMCP3 0.05	0.05	NA	0.679	0.362	1.563	0.953	0.892	0.456	0.34	0.88	0.476	1.094

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.094	0.002	2.741	0.013	4.577	0.020	3.102	0.011	0.03	0.00	0.171	0.000
FSCAD 0.1*rho	0.094	0.003	2.733	0.013	4.562	0.018	3.092	0.010	0.18	0.00	0.386	0.000
FMCP 0.1*rho	0.094	0.003	2.733	0.013	4.562	0.019	3.091	0.010	0.26	0.00	0.441	0.000
CLASSO 0.1*rho	0.097	0.002	2.799	0.020	4.678	0.026	3.167	0.017	0.18	0.00	0.386	0.000
CSCAD 0.1*rho	0.098	0.003	2.788	0.020	4.659	0.026	3.154	0.015	0.42	0.00	0.496	0.000
CMCP 0.1*rho	0.097	0.003	2.788	0.019	4.658	0.025	3.154	0.015	0.46	0.00	0.501	0.000
PLASSO 0.1*rho	0.056	0.027	0.588	0.267	1.547	0.642	0.801	0.303	0.08	2.28	0.273	1.379
PSCAD1 0.1*rho	0.074	0.039	0.640	0.320	1.465	0.874	0.840	0.411	0.37	0.80	0.485	1.110
PSCAD2 0.1*rho	0.075	0.041	0.677	0.361	1.556	0.953	0.889	0.455	0.34	0.87	0.476	1.107
PSCAD3 0.1*rho	0.075	0.042	0.681	0.360	1.573	0.948	0.896	0.454	0.34	0.89	0.476	1.091
PMCP1 0.1*rho	0.073	0.039	0.642	0.324	1.460	0.855	0.840	0.408	0.36	0.81	0.482	1.098
PMCP2 0.1*rho	0.074	0.041	0.673	0.361	1.546	0.947	0.884	0.453	0.34	0.85	0.476	1.077
PMCP3 0.1*rho	0.074	0.042	0.679	0.362	1.563	0.953	0.892	0.456	0.34	0.88	0.476	1.094

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.281	0.006	2.741	0.013	4.577	0.020	3.102	0.011	0.03	0.00	0.171	0.000
FSCAD 0.3*rho	0.283	0.010	2.733	0.013	4.562	0.018	3.092	0.010	0.18	0.00	0.386	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.283	0.010	2.733	0.013	4.562	0.019	3.091	0.010	0.26	0.00	0.441	0.000
CLASSO 0.3*rho	0.290	0.007	2.799	0.020	4.678	0.026	3.167	0.017	0.18	0.00	0.386	0.000
CSCAD 0.3*rho	0.293	0.008	2.788	0.020	4.659	0.026	3.154	0.015	0.42	0.00	0.496	0.000
CMCP 0.3*rho	0.292	0.009	2.788	0.019	4.658	0.025	3.154	0.015	0.46	0.00	0.501	0.000
PLASSO 0.3*rho	0.168	0.081	0.588	0.267	1.447	0.632	0.790	0.305	0.08	1.44	0.273	1.373
PSCAD1 0.3*rho	0.221	0.118	0.640	0.320	1.438	0.843	0.837	0.408	0.37	0.69	0.485	1.002
PSCAD2 0.3*rho	0.224	0.123	0.677	0.361	1.530	0.926	0.885	0.453	0.34	0.77	0.476	1.014
PSCAD3 0.3*rho	0.225	0.125	0.681	0.360	1.541	0.921	0.892	0.451	0.34	0.78	0.476	1.011
PMCP1 0.3*rho	0.219	0.116	0.642	0.324	1.425	0.819	0.835	0.404	0.36	0.67	0.482	0.965
PMCP2 0.3*rho	0.223	0.123	0.673	0.361	1.519	0.919	0.880	0.451	0.34	0.76	0.476	0.986
PMCP3 0.3*rho	0.223	0.127	0.679	0.362	1.534	0.926	0.888	0.453	0.34	0.78	0.476	1.011

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.469	0.011	2.741	0.013	4.577	0.020	3.102	0.011	0.03	0.00	0.171	0.000
FSCAD 0.5*rho	0.472	0.017	2.733	0.013	4.562	0.018	3.092	0.010	0.18	0.00	0.386	0.000
FMCP 0.5*rho	0.472	0.017	2.733	0.013	4.562	0.019	3.091	0.010	0.26	0.00	0.441	0.000
CLASSO 0.5*rho	0.483	0.012	2.799	0.020	4.678	0.026	3.167	0.017	0.18	0.00	0.386	0.000
CSCAD 0.5*rho	0.488	0.013	2.788	0.020	4.659	0.026	3.154	0.015	0.42	0.00	0.496	0.000
CMCP 0.5*rho	0.486	0.014	2.788	0.019	4.658	0.025	3.154	0.015	0.46	0.00	0.501	0.000
PLASSO 0.5*rho	0.280	0.135	0.588	0.267	1.309	0.593	0.766	0.304	0.08	0.79	0.273	1.140
PSCAD1 0.5*rho	0.368	0.196	0.640	0.320	1.338	0.756	0.814	0.394	0.37	0.46	0.485	0.846
PSCAD2 0.5*rho	0.373	0.205	0.677	0.361	1.422	0.824	0.862	0.436	0.34	0.54	0.476	0.926
PSCAD3 0.5*rho	0.376	0.209	0.681	0.360	1.429	0.822	0.867	0.435	0.34	0.54	0.476	0.926
PMCP1 0.5*rho	0.364	0.193	0.642	0.324	1.338	0.731	0.816	0.391	0.36	0.48	0.482	0.847
PMCP2 0.5*rho	0.372	0.205	0.673	0.361	1.405	0.817	0.856	0.434	0.34	0.51	0.476	0.893
PMCP3 0.5*rho	0.372	0.211	0.679	0.362	1.422	0.825	0.863	0.437	0.34	0.54	0.476	0.926

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.501	-2.741	-1.376	-0.460	0.000	0.000	-0.001	0.000	-0.002
FSCAD	0.501	-2.733	-1.369	-0.460	-0.001	0.000	-0.001	0.000	-0.002
FMCP	0.501	-2.733	-1.368	-0.460	-0.002	0.001	-0.001	0.000	-0.001
CLASSO	0.682	-2.799	-1.404	-0.475	0.002	-0.001	-0.001	-0.001	-0.002
CSCAD	0.675	-2.788	-1.393	-0.478	0.001	-0.001	-0.002	0.000	-0.002
CMCP	0.675	-2.788	-1.394	-0.476	0.000	-0.001	-0.002	0.001	-0.002
PLASSO	0.000	-0.288	-0.214	-0.107	0.035	0.014	-0.035	-0.011	-0.010
PSCAD1	0.000	0.269	0.067	-0.055	0.027	0.002	-0.017	-0.034	-0.005
PSCAD2	0.000	0.322	0.105	-0.017	0.020	0.014	-0.027	-0.039	-0.007
PSCAD3	0.000	0.324	0.102	-0.015	0.025	0.012	-0.027	-0.044	-0.010
PMCP1	0.000	0.278	0.079	-0.055	0.031	0.006	-0.020	-0.041	-0.002
PMCP2	0.000	0.316	0.099	-0.019	0.025	0.013	-0.024	-0.045	-0.006
PMCP3	0.000	0.322	0.105	-0.019	0.023	0.012	-0.027	-0.044	-0.010
FULL	0.501	-2.733	-1.373	-0.451	-0.002	0.001	-0.002	-0.001	-0.001
COMPLETE	0.674	-2.788	-1.398	-0.465	-0.001	0.001	-0.004	-0.001	-0.001
LOGISTIC	0.000	0.411	0.123	0.067	0.001	0.017	-0.062	-0.008	-0.005

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.014	0.013	0.019	0.018	0.010	0.008	0.010	0.008	0.011
FSCAD	0.014	0.013	0.022	0.027	0.010	0.010	0.012	0.008	0.010
FMCP	0.014	0.013	0.021	0.027	0.011	0.010	0.011	0.009	0.011
CLASSO	0.020	0.020	0.021	0.022	0.009	0.011	0.013	0.010	0.013
CSCAD	0.019	0.020	0.027	0.028	0.010	0.011	0.016	0.013	0.015
CMCP	0.019	0.019	0.024	0.028	0.010	0.011	0.016	0.013	0.015
PLASSO	0.000	0.495	0.299	0.283	0.195	0.169	0.208	0.204	0.171
PSCAD1	0.000	0.531	0.366	0.408	0.249	0.173	0.221	0.207	0.179
PSCAD2	0.000	0.568	0.358	0.421	0.277	0.184	0.234	0.230	0.202
PSCAD3	0.000	0.568	0.364	0.424	0.272	0.189	0.236	0.233	0.204
PMCP1	0.000	0.537	0.358	0.403	0.244	0.178	0.225	0.196	0.172
PMCP2	0.000	0.567	0.360	0.419	0.267	0.189	0.233	0.229	0.197
PMCP3	0.000	0.568	0.360	0.421	0.271	0.189	0.236	0.233	0.204
FULL	0.014	0.013	0.019	0.020	0.018	0.016	0.019	0.017	0.017
COMPLETE	0.019	0.019	0.022	0.025	0.019	0.020	0.024	0.020	0.021
LOGISTIC	0.000	0.580	0.357	0.375	0.350	0.314	0.366	0.365	0.298

```

beta : 3 1.5 0.5 0 0 0 0
intercept : 0
sample size : 600
simulation time : 100
loss_rate: 0.625
error_independent: FALSE
missing_method: xy
missing_location: 3
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_1.5_0.5_n_600_lambda_location_l1_30_error_independent_FALSE_x_missing_location_3.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.741	0.013	4.599	0.028	3.102	0.011	0.03	1.78	0.171	1.548
FSCAD	0	0	2.733	0.013	4.579	0.036	3.092	0.010	0.18	1.14	0.386	1.393
FMCP	0	0	2.733	0.013	4.580	0.036	3.091	0.010	0.26	0.91	0.441	1.408
CLASSO	0	0	2.799	0.020	4.703	0.039	3.167	0.017	0.18	1.81	0.386	1.581
CSCAD	0	0	2.788	0.020	4.684	0.051	3.154	0.015	0.42	1.22	0.496	1.521
CMCP	0	0	2.788	0.019	4.683	0.052	3.154	0.015	0.46	1.02	0.501	1.449
PLASSO	0	0	0.588	0.267	1.570	0.643	0.801	0.303	0.08	3.05	0.273	1.282
PSCAD1	0	0	0.640	0.320	1.466	0.875	0.840	0.411	0.37	0.81	0.485	1.125
PSCAD2	0	0	0.677	0.361	1.557	0.953	0.889	0.455	0.34	0.88	0.476	1.104
PSCAD3	0	0	0.681	0.360	1.573	0.948	0.896	0.454	0.34	0.89	0.476	1.091
PMCP1	0	0	0.642	0.324	1.460	0.855	0.840	0.408	0.36	0.82	0.482	1.104
PMCP2	0	0	0.673	0.361	1.546	0.947	0.884	0.453	0.34	0.85	0.476	1.077
PMCP3	0	0	0.679	0.362	1.563	0.953	0.892	0.456	0.34	0.88	0.476	1.094

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.741	0.013	4.578	0.020	3.102	0.011	0.03	0.01	0.171	0.100

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.733	0.013	4.563	0.018	3.092	0.010	0.18	0.02	0.386	0.141
FMCP 0.05	0.05	NA	2.733	0.013	4.563	0.019	3.091	0.009	0.26	0.02	0.441	0.141
CLASSO 0.05	0.05	NA	2.799	0.020	4.678	0.025	3.167	0.017	0.18	0.01	0.386	0.100
CSCAD 0.05	0.05	NA	2.788	0.020	4.663	0.031	3.154	0.015	0.42	0.07	0.496	0.293
CMCP 0.05	0.05	NA	2.788	0.019	4.663	0.032	3.154	0.015	0.46	0.08	0.501	0.339
PLASSO 0.05	0.05	NA	0.588	0.267	1.554	0.646	0.801	0.303	0.08	2.35	0.273	1.381
PSCAD1 0.05	0.05	NA	0.640	0.320	1.466	0.875	0.840	0.411	0.37	0.81	0.485	1.125
PSCAD2 0.05	0.05	NA	0.677	0.361	1.556	0.953	0.889	0.455	0.34	0.86	0.476	1.101
PSCAD3 0.05	0.05	NA	0.681	0.360	1.573	0.948	0.896	0.454	0.34	0.89	0.476	1.091
PMCP1 0.05	0.05	NA	0.642	0.324	1.459	0.855	0.840	0.408	0.36	0.79	0.482	1.066
PMCP2 0.05	0.05	NA	0.673	0.361	1.546	0.947	0.884	0.453	0.34	0.85	0.476	1.077
PMCP3 0.05	0.05	NA	0.679	0.362	1.563	0.953	0.892	0.456	0.34	0.88	0.476	1.094

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.094	0.002	2.741	0.013	4.577	0.020	3.102	0.011	0.03	0.00	0.171	0.000
FSCAD 0.1*rho	0.094	0.003	2.733	0.013	4.562	0.018	3.092	0.010	0.18	0.00	0.386	0.000
FMCP 0.1*rho	0.094	0.003	2.733	0.013	4.562	0.019	3.091	0.010	0.26	0.00	0.441	0.000
CLASSO 0.1*rho	0.097	0.002	2.799	0.020	4.678	0.026	3.167	0.017	0.18	0.00	0.386	0.000
CSCAD 0.1*rho	0.098	0.003	2.788	0.020	4.659	0.026	3.154	0.015	0.42	0.00	0.496	0.000
CMCP 0.1*rho	0.097	0.003	2.788	0.019	4.658	0.025	3.154	0.015	0.46	0.00	0.501	0.000
PLASSO 0.1*rho	0.056	0.027	0.588	0.267	1.547	0.642	0.801	0.303	0.08	2.28	0.273	1.379
PSCAD1 0.1*rho	0.074	0.039	0.640	0.320	1.465	0.874	0.840	0.411	0.37	0.80	0.485	1.110
PSCAD2 0.1*rho	0.075	0.041	0.677	0.361	1.556	0.953	0.889	0.455	0.34	0.87	0.476	1.107
PSCAD3 0.1*rho	0.075	0.042	0.681	0.360	1.573	0.948	0.896	0.454	0.34	0.89	0.476	1.091
PMCP1 0.1*rho	0.073	0.039	0.642	0.324	1.460	0.855	0.840	0.408	0.36	0.81	0.482	1.098
PMCP2 0.1*rho	0.074	0.041	0.673	0.361	1.546	0.947	0.884	0.453	0.34	0.85	0.476	1.077
PMCP3 0.1*rho	0.074	0.042	0.679	0.362	1.563	0.953	0.892	0.456	0.34	0.88	0.476	1.094

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.281	0.006	2.741	0.013	4.577	0.020	3.102	0.011	0.03	0.00	0.171	0.000
FSCAD 0.3*rho	0.283	0.010	2.733	0.013	4.562	0.018	3.092	0.010	0.18	0.00	0.386	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.283	0.010	2.733	0.013	4.562	0.019	3.091	0.010	0.26	0.00	0.441	0.000
CLASSO 0.3*rho	0.290	0.007	2.799	0.020	4.678	0.026	3.167	0.017	0.18	0.00	0.386	0.000
CSCAD 0.3*rho	0.293	0.008	2.788	0.020	4.659	0.026	3.154	0.015	0.42	0.00	0.496	0.000
CMCP 0.3*rho	0.292	0.009	2.788	0.019	4.658	0.025	3.154	0.015	0.46	0.00	0.501	0.000
PLASSO 0.3*rho	0.168	0.081	0.588	0.267	1.447	0.632	0.790	0.305	0.08	1.44	0.273	1.373
PSCAD1 0.3*rho	0.221	0.118	0.640	0.320	1.438	0.843	0.837	0.408	0.37	0.69	0.485	1.002
PSCAD2 0.3*rho	0.224	0.123	0.677	0.361	1.530	0.926	0.885	0.453	0.34	0.77	0.476	1.014
PSCAD3 0.3*rho	0.225	0.125	0.681	0.360	1.541	0.921	0.892	0.451	0.34	0.78	0.476	1.011
PMCP1 0.3*rho	0.219	0.116	0.642	0.324	1.425	0.819	0.835	0.404	0.36	0.67	0.482	0.965
PMCP2 0.3*rho	0.223	0.123	0.673	0.361	1.519	0.919	0.880	0.451	0.34	0.76	0.476	0.986
PMCP3 0.3*rho	0.223	0.127	0.679	0.362	1.534	0.926	0.888	0.453	0.34	0.78	0.476	1.011

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.469	0.011	2.741	0.013	4.577	0.020	3.102	0.011	0.03	0.00	0.171	0.000
FSCAD 0.5*rho	0.472	0.017	2.733	0.013	4.562	0.018	3.092	0.010	0.18	0.00	0.386	0.000
FMCP 0.5*rho	0.472	0.017	2.733	0.013	4.562	0.019	3.091	0.010	0.26	0.00	0.441	0.000
CLASSO 0.5*rho	0.483	0.012	2.799	0.020	4.678	0.026	3.167	0.017	0.18	0.00	0.386	0.000
CSCAD 0.5*rho	0.488	0.013	2.788	0.020	4.659	0.026	3.154	0.015	0.42	0.00	0.496	0.000
CMCP 0.5*rho	0.486	0.014	2.788	0.019	4.658	0.025	3.154	0.015	0.46	0.00	0.501	0.000
PLASSO 0.5*rho	0.280	0.135	0.588	0.267	1.309	0.593	0.766	0.304	0.08	0.79	0.273	1.140
PSCAD1 0.5*rho	0.368	0.196	0.640	0.320	1.338	0.756	0.814	0.394	0.37	0.46	0.485	0.846
PSCAD2 0.5*rho	0.373	0.205	0.677	0.361	1.422	0.824	0.862	0.436	0.34	0.54	0.476	0.926
PSCAD3 0.5*rho	0.376	0.209	0.681	0.360	1.429	0.822	0.867	0.435	0.34	0.54	0.476	0.926
PMCP1 0.5*rho	0.364	0.193	0.642	0.324	1.338	0.731	0.816	0.391	0.36	0.48	0.482	0.847
PMCP2 0.5*rho	0.372	0.205	0.673	0.361	1.405	0.817	0.856	0.434	0.34	0.51	0.476	0.893
PMCP3 0.5*rho	0.372	0.211	0.679	0.362	1.422	0.825	0.863	0.437	0.34	0.54	0.476	0.926

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.501	-2.741	-1.376	-0.460	0.000	0.000	-0.001	0.000	-0.002
FSCAD	0.501	-2.733	-1.369	-0.460	-0.001	0.000	-0.001	0.000	-0.002
FMCP	0.501	-2.733	-1.368	-0.460	-0.002	0.001	-0.001	0.000	-0.001
CLASSO	0.682	-2.799	-1.404	-0.475	0.002	-0.001	-0.001	-0.001	-0.002
CSCAD	0.675	-2.788	-1.393	-0.478	0.001	-0.001	-0.002	0.000	-0.002
CMCP	0.675	-2.788	-1.394	-0.476	0.000	-0.001	-0.002	0.001	-0.002
PLASSO	0.000	-0.288	-0.214	-0.107	0.035	0.014	-0.035	-0.011	-0.010
PSCAD1	0.000	0.269	0.067	-0.055	0.027	0.002	-0.017	-0.034	-0.005
PSCAD2	0.000	0.322	0.105	-0.017	0.020	0.014	-0.027	-0.039	-0.007
PSCAD3	0.000	0.324	0.102	-0.015	0.025	0.012	-0.027	-0.044	-0.010
PMCP1	0.000	0.278	0.079	-0.055	0.031	0.006	-0.020	-0.041	-0.002
PMCP2	0.000	0.316	0.099	-0.019	0.025	0.013	-0.024	-0.045	-0.006
PMCP3	0.000	0.322	0.105	-0.019	0.023	0.012	-0.027	-0.044	-0.010
FULL	0.501	-2.733	-1.373	-0.451	-0.002	0.001	-0.002	-0.001	-0.001
COMPLETE	0.674	-2.788	-1.398	-0.465	-0.001	0.001	-0.004	-0.001	-0.001
LOGISTIC	0.000	0.411	0.123	0.067	0.001	0.017	-0.062	-0.008	-0.005

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.014	0.013	0.019	0.018	0.010	0.008	0.010	0.008	0.011
FSCAD	0.014	0.013	0.022	0.027	0.010	0.010	0.012	0.008	0.010
FMCP	0.014	0.013	0.021	0.027	0.011	0.010	0.011	0.009	0.011
CLASSO	0.020	0.020	0.021	0.022	0.009	0.011	0.013	0.010	0.013
CSCAD	0.019	0.020	0.027	0.028	0.010	0.011	0.016	0.013	0.015
CMCP	0.019	0.019	0.024	0.028	0.010	0.011	0.016	0.013	0.015
PLASSO	0.000	0.495	0.299	0.283	0.195	0.169	0.208	0.204	0.171
PSCAD1	0.000	0.531	0.366	0.408	0.249	0.173	0.221	0.207	0.179
PSCAD2	0.000	0.568	0.358	0.421	0.277	0.184	0.234	0.230	0.202
PSCAD3	0.000	0.568	0.364	0.424	0.272	0.189	0.236	0.233	0.204
PMCP1	0.000	0.537	0.358	0.403	0.244	0.178	0.225	0.196	0.172
PMCP2	0.000	0.567	0.360	0.419	0.267	0.189	0.233	0.229	0.197
PMCP3	0.000	0.568	0.360	0.421	0.271	0.189	0.236	0.233	0.204
FULL	0.014	0.013	0.019	0.020	0.018	0.016	0.019	0.017	0.017
COMPLETE	0.019	0.019	0.022	0.025	0.019	0.020	0.024	0.020	0.021
LOGISTIC	0.000	0.580	0.357	0.375	0.350	0.314	0.366	0.365	0.298

```

beta : 3 1.5 0.5 0 0 0 0 0
intercept : 0
sample size : 600
simulation time : 100
loss_rate: 0.625
error_independent: FALSE
missing_method: xy
missing_location: 8
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_1.5_0.5_n_600_lambda_location_l1_30_error_independent_FALSE_x_missing_location_8.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.741	0.013	4.599	0.028	3.102	0.011	0.03	1.78	0.171	1.548
FSCAD	0	0	2.733	0.013	4.579	0.036	3.092	0.010	0.18	1.14	0.386	1.393
FMCP	0	0	2.733	0.013	4.580	0.036	3.091	0.010	0.26	0.91	0.441	1.408
CLASSO	0	0	2.799	0.020	4.703	0.039	3.167	0.017	0.18	1.81	0.386	1.581
CSCAD	0	0	2.788	0.020	4.684	0.051	3.154	0.015	0.42	1.22	0.496	1.521
CMCP	0	0	2.788	0.019	4.683	0.052	3.154	0.015	0.46	1.02	0.501	1.449
PLASSO	0	0	0.588	0.267	1.570	0.643	0.801	0.303	0.08	3.05	0.273	1.282
PSCAD1	0	0	0.640	0.320	1.466	0.875	0.840	0.411	0.37	0.81	0.485	1.125
PSCAD2	0	0	0.677	0.361	1.557	0.953	0.889	0.455	0.34	0.88	0.476	1.104
PSCAD3	0	0	0.681	0.360	1.573	0.948	0.896	0.454	0.34	0.89	0.476	1.091
PMCP1	0	0	0.642	0.324	1.460	0.855	0.840	0.408	0.36	0.82	0.482	1.104
PMCP2	0	0	0.673	0.361	1.546	0.947	0.884	0.453	0.34	0.85	0.476	1.077
PMCP3	0	0	0.679	0.362	1.563	0.953	0.892	0.456	0.34	0.88	0.476	1.094

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.741	0.013	4.578	0.020	3.102	0.011	0.03	0.01	0.171	0.100

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.733	0.013	4.563	0.018	3.092	0.010	0.18	0.02	0.386	0.141
FMCP 0.05	0.05	NA	2.733	0.013	4.563	0.019	3.091	0.009	0.26	0.02	0.441	0.141
CLASSO 0.05	0.05	NA	2.799	0.020	4.678	0.025	3.167	0.017	0.18	0.01	0.386	0.100
CSCAD 0.05	0.05	NA	2.788	0.020	4.663	0.031	3.154	0.015	0.42	0.07	0.496	0.293
CMCP 0.05	0.05	NA	2.788	0.019	4.663	0.032	3.154	0.015	0.46	0.08	0.501	0.339
PLASSO 0.05	0.05	NA	0.588	0.267	1.554	0.646	0.801	0.303	0.08	2.35	0.273	1.381
PSCAD1 0.05	0.05	NA	0.640	0.320	1.466	0.875	0.840	0.411	0.37	0.81	0.485	1.125
PSCAD2 0.05	0.05	NA	0.677	0.361	1.556	0.953	0.889	0.455	0.34	0.86	0.476	1.101
PSCAD3 0.05	0.05	NA	0.681	0.360	1.573	0.948	0.896	0.454	0.34	0.89	0.476	1.091
PMCP1 0.05	0.05	NA	0.642	0.324	1.459	0.855	0.840	0.408	0.36	0.79	0.482	1.066
PMCP2 0.05	0.05	NA	0.673	0.361	1.546	0.947	0.884	0.453	0.34	0.85	0.476	1.077
PMCP3 0.05	0.05	NA	0.679	0.362	1.563	0.953	0.892	0.456	0.34	0.88	0.476	1.094

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.094	0.002	2.741	0.013	4.577	0.020	3.102	0.011	0.03	0.00	0.171	0.000
FSCAD 0.1*rho	0.094	0.003	2.733	0.013	4.562	0.018	3.092	0.010	0.18	0.00	0.386	0.000
FMCP 0.1*rho	0.094	0.003	2.733	0.013	4.562	0.019	3.091	0.010	0.26	0.00	0.441	0.000
CLASSO 0.1*rho	0.097	0.002	2.799	0.020	4.678	0.026	3.167	0.017	0.18	0.00	0.386	0.000
CSCAD 0.1*rho	0.098	0.003	2.788	0.020	4.659	0.026	3.154	0.015	0.42	0.00	0.496	0.000
CMCP 0.1*rho	0.097	0.003	2.788	0.019	4.658	0.025	3.154	0.015	0.46	0.00	0.501	0.000
PLASSO 0.1*rho	0.056	0.027	0.588	0.267	1.547	0.642	0.801	0.303	0.08	2.28	0.273	1.379
PSCAD1 0.1*rho	0.074	0.039	0.640	0.320	1.465	0.874	0.840	0.411	0.37	0.80	0.485	1.110
PSCAD2 0.1*rho	0.075	0.041	0.677	0.361	1.556	0.953	0.889	0.455	0.34	0.87	0.476	1.107
PSCAD3 0.1*rho	0.075	0.042	0.681	0.360	1.573	0.948	0.896	0.454	0.34	0.89	0.476	1.091
PMCP1 0.1*rho	0.073	0.039	0.642	0.324	1.460	0.855	0.840	0.408	0.36	0.81	0.482	1.098
PMCP2 0.1*rho	0.074	0.041	0.673	0.361	1.546	0.947	0.884	0.453	0.34	0.85	0.476	1.077
PMCP3 0.1*rho	0.074	0.042	0.679	0.362	1.563	0.953	0.892	0.456	0.34	0.88	0.476	1.094

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.281	0.006	2.741	0.013	4.577	0.020	3.102	0.011	0.03	0.00	0.171	0.000
FSCAD 0.3*rho	0.283	0.010	2.733	0.013	4.562	0.018	3.092	0.010	0.18	0.00	0.386	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.283	0.010	2.733	0.013	4.562	0.019	3.091	0.010	0.26	0.00	0.441	0.000
CLASSO 0.3*rho	0.290	0.007	2.799	0.020	4.678	0.026	3.167	0.017	0.18	0.00	0.386	0.000
CSCAD 0.3*rho	0.293	0.008	2.788	0.020	4.659	0.026	3.154	0.015	0.42	0.00	0.496	0.000
CMCP 0.3*rho	0.292	0.009	2.788	0.019	4.658	0.025	3.154	0.015	0.46	0.00	0.501	0.000
PLASSO 0.3*rho	0.168	0.081	0.588	0.267	1.447	0.632	0.790	0.305	0.08	1.44	0.273	1.373
PSCAD1 0.3*rho	0.221	0.118	0.640	0.320	1.438	0.843	0.837	0.408	0.37	0.69	0.485	1.002
PSCAD2 0.3*rho	0.224	0.123	0.677	0.361	1.530	0.926	0.885	0.453	0.34	0.77	0.476	1.014
PSCAD3 0.3*rho	0.225	0.125	0.681	0.360	1.541	0.921	0.892	0.451	0.34	0.78	0.476	1.011
PMCP1 0.3*rho	0.219	0.116	0.642	0.324	1.425	0.819	0.835	0.404	0.36	0.67	0.482	0.965
PMCP2 0.3*rho	0.223	0.123	0.673	0.361	1.519	0.919	0.880	0.451	0.34	0.76	0.476	0.986
PMCP3 0.3*rho	0.223	0.127	0.679	0.362	1.534	0.926	0.888	0.453	0.34	0.78	0.476	1.011

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.469	0.011	2.741	0.013	4.577	0.020	3.102	0.011	0.03	0.00	0.171	0.000
FSCAD 0.5*rho	0.472	0.017	2.733	0.013	4.562	0.018	3.092	0.010	0.18	0.00	0.386	0.000
FMCP 0.5*rho	0.472	0.017	2.733	0.013	4.562	0.019	3.091	0.010	0.26	0.00	0.441	0.000
CLASSO 0.5*rho	0.483	0.012	2.799	0.020	4.678	0.026	3.167	0.017	0.18	0.00	0.386	0.000
CSCAD 0.5*rho	0.488	0.013	2.788	0.020	4.659	0.026	3.154	0.015	0.42	0.00	0.496	0.000
CMCP 0.5*rho	0.486	0.014	2.788	0.019	4.658	0.025	3.154	0.015	0.46	0.00	0.501	0.000
PLASSO 0.5*rho	0.280	0.135	0.588	0.267	1.309	0.593	0.766	0.304	0.08	0.79	0.273	1.140
PSCAD1 0.5*rho	0.368	0.196	0.640	0.320	1.338	0.756	0.814	0.394	0.37	0.46	0.485	0.846
PSCAD2 0.5*rho	0.373	0.205	0.677	0.361	1.422	0.824	0.862	0.436	0.34	0.54	0.476	0.926
PSCAD3 0.5*rho	0.376	0.209	0.681	0.360	1.429	0.822	0.867	0.435	0.34	0.54	0.476	0.926
PMCP1 0.5*rho	0.364	0.193	0.642	0.324	1.338	0.731	0.816	0.391	0.36	0.48	0.482	0.847
PMCP2 0.5*rho	0.372	0.205	0.673	0.361	1.405	0.817	0.856	0.434	0.34	0.51	0.476	0.893
PMCP3 0.5*rho	0.372	0.211	0.679	0.362	1.422	0.825	0.863	0.437	0.34	0.54	0.476	0.926

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.501	-2.741	-1.376	-0.460	0.000	0.000	-0.001	0.000	-0.002
FSCAD	0.501	-2.733	-1.369	-0.460	-0.001	0.000	-0.001	0.000	-0.002
FMCP	0.501	-2.733	-1.368	-0.460	-0.002	0.001	-0.001	0.000	-0.001
CLASSO	0.682	-2.799	-1.404	-0.475	0.002	-0.001	-0.001	-0.001	-0.002
CSCAD	0.675	-2.788	-1.393	-0.478	0.001	-0.001	-0.002	0.000	-0.002
CMCP	0.675	-2.788	-1.394	-0.476	0.000	-0.001	-0.002	0.001	-0.002
PLASSO	0.000	-0.288	-0.214	-0.107	0.035	0.014	-0.035	-0.011	-0.010
PSCAD1	0.000	0.269	0.067	-0.055	0.027	0.002	-0.017	-0.034	-0.005
PSCAD2	0.000	0.322	0.105	-0.017	0.020	0.014	-0.027	-0.039	-0.007
PSCAD3	0.000	0.324	0.102	-0.015	0.025	0.012	-0.027	-0.044	-0.010
PMCP1	0.000	0.278	0.079	-0.055	0.031	0.006	-0.020	-0.041	-0.002
PMCP2	0.000	0.316	0.099	-0.019	0.025	0.013	-0.024	-0.045	-0.006
PMCP3	0.000	0.322	0.105	-0.019	0.023	0.012	-0.027	-0.044	-0.010
FULL	0.501	-2.733	-1.373	-0.451	-0.002	0.001	-0.002	-0.001	-0.001
COMPLETE	0.674	-2.788	-1.398	-0.465	-0.001	0.001	-0.004	-0.001	-0.001
LOGISTIC	0.000	0.411	0.123	0.067	0.001	0.017	-0.062	-0.008	-0.005

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.014	0.013	0.019	0.018	0.010	0.008	0.010	0.008	0.011
FSCAD	0.014	0.013	0.022	0.027	0.010	0.010	0.012	0.008	0.010
FMCP	0.014	0.013	0.021	0.027	0.011	0.010	0.011	0.009	0.011
CLASSO	0.020	0.020	0.021	0.022	0.009	0.011	0.013	0.010	0.013
CSCAD	0.019	0.020	0.027	0.028	0.010	0.011	0.016	0.013	0.015
CMCP	0.019	0.019	0.024	0.028	0.010	0.011	0.016	0.013	0.015
PLASSO	0.000	0.495	0.299	0.283	0.195	0.169	0.208	0.204	0.171
PSCAD1	0.000	0.531	0.366	0.408	0.249	0.173	0.221	0.207	0.179
PSCAD2	0.000	0.568	0.358	0.421	0.277	0.184	0.234	0.230	0.202
PSCAD3	0.000	0.568	0.364	0.424	0.272	0.189	0.236	0.233	0.204
PMCP1	0.000	0.537	0.358	0.403	0.244	0.178	0.225	0.196	0.172
PMCP2	0.000	0.567	0.360	0.419	0.267	0.189	0.233	0.229	0.197
PMCP3	0.000	0.568	0.360	0.421	0.271	0.189	0.236	0.233	0.204
FULL	0.014	0.013	0.019	0.020	0.018	0.016	0.019	0.017	0.017
COMPLETE	0.019	0.019	0.022	0.025	0.019	0.020	0.024	0.020	0.021
LOGISTIC	0.000	0.580	0.357	0.375	0.350	0.314	0.366	0.365	0.298

```

beta : 3 1.5 0.5 0 0 0 0
intercept : 0
sample size : 600
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 1
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_1.5_0.5_n_600_lambda_location_l1_30_error_independent_TRUE_x_missing_location_1.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.695	0.012	4.530	0.024	3.049	0.012	0.01	2.53	0.100	1.425
FSCAD	0	0	2.685	0.012	4.502	0.032	3.037	0.011	0.07	1.41	0.256	1.512
FMCP	0	0	2.685	0.012	4.501	0.033	3.037	0.011	0.08	1.23	0.273	1.588
CLASSO	0	0	2.767	0.018	4.655	0.040	3.132	0.021	0.05	2.32	0.219	1.503
CSCAD	0	0	2.754	0.018	4.625	0.045	3.115	0.020	0.14	1.48	0.349	1.691
CMCP	0	0	2.754	0.018	4.622	0.045	3.116	0.020	0.26	0.93	0.441	1.416
PLASSO	0	0	0.526	0.278	1.382	0.487	0.703	0.296	0.01	3.42	0.100	1.387
PSCAD1	0	0	0.503	0.224	1.109	0.584	0.646	0.284	0.24	0.85	0.429	1.192
PSCAD2	0	0	0.509	0.227	1.135	0.594	0.661	0.289	0.21	0.82	0.409	1.009
PSCAD3	0	0	0.518	0.219	1.146	0.579	0.672	0.277	0.23	0.81	0.423	1.002
PMCP1	0	0	0.501	0.225	1.108	0.581	0.647	0.283	0.23	0.87	0.423	1.143
PMCP2	0	0	0.510	0.224	1.135	0.581	0.663	0.282	0.23	0.86	0.423	1.045
PMCP3	0	0	0.516	0.224	1.159	0.584	0.674	0.281	0.23	0.84	0.423	1.002

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.695	0.012	4.503	0.023	3.049	0.012	0.01	0.00	0.100	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.685	0.012	4.484	0.025	3.037	0.011	0.07	0.00	0.256	0.000
FMCP 0.05	0.05	NA	2.685	0.012	4.483	0.024	3.037	0.011	0.08	0.00	0.273	0.000
CLASSO 0.05	0.05	NA	2.767	0.018	4.627	0.039	3.132	0.021	0.05	0.00	0.219	0.000
CSCAD 0.05	0.05	NA	2.754	0.018	4.602	0.038	3.115	0.020	0.14	0.00	0.349	0.000
CMCP 0.05	0.05	NA	2.754	0.018	4.605	0.037	3.116	0.019	0.26	0.00	0.441	0.000
PLASSO 0.05	0.05	NA	0.526	0.278	1.361	0.491	0.703	0.296	0.01	2.46	0.100	1.459
PSCAD1 0.05	0.05	NA	0.503	0.224	1.107	0.583	0.646	0.284	0.24	0.79	0.429	1.085
PSCAD2 0.05	0.05	NA	0.509	0.227	1.135	0.594	0.661	0.289	0.21	0.80	0.409	0.995
PSCAD3 0.05	0.05	NA	0.518	0.219	1.146	0.579	0.672	0.277	0.23	0.80	0.423	0.995
PMCP1 0.05	0.05	NA	0.501	0.225	1.107	0.581	0.646	0.283	0.23	0.81	0.423	1.070
PMCP2 0.05	0.05	NA	0.510	0.224	1.135	0.581	0.663	0.282	0.23	0.85	0.423	1.038
PMCP3 0.05	0.05	NA	0.516	0.224	1.159	0.584	0.674	0.281	0.23	0.84	0.423	1.002

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.092	0.002	2.695	0.012	4.503	0.023	3.049	0.012	0.01	0.00	0.100	0.000
FSCAD 0.1*rho	0.092	0.003	2.685	0.012	4.484	0.025	3.037	0.011	0.07	0.00	0.256	0.000
FMCP 0.1*rho	0.092	0.003	2.685	0.012	4.483	0.024	3.037	0.011	0.08	0.00	0.273	0.000
CLASSO 0.1*rho	0.095	0.003	2.767	0.018	4.627	0.039	3.132	0.021	0.05	0.00	0.219	0.000
CSCAD 0.1*rho	0.095	0.003	2.754	0.018	4.602	0.038	3.115	0.020	0.14	0.00	0.349	0.000
CMCP 0.1*rho	0.095	0.003	2.754	0.018	4.605	0.037	3.116	0.019	0.26	0.00	0.441	0.000
PLASSO 0.1*rho	0.041	0.021	0.526	0.278	1.363	0.483	0.703	0.296	0.01	2.58	0.100	1.532
PSCAD1 0.1*rho	0.053	0.032	0.503	0.224	1.109	0.584	0.646	0.284	0.24	0.82	0.429	1.149
PSCAD2 0.1*rho	0.052	0.032	0.509	0.227	1.135	0.594	0.661	0.289	0.21	0.80	0.409	0.995
PSCAD3 0.1*rho	0.053	0.033	0.518	0.219	1.146	0.579	0.672	0.277	0.23	0.80	0.423	0.995
PMCP1 0.1*rho	0.052	0.032	0.501	0.225	1.108	0.580	0.646	0.283	0.23	0.84	0.423	1.126
PMCP2 0.1*rho	0.052	0.033	0.510	0.224	1.135	0.581	0.663	0.282	0.23	0.85	0.423	1.038
PMCP3 0.1*rho	0.053	0.033	0.516	0.224	1.159	0.584	0.674	0.281	0.23	0.84	0.423	1.002

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.276	0.006	2.695	0.012	4.503	0.023	3.049	0.012	0.01	0.00	0.100	0.000
FSCAD 0.3*rho	0.277	0.010	2.685	0.012	4.484	0.025	3.037	0.011	0.07	0.00	0.256	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.276	0.009	2.685	0.012	4.483	0.024	3.037	0.011	0.08	0.00	0.273	0.000
CLASSO 0.3*rho	0.285	0.008	2.767	0.018	4.627	0.039	3.132	0.021	0.05	0.00	0.219	0.000
CSCAD 0.3*rho	0.286	0.009	2.754	0.018	4.602	0.038	3.115	0.020	0.14	0.00	0.349	0.000
CMCP 0.3*rho	0.286	0.010	2.754	0.018	4.605	0.037	3.116	0.019	0.26	0.00	0.441	0.000
PLASSO 0.3*rho	0.122	0.064	0.526	0.278	1.283	0.485	0.696	0.298	0.01	1.72	0.100	1.602
PSCAD1 0.3*rho	0.159	0.097	0.503	0.224	1.101	0.580	0.646	0.284	0.24	0.74	0.429	1.041
PSCAD2 0.3*rho	0.156	0.097	0.509	0.227	1.129	0.595	0.660	0.289	0.21	0.78	0.409	1.001
PSCAD3 0.3*rho	0.158	0.099	0.518	0.219	1.140	0.578	0.670	0.277	0.23	0.77	0.423	0.973
PMCP1 0.3*rho	0.155	0.097	0.501	0.225	1.101	0.578	0.646	0.283	0.23	0.77	0.423	1.033
PMCP2 0.3*rho	0.156	0.100	0.510	0.224	1.128	0.581	0.661	0.282	0.23	0.82	0.423	1.019
PMCP3 0.3*rho	0.159	0.098	0.516	0.224	1.152	0.584	0.672	0.281	0.23	0.81	0.423	1.002

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.461	0.011	2.695	0.012	4.503	0.023	3.049	0.012	0.01	0.00	0.100	0.000
FSCAD 0.5*rho	0.462	0.016	2.685	0.012	4.484	0.025	3.037	0.011	0.07	0.00	0.256	0.000
FMCP 0.5*rho	0.461	0.015	2.685	0.012	4.483	0.024	3.037	0.011	0.08	0.00	0.273	0.000
CLASSO 0.5*rho	0.475	0.013	2.767	0.018	4.627	0.039	3.132	0.021	0.05	0.00	0.219	0.000
CSCAD 0.5*rho	0.476	0.015	2.754	0.018	4.602	0.038	3.115	0.020	0.14	0.00	0.349	0.000
CMCP 0.5*rho	0.477	0.017	2.754	0.018	4.605	0.037	3.116	0.019	0.26	0.00	0.441	0.000
PLASSO 0.5*rho	0.203	0.106	0.526	0.278	1.218	0.477	0.687	0.300	0.01	1.25	0.100	1.445
PSCAD1 0.5*rho	0.265	0.161	0.503	0.224	1.056	0.545	0.635	0.280	0.24	0.59	0.429	0.922
PSCAD2 0.5*rho	0.261	0.162	0.509	0.227	1.083	0.559	0.649	0.286	0.21	0.63	0.409	0.884
PSCAD3 0.5*rho	0.264	0.166	0.518	0.219	1.095	0.548	0.659	0.275	0.23	0.64	0.423	0.894
PMCP1 0.5*rho	0.258	0.162	0.501	0.225	1.056	0.547	0.635	0.280	0.23	0.62	0.423	0.940
PMCP2 0.5*rho	0.260	0.166	0.510	0.224	1.080	0.548	0.649	0.279	0.23	0.67	0.423	0.911
PMCP3 0.5*rho	0.265	0.164	0.516	0.224	1.106	0.547	0.661	0.278	0.23	0.67	0.423	0.888

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.500	-2.695	-1.352	-0.457	0.000	0.000	0.001	0.000	-0.001
FSCAD	0.500	-2.685	-1.343	-0.456	0.000	0.000	0.001	0.000	0.000
FMCP	0.500	-2.685	-1.343	-0.455	0.000	0.000	0.002	0.000	0.000
CLASSO	0.691	-2.767	-1.390	-0.470	0.001	-0.001	0.001	0.000	-0.001
CSCAD	0.684	-2.754	-1.377	-0.471	0.001	-0.001	0.001	0.000	-0.001
CMCP	0.685	-2.754	-1.378	-0.472	0.001	0.000	0.000	-0.001	0.000
PLASSO	0.000	-0.352	-0.221	-0.110	0.016	-0.014	0.020	-0.015	-0.005
PSCAD1	0.000	0.173	0.070	-0.049	0.023	0.004	0.009	-0.011	-0.004
PSCAD2	0.000	0.206	0.094	-0.018	0.018	0.001	0.011	-0.011	-0.015
PSCAD3	0.000	0.210	0.096	-0.019	0.020	-0.002	0.011	-0.009	-0.012
PMCP1	0.000	0.175	0.074	-0.045	0.021	-0.004	0.009	-0.009	-0.005
PMCP2	0.000	0.209	0.096	-0.018	0.020	0.000	0.014	-0.011	-0.012
PMCP3	0.000	0.209	0.096	-0.022	0.018	0.001	0.013	-0.012	-0.013
FULL	0.500	-2.685	-1.342	-0.448	0.000	0.000	0.002	-0.001	-0.002
COMPLETE	0.683	-2.754	-1.377	-0.459	0.001	-0.001	0.003	-0.002	-0.001
LOGISTIC	0.000	0.302	0.140	0.066	0.009	-0.021	0.025	-0.035	-0.009

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.015	0.012	0.014	0.015	0.009	0.010	0.010	0.010	0.008
FSCAD	0.015	0.012	0.014	0.021	0.009	0.009	0.010	0.009	0.007
FMCP	0.015	0.012	0.014	0.020	0.007	0.009	0.010	0.010	0.008
CLASSO	0.023	0.018	0.018	0.018	0.009	0.013	0.009	0.011	0.010
CSCAD	0.022	0.018	0.017	0.023	0.009	0.013	0.009	0.011	0.010
CMCP	0.022	0.018	0.017	0.023	0.008	0.011	0.009	0.009	0.009
PLASSO	0.000	0.433	0.261	0.193	0.128	0.177	0.140	0.144	0.138
PSCAD1	0.000	0.439	0.267	0.305	0.111	0.189	0.137	0.153	0.128
PSCAD2	0.000	0.435	0.258	0.303	0.123	0.203	0.147	0.161	0.140
PSCAD3	0.000	0.437	0.256	0.308	0.127	0.208	0.147	0.163	0.135
PMCP1	0.000	0.440	0.268	0.298	0.116	0.194	0.140	0.152	0.125
PMCP2	0.000	0.434	0.255	0.304	0.123	0.204	0.147	0.165	0.130
PMCP3	0.000	0.440	0.257	0.307	0.130	0.204	0.150	0.166	0.145
FULL	0.014	0.012	0.014	0.014	0.015	0.015	0.015	0.014	0.013
COMPLETE	0.022	0.018	0.017	0.017	0.014	0.018	0.015	0.017	0.016
LOGISTIC	0.000	0.430	0.258	0.218	0.198	0.263	0.214	0.229	0.224

```

beta : 3 1.5 0.5 0 0 0 0
intercept : 0
sample size : 600
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 3
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_1.5_0.5_n_600_lambda_location_l1_30_error_independent_TRUE_x_missing_location_3.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.695	0.012	4.530	0.024	3.049	0.012	0.01	2.53	0.100	1.425
FSCAD	0	0	2.685	0.012	4.502	0.032	3.037	0.011	0.07	1.41	0.256	1.512
FMCP	0	0	2.685	0.012	4.501	0.033	3.037	0.011	0.08	1.23	0.273	1.588
CLASSO	0	0	2.767	0.018	4.655	0.040	3.132	0.021	0.05	2.32	0.219	1.503
CSCAD	0	0	2.754	0.018	4.625	0.045	3.115	0.020	0.14	1.48	0.349	1.691
CMCP	0	0	2.754	0.018	4.622	0.045	3.116	0.020	0.26	0.93	0.441	1.416
PLASSO	0	0	0.526	0.278	1.382	0.487	0.703	0.296	0.01	3.42	0.100	1.387
PSCAD1	0	0	0.503	0.224	1.109	0.584	0.646	0.284	0.24	0.85	0.429	1.192
PSCAD2	0	0	0.509	0.227	1.135	0.594	0.661	0.289	0.21	0.82	0.409	1.009
PSCAD3	0	0	0.518	0.219	1.146	0.579	0.672	0.277	0.23	0.81	0.423	1.002
PMCP1	0	0	0.501	0.225	1.108	0.581	0.647	0.283	0.23	0.87	0.423	1.143
PMCP2	0	0	0.510	0.224	1.135	0.581	0.663	0.282	0.23	0.86	0.423	1.045
PMCP3	0	0	0.516	0.224	1.159	0.584	0.674	0.281	0.23	0.84	0.423	1.002

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.695	0.012	4.503	0.023	3.049	0.012	0.01	0.00	0.100	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.685	0.012	4.484	0.025	3.037	0.011	0.07	0.00	0.256	0.000
FMCP 0.05	0.05	NA	2.685	0.012	4.483	0.024	3.037	0.011	0.08	0.00	0.273	0.000
CLASSO 0.05	0.05	NA	2.767	0.018	4.627	0.039	3.132	0.021	0.05	0.00	0.219	0.000
CSCAD 0.05	0.05	NA	2.754	0.018	4.602	0.038	3.115	0.020	0.14	0.00	0.349	0.000
CMCP 0.05	0.05	NA	2.754	0.018	4.605	0.037	3.116	0.019	0.26	0.00	0.441	0.000
PLASSO 0.05	0.05	NA	0.526	0.278	1.361	0.491	0.703	0.296	0.01	2.46	0.100	1.459
PSCAD1 0.05	0.05	NA	0.503	0.224	1.107	0.583	0.646	0.284	0.24	0.79	0.429	1.085
PSCAD2 0.05	0.05	NA	0.509	0.227	1.135	0.594	0.661	0.289	0.21	0.80	0.409	0.995
PSCAD3 0.05	0.05	NA	0.518	0.219	1.146	0.579	0.672	0.277	0.23	0.80	0.423	0.995
PMCP1 0.05	0.05	NA	0.501	0.225	1.107	0.581	0.646	0.283	0.23	0.81	0.423	1.070
PMCP2 0.05	0.05	NA	0.510	0.224	1.135	0.581	0.663	0.282	0.23	0.85	0.423	1.038
PMCP3 0.05	0.05	NA	0.516	0.224	1.159	0.584	0.674	0.281	0.23	0.84	0.423	1.002

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.092	0.002	2.695	0.012	4.503	0.023	3.049	0.012	0.01	0.00	0.100	0.000
FSCAD 0.1*rho	0.092	0.003	2.685	0.012	4.484	0.025	3.037	0.011	0.07	0.00	0.256	0.000
FMCP 0.1*rho	0.092	0.003	2.685	0.012	4.483	0.024	3.037	0.011	0.08	0.00	0.273	0.000
CLASSO 0.1*rho	0.095	0.003	2.767	0.018	4.627	0.039	3.132	0.021	0.05	0.00	0.219	0.000
CSCAD 0.1*rho	0.095	0.003	2.754	0.018	4.602	0.038	3.115	0.020	0.14	0.00	0.349	0.000
CMCP 0.1*rho	0.095	0.003	2.754	0.018	4.605	0.037	3.116	0.019	0.26	0.00	0.441	0.000
PLASSO 0.1*rho	0.041	0.021	0.526	0.278	1.363	0.483	0.703	0.296	0.01	2.58	0.100	1.532
PSCAD1 0.1*rho	0.053	0.032	0.503	0.224	1.109	0.584	0.646	0.284	0.24	0.82	0.429	1.149
PSCAD2 0.1*rho	0.052	0.032	0.509	0.227	1.135	0.594	0.661	0.289	0.21	0.80	0.409	0.995
PSCAD3 0.1*rho	0.053	0.033	0.518	0.219	1.146	0.579	0.672	0.277	0.23	0.80	0.423	0.995
PMCP1 0.1*rho	0.052	0.032	0.501	0.225	1.108	0.580	0.646	0.283	0.23	0.84	0.423	1.126
PMCP2 0.1*rho	0.052	0.033	0.510	0.224	1.135	0.581	0.663	0.282	0.23	0.85	0.423	1.038
PMCP3 0.1*rho	0.053	0.033	0.516	0.224	1.159	0.584	0.674	0.281	0.23	0.84	0.423	1.002

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.276	0.006	2.695	0.012	4.503	0.023	3.049	0.012	0.01	0.00	0.100	0.000
FSCAD 0.3*rho	0.277	0.010	2.685	0.012	4.484	0.025	3.037	0.011	0.07	0.00	0.256	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.276	0.009	2.685	0.012	4.483	0.024	3.037	0.011	0.08	0.00	0.273	0.000
CLASSO 0.3*rho	0.285	0.008	2.767	0.018	4.627	0.039	3.132	0.021	0.05	0.00	0.219	0.000
CSCAD 0.3*rho	0.286	0.009	2.754	0.018	4.602	0.038	3.115	0.020	0.14	0.00	0.349	0.000
CMCP 0.3*rho	0.286	0.010	2.754	0.018	4.605	0.037	3.116	0.019	0.26	0.00	0.441	0.000
PLASSO 0.3*rho	0.122	0.064	0.526	0.278	1.283	0.485	0.696	0.298	0.01	1.72	0.100	1.602
PSCAD1 0.3*rho	0.159	0.097	0.503	0.224	1.101	0.580	0.646	0.284	0.24	0.74	0.429	1.041
PSCAD2 0.3*rho	0.156	0.097	0.509	0.227	1.129	0.595	0.660	0.289	0.21	0.78	0.409	1.001
PSCAD3 0.3*rho	0.158	0.099	0.518	0.219	1.140	0.578	0.670	0.277	0.23	0.77	0.423	0.973
PMCP1 0.3*rho	0.155	0.097	0.501	0.225	1.101	0.578	0.646	0.283	0.23	0.77	0.423	1.033
PMCP2 0.3*rho	0.156	0.100	0.510	0.224	1.128	0.581	0.661	0.282	0.23	0.82	0.423	1.019
PMCP3 0.3*rho	0.159	0.098	0.516	0.224	1.152	0.584	0.672	0.281	0.23	0.81	0.423	1.002

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.461	0.011	2.695	0.012	4.503	0.023	3.049	0.012	0.01	0.00	0.100	0.000
FSCAD 0.5*rho	0.462	0.016	2.685	0.012	4.484	0.025	3.037	0.011	0.07	0.00	0.256	0.000
FMCP 0.5*rho	0.461	0.015	2.685	0.012	4.483	0.024	3.037	0.011	0.08	0.00	0.273	0.000
CLASSO 0.5*rho	0.475	0.013	2.767	0.018	4.627	0.039	3.132	0.021	0.05	0.00	0.219	0.000
CSCAD 0.5*rho	0.476	0.015	2.754	0.018	4.602	0.038	3.115	0.020	0.14	0.00	0.349	0.000
CMCP 0.5*rho	0.477	0.017	2.754	0.018	4.605	0.037	3.116	0.019	0.26	0.00	0.441	0.000
PLASSO 0.5*rho	0.203	0.106	0.526	0.278	1.218	0.477	0.687	0.300	0.01	1.25	0.100	1.445
PSCAD1 0.5*rho	0.265	0.161	0.503	0.224	1.056	0.545	0.635	0.280	0.24	0.59	0.429	0.922
PSCAD2 0.5*rho	0.261	0.162	0.509	0.227	1.083	0.559	0.649	0.286	0.21	0.63	0.409	0.884
PSCAD3 0.5*rho	0.264	0.166	0.518	0.219	1.095	0.548	0.659	0.275	0.23	0.64	0.423	0.894
PMCP1 0.5*rho	0.258	0.162	0.501	0.225	1.056	0.547	0.635	0.280	0.23	0.62	0.423	0.940
PMCP2 0.5*rho	0.260	0.166	0.510	0.224	1.080	0.548	0.649	0.279	0.23	0.67	0.423	0.911
PMCP3 0.5*rho	0.265	0.164	0.516	0.224	1.106	0.547	0.661	0.278	0.23	0.67	0.423	0.888

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.500	-2.695	-1.352	-0.457	0.000	0.000	0.001	0.000	-0.001
FSCAD	0.500	-2.685	-1.343	-0.456	0.000	0.000	0.001	0.000	0.000
FMCP	0.500	-2.685	-1.343	-0.455	0.000	0.000	0.002	0.000	0.000
CLASSO	0.691	-2.767	-1.390	-0.470	0.001	-0.001	0.001	0.000	-0.001
CSCAD	0.684	-2.754	-1.377	-0.471	0.001	-0.001	0.001	0.000	-0.001
CMCP	0.685	-2.754	-1.378	-0.472	0.001	0.000	0.000	-0.001	0.000
PLASSO	0.000	-0.352	-0.221	-0.110	0.016	-0.014	0.020	-0.015	-0.005
PSCAD1	0.000	0.173	0.070	-0.049	0.023	0.004	0.009	-0.011	-0.004
PSCAD2	0.000	0.206	0.094	-0.018	0.018	0.001	0.011	-0.011	-0.015
PSCAD3	0.000	0.210	0.096	-0.019	0.020	-0.002	0.011	-0.009	-0.012
PMCP1	0.000	0.175	0.074	-0.045	0.021	-0.004	0.009	-0.009	-0.005
PMCP2	0.000	0.209	0.096	-0.018	0.020	0.000	0.014	-0.011	-0.012
PMCP3	0.000	0.209	0.096	-0.022	0.018	0.001	0.013	-0.012	-0.013
FULL	0.500	-2.685	-1.342	-0.448	0.000	0.000	0.002	-0.001	-0.002
COMPLETE	0.683	-2.754	-1.377	-0.459	0.001	-0.001	0.003	-0.002	-0.001
LOGISTIC	0.000	0.302	0.140	0.066	0.009	-0.021	0.025	-0.035	-0.009

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.015	0.012	0.014	0.015	0.009	0.010	0.010	0.010	0.008
FSCAD	0.015	0.012	0.014	0.021	0.009	0.009	0.010	0.009	0.007
FMCP	0.015	0.012	0.014	0.020	0.007	0.009	0.010	0.010	0.008
CLASSO	0.023	0.018	0.018	0.018	0.009	0.013	0.009	0.011	0.010
CSCAD	0.022	0.018	0.017	0.023	0.009	0.013	0.009	0.011	0.010
CMCP	0.022	0.018	0.017	0.023	0.008	0.011	0.009	0.009	0.009
PLASSO	0.000	0.433	0.261	0.193	0.128	0.177	0.140	0.144	0.138
PSCAD1	0.000	0.439	0.267	0.305	0.111	0.189	0.137	0.153	0.128
PSCAD2	0.000	0.435	0.258	0.303	0.123	0.203	0.147	0.161	0.140
PSCAD3	0.000	0.437	0.256	0.308	0.127	0.208	0.147	0.163	0.135
PMCP1	0.000	0.440	0.268	0.298	0.116	0.194	0.140	0.152	0.125
PMCP2	0.000	0.434	0.255	0.304	0.123	0.204	0.147	0.165	0.130
PMCP3	0.000	0.440	0.257	0.307	0.130	0.204	0.150	0.166	0.145
FULL	0.014	0.012	0.014	0.014	0.015	0.015	0.015	0.014	0.013
COMPLETE	0.022	0.018	0.017	0.017	0.014	0.018	0.015	0.017	0.016
LOGISTIC	0.000	0.430	0.258	0.218	0.198	0.263	0.214	0.229	0.224

```

beta : 3 1.5 0.5 0 0 0 0
intercept : 0
sample size : 600
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 8
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_1.5_0.5_n_600_lambda_location_l1_30_error_independent_TRUE_x_missing_location_8.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.695	0.012	4.530	0.024	3.049	0.012	0.01	2.53	0.100	1.425
FSCAD	0	0	2.685	0.012	4.502	0.032	3.037	0.011	0.07	1.41	0.256	1.512
FMCP	0	0	2.685	0.012	4.501	0.033	3.037	0.011	0.08	1.23	0.273	1.588
CLASSO	0	0	2.767	0.018	4.655	0.040	3.132	0.021	0.05	2.32	0.219	1.503
CSCAD	0	0	2.754	0.018	4.625	0.045	3.115	0.020	0.14	1.48	0.349	1.691
CMCP	0	0	2.754	0.018	4.622	0.045	3.116	0.020	0.26	0.93	0.441	1.416
PLASSO	0	0	0.526	0.278	1.382	0.487	0.703	0.296	0.01	3.42	0.100	1.387
PSCAD1	0	0	0.503	0.224	1.109	0.584	0.646	0.284	0.24	0.85	0.429	1.192
PSCAD2	0	0	0.509	0.227	1.135	0.594	0.661	0.289	0.21	0.82	0.409	1.009
PSCAD3	0	0	0.518	0.219	1.146	0.579	0.672	0.277	0.23	0.81	0.423	1.002
PMCP1	0	0	0.501	0.225	1.108	0.581	0.647	0.283	0.23	0.87	0.423	1.143
PMCP2	0	0	0.510	0.224	1.135	0.581	0.663	0.282	0.23	0.86	0.423	1.045
PMCP3	0	0	0.516	0.224	1.159	0.584	0.674	0.281	0.23	0.84	0.423	1.002

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.695	0.012	4.503	0.023	3.049	0.012	0.01	0.00	0.100	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.685	0.012	4.484	0.025	3.037	0.011	0.07	0.00	0.256	0.000
FMCP 0.05	0.05	NA	2.685	0.012	4.483	0.024	3.037	0.011	0.08	0.00	0.273	0.000
CLASSO 0.05	0.05	NA	2.767	0.018	4.627	0.039	3.132	0.021	0.05	0.00	0.219	0.000
CSCAD 0.05	0.05	NA	2.754	0.018	4.602	0.038	3.115	0.020	0.14	0.00	0.349	0.000
CMCP 0.05	0.05	NA	2.754	0.018	4.605	0.037	3.116	0.019	0.26	0.00	0.441	0.000
PLASSO 0.05	0.05	NA	0.526	0.278	1.361	0.491	0.703	0.296	0.01	2.46	0.100	1.459
PSCAD1 0.05	0.05	NA	0.503	0.224	1.107	0.583	0.646	0.284	0.24	0.79	0.429	1.085
PSCAD2 0.05	0.05	NA	0.509	0.227	1.135	0.594	0.661	0.289	0.21	0.80	0.409	0.995
PSCAD3 0.05	0.05	NA	0.518	0.219	1.146	0.579	0.672	0.277	0.23	0.80	0.423	0.995
PMCP1 0.05	0.05	NA	0.501	0.225	1.107	0.581	0.646	0.283	0.23	0.81	0.423	1.070
PMCP2 0.05	0.05	NA	0.510	0.224	1.135	0.581	0.663	0.282	0.23	0.85	0.423	1.038
PMCP3 0.05	0.05	NA	0.516	0.224	1.159	0.584	0.674	0.281	0.23	0.84	0.423	1.002

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.092	0.002	2.695	0.012	4.503	0.023	3.049	0.012	0.01	0.00	0.100	0.000
FSCAD 0.1*rho	0.092	0.003	2.685	0.012	4.484	0.025	3.037	0.011	0.07	0.00	0.256	0.000
FMCP 0.1*rho	0.092	0.003	2.685	0.012	4.483	0.024	3.037	0.011	0.08	0.00	0.273	0.000
CLASSO 0.1*rho	0.095	0.003	2.767	0.018	4.627	0.039	3.132	0.021	0.05	0.00	0.219	0.000
CSCAD 0.1*rho	0.095	0.003	2.754	0.018	4.602	0.038	3.115	0.020	0.14	0.00	0.349	0.000
CMCP 0.1*rho	0.095	0.003	2.754	0.018	4.605	0.037	3.116	0.019	0.26	0.00	0.441	0.000
PLASSO 0.1*rho	0.041	0.021	0.526	0.278	1.363	0.483	0.703	0.296	0.01	2.58	0.100	1.532
PSCAD1 0.1*rho	0.053	0.032	0.503	0.224	1.109	0.584	0.646	0.284	0.24	0.82	0.429	1.149
PSCAD2 0.1*rho	0.052	0.032	0.509	0.227	1.135	0.594	0.661	0.289	0.21	0.80	0.409	0.995
PSCAD3 0.1*rho	0.053	0.033	0.518	0.219	1.146	0.579	0.672	0.277	0.23	0.80	0.423	0.995
PMCP1 0.1*rho	0.052	0.032	0.501	0.225	1.108	0.580	0.646	0.283	0.23	0.84	0.423	1.126
PMCP2 0.1*rho	0.052	0.033	0.510	0.224	1.135	0.581	0.663	0.282	0.23	0.85	0.423	1.038
PMCP3 0.1*rho	0.053	0.033	0.516	0.224	1.159	0.584	0.674	0.281	0.23	0.84	0.423	1.002

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.276	0.006	2.695	0.012	4.503	0.023	3.049	0.012	0.01	0.00	0.100	0.000
FSCAD 0.3*rho	0.277	0.010	2.685	0.012	4.484	0.025	3.037	0.011	0.07	0.00	0.256	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.276	0.009	2.685	0.012	4.483	0.024	3.037	0.011	0.08	0.00	0.273	0.000
CLASSO 0.3*rho	0.285	0.008	2.767	0.018	4.627	0.039	3.132	0.021	0.05	0.00	0.219	0.000
CSCAD 0.3*rho	0.286	0.009	2.754	0.018	4.602	0.038	3.115	0.020	0.14	0.00	0.349	0.000
CMCP 0.3*rho	0.286	0.010	2.754	0.018	4.605	0.037	3.116	0.019	0.26	0.00	0.441	0.000
PLASSO 0.3*rho	0.122	0.064	0.526	0.278	1.283	0.485	0.696	0.298	0.01	1.72	0.100	1.602
PSCAD1 0.3*rho	0.159	0.097	0.503	0.224	1.101	0.580	0.646	0.284	0.24	0.74	0.429	1.041
PSCAD2 0.3*rho	0.156	0.097	0.509	0.227	1.129	0.595	0.660	0.289	0.21	0.78	0.409	1.001
PSCAD3 0.3*rho	0.158	0.099	0.518	0.219	1.140	0.578	0.670	0.277	0.23	0.77	0.423	0.973
PMCP1 0.3*rho	0.155	0.097	0.501	0.225	1.101	0.578	0.646	0.283	0.23	0.77	0.423	1.033
PMCP2 0.3*rho	0.156	0.100	0.510	0.224	1.128	0.581	0.661	0.282	0.23	0.82	0.423	1.019
PMCP3 0.3*rho	0.159	0.098	0.516	0.224	1.152	0.584	0.672	0.281	0.23	0.81	0.423	1.002

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.461	0.011	2.695	0.012	4.503	0.023	3.049	0.012	0.01	0.00	0.100	0.000
FSCAD 0.5*rho	0.462	0.016	2.685	0.012	4.484	0.025	3.037	0.011	0.07	0.00	0.256	0.000
FMCP 0.5*rho	0.461	0.015	2.685	0.012	4.483	0.024	3.037	0.011	0.08	0.00	0.273	0.000
CLASSO 0.5*rho	0.475	0.013	2.767	0.018	4.627	0.039	3.132	0.021	0.05	0.00	0.219	0.000
CSCAD 0.5*rho	0.476	0.015	2.754	0.018	4.602	0.038	3.115	0.020	0.14	0.00	0.349	0.000
CMCP 0.5*rho	0.477	0.017	2.754	0.018	4.605	0.037	3.116	0.019	0.26	0.00	0.441	0.000
PLASSO 0.5*rho	0.203	0.106	0.526	0.278	1.218	0.477	0.687	0.300	0.01	1.25	0.100	1.445
PSCAD1 0.5*rho	0.265	0.161	0.503	0.224	1.056	0.545	0.635	0.280	0.24	0.59	0.429	0.922
PSCAD2 0.5*rho	0.261	0.162	0.509	0.227	1.083	0.559	0.649	0.286	0.21	0.63	0.409	0.884
PSCAD3 0.5*rho	0.264	0.166	0.518	0.219	1.095	0.548	0.659	0.275	0.23	0.64	0.423	0.894
PMCP1 0.5*rho	0.258	0.162	0.501	0.225	1.056	0.547	0.635	0.280	0.23	0.62	0.423	0.940
PMCP2 0.5*rho	0.260	0.166	0.510	0.224	1.080	0.548	0.649	0.279	0.23	0.67	0.423	0.911
PMCP3 0.5*rho	0.265	0.164	0.516	0.224	1.106	0.547	0.661	0.278	0.23	0.67	0.423	0.888

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.500	-2.695	-1.352	-0.457	0.000	0.000	0.001	0.000	-0.001
FSCAD	0.500	-2.685	-1.343	-0.456	0.000	0.000	0.001	0.000	0.000
FMCP	0.500	-2.685	-1.343	-0.455	0.000	0.000	0.002	0.000	0.000
CLASSO	0.691	-2.767	-1.390	-0.470	0.001	-0.001	0.001	0.000	-0.001
CSCAD	0.684	-2.754	-1.377	-0.471	0.001	-0.001	0.001	0.000	-0.001
CMCP	0.685	-2.754	-1.378	-0.472	0.001	0.000	0.000	-0.001	0.000
PLASSO	0.000	-0.352	-0.221	-0.110	0.016	-0.014	0.020	-0.015	-0.005
PSCAD1	0.000	0.173	0.070	-0.049	0.023	0.004	0.009	-0.011	-0.004
PSCAD2	0.000	0.206	0.094	-0.018	0.018	0.001	0.011	-0.011	-0.015
PSCAD3	0.000	0.210	0.096	-0.019	0.020	-0.002	0.011	-0.009	-0.012
PMCP1	0.000	0.175	0.074	-0.045	0.021	-0.004	0.009	-0.009	-0.005
PMCP2	0.000	0.209	0.096	-0.018	0.020	0.000	0.014	-0.011	-0.012
PMCP3	0.000	0.209	0.096	-0.022	0.018	0.001	0.013	-0.012	-0.013
FULL	0.500	-2.685	-1.342	-0.448	0.000	0.000	0.002	-0.001	-0.002
COMPLETE	0.683	-2.754	-1.377	-0.459	0.001	-0.001	0.003	-0.002	-0.001
LOGISTIC	0.000	0.302	0.140	0.066	0.009	-0.021	0.025	-0.035	-0.009

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.015	0.012	0.014	0.015	0.009	0.010	0.010	0.010	0.008
FSCAD	0.015	0.012	0.014	0.021	0.009	0.009	0.010	0.009	0.007
FMCP	0.015	0.012	0.014	0.020	0.007	0.009	0.010	0.010	0.008
CLASSO	0.023	0.018	0.018	0.018	0.009	0.013	0.009	0.011	0.010
CSCAD	0.022	0.018	0.017	0.023	0.009	0.013	0.009	0.011	0.010
CMCP	0.022	0.018	0.017	0.023	0.008	0.011	0.009	0.009	0.009
PLASSO	0.000	0.433	0.261	0.193	0.128	0.177	0.140	0.144	0.138
PSCAD1	0.000	0.439	0.267	0.305	0.111	0.189	0.137	0.153	0.128
PSCAD2	0.000	0.435	0.258	0.303	0.123	0.203	0.147	0.161	0.140
PSCAD3	0.000	0.437	0.256	0.308	0.127	0.208	0.147	0.163	0.135
PMCP1	0.000	0.440	0.268	0.298	0.116	0.194	0.140	0.152	0.125
PMCP2	0.000	0.434	0.255	0.304	0.123	0.204	0.147	0.165	0.130
PMCP3	0.000	0.440	0.257	0.307	0.130	0.204	0.150	0.166	0.145
FULL	0.014	0.012	0.014	0.014	0.015	0.015	0.015	0.014	0.013
COMPLETE	0.022	0.018	0.017	0.017	0.014	0.018	0.015	0.017	0.016
LOGISTIC	0.000	0.430	0.258	0.218	0.198	0.263	0.214	0.229	0.224

```

beta : 3 2 0.5 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: FALSE
missing_method: xy
missing_location: 1
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_2_0.5_n_400_lambda_location_l1_30_error_independent_FALSE_x_missing_location_1.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.766	0.020	5.097	0.025	3.356	0.014	0.11	1.58	0.314	1.379
FSCAD	0	0	2.756	0.021	5.078	0.036	3.341	0.014	0.53	0.92	0.502	1.346
FMCP	0	0	2.756	0.021	5.079	0.039	3.341	0.014	0.53	0.82	0.502	1.298
CLASSO	0	0	2.820	0.025	5.200	0.042	3.419	0.021	0.14	1.93	0.349	1.533
CSCAD	0	0	2.808	0.024	5.167	0.043	3.402	0.020	0.55	0.99	0.500	1.243
CMCP	0	0	2.808	0.024	5.175	0.056	3.402	0.020	0.67	0.89	0.473	1.588
PLASSO	0	0	0.762	0.325	1.910	0.743	1.007	0.375	0.08	2.88	0.273	1.305
PSCAD1	0	0	0.861	0.511	1.879	1.098	1.114	0.608	0.54	0.52	0.501	0.835
PSCAD2	0	0	0.872	0.533	1.967	1.182	1.146	0.641	0.53	0.58	0.502	0.855
PSCAD3	0	0	0.868	0.529	1.972	1.180	1.145	0.637	0.52	0.61	0.502	0.863
PMCP1	0	0	0.857	0.532	1.886	1.113	1.116	0.623	0.52	0.56	0.502	0.868
PMCP2	0	0	0.879	0.540	1.980	1.183	1.155	0.644	0.52	0.60	0.502	0.853
PMCP3	0	0	0.871	0.527	1.977	1.176	1.149	0.635	0.52	0.60	0.502	0.865

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.766	0.020	5.077	0.019	3.356	0.014	0.11	0.01	0.314	0.100

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.756	0.021	5.061	0.020	3.340	0.014	0.53	0.02	0.502	0.141
FMCP 0.05	0.05	NA	2.756	0.021	5.061	0.022	3.341	0.014	0.53	0.03	0.502	0.171
CLASSO 0.05	0.05	NA	2.820	0.025	5.172	0.034	3.419	0.021	0.14	0.05	0.349	0.261
CSCAD 0.05	0.05	NA	2.808	0.024	5.154	0.032	3.402	0.020	0.55	0.08	0.500	0.307
CMCP 0.05	0.05	NA	2.808	0.024	5.155	0.033	3.402	0.020	0.67	0.08	0.473	0.307
PLASSO 0.05	0.05	NA	0.762	0.325	1.896	0.748	1.006	0.375	0.08	2.32	0.273	1.392
PSCAD1 0.05	0.05	NA	0.861	0.511	1.879	1.098	1.114	0.608	0.54	0.52	0.501	0.835
PSCAD2 0.05	0.05	NA	0.872	0.533	1.967	1.182	1.146	0.641	0.53	0.58	0.502	0.855
PSCAD3 0.05	0.05	NA	0.868	0.529	1.972	1.180	1.145	0.637	0.52	0.61	0.502	0.863
PMCP1 0.05	0.05	NA	0.857	0.532	1.886	1.113	1.116	0.623	0.52	0.54	0.502	0.846
PMCP2 0.05	0.05	NA	0.879	0.540	1.980	1.183	1.155	0.644	0.52	0.60	0.502	0.853
PMCP3 0.05	0.05	NA	0.871	0.527	1.977	1.176	1.149	0.635	0.52	0.60	0.502	0.865

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.095	0.003	2.766	0.020	5.077	0.020	3.356	0.014	0.11	0.00	0.314	0.000
FSCAD 0.1*rho	0.097	0.003	2.756	0.021	5.060	0.019	3.340	0.014	0.53	0.00	0.502	0.000
FMCP 0.1*rho	0.097	0.004	2.756	0.021	5.059	0.020	3.341	0.014	0.53	0.00	0.502	0.000
CLASSO 0.1*rho	0.097	0.002	2.820	0.025	5.169	0.033	3.419	0.021	0.14	0.00	0.349	0.000
CSCAD 0.1*rho	0.098	0.002	2.808	0.024	5.149	0.030	3.402	0.020	0.55	0.00	0.500	0.000
CMCP 0.1*rho	0.098	0.002	2.808	0.024	5.150	0.028	3.402	0.020	0.67	0.00	0.473	0.000
PLASSO 0.1*rho	0.056	0.028	0.762	0.325	1.886	0.744	1.006	0.375	0.08	2.25	0.273	1.431
PSCAD1 0.1*rho	0.089	0.037	0.861	0.511	1.879	1.098	1.114	0.608	0.54	0.52	0.501	0.835
PSCAD2 0.1*rho	0.089	0.038	0.872	0.533	1.967	1.182	1.146	0.641	0.53	0.58	0.502	0.855
PSCAD3 0.1*rho	0.089	0.038	0.868	0.529	1.972	1.180	1.145	0.637	0.52	0.61	0.502	0.863
PMCP1 0.1*rho	0.086	0.038	0.857	0.532	1.886	1.113	1.116	0.623	0.52	0.55	0.502	0.869
PMCP2 0.1*rho	0.090	0.038	0.879	0.540	1.980	1.183	1.155	0.644	0.52	0.60	0.502	0.853
PMCP3 0.1*rho	0.090	0.038	0.871	0.527	1.977	1.176	1.149	0.635	0.52	0.60	0.502	0.865

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.286	0.008	2.766	0.020	5.077	0.020	3.356	0.014	0.11	0.00	0.314	0.000
FSCAD 0.3*rho	0.292	0.009	2.756	0.021	5.060	0.019	3.340	0.014	0.53	0.00	0.502	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.291	0.011	2.756	0.021	5.059	0.020	3.341	0.014	0.53	0.00	0.502	0.000
CLASSO 0.3*rho	0.290	0.006	2.820	0.025	5.169	0.033	3.419	0.021	0.14	0.00	0.349	0.000
CSCAD 0.3*rho	0.295	0.007	2.808	0.024	5.149	0.030	3.402	0.020	0.55	0.00	0.500	0.000
CMCP 0.3*rho	0.295	0.007	2.808	0.024	5.150	0.028	3.402	0.020	0.67	0.00	0.473	0.000
PLASSO 0.3*rho	0.168	0.084	0.762	0.325	1.800	0.742	0.998	0.378	0.08	1.44	0.273	1.402
PSCAD1 0.3*rho	0.266	0.110	0.861	0.511	1.871	1.094	1.114	0.608	0.54	0.48	0.501	0.797
PSCAD2 0.3*rho	0.268	0.114	0.872	0.533	1.955	1.175	1.145	0.640	0.53	0.54	0.502	0.834
PSCAD3 0.3*rho	0.266	0.114	0.868	0.529	1.961	1.173	1.144	0.637	0.52	0.57	0.502	0.844
PMCP1 0.3*rho	0.257	0.115	0.857	0.532	1.876	1.108	1.116	0.623	0.52	0.49	0.502	0.810
PMCP2 0.3*rho	0.270	0.114	0.879	0.540	1.968	1.175	1.153	0.643	0.52	0.56	0.502	0.833
PMCP3 0.3*rho	0.270	0.115	0.871	0.527	1.965	1.168	1.147	0.634	0.52	0.56	0.502	0.845

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.477	0.013	2.766	0.020	5.077	0.020	3.356	0.014	0.11	0.00	0.314	0.000
FSCAD 0.5*rho	0.487	0.016	2.756	0.021	5.060	0.019	3.340	0.014	0.53	0.00	0.502	0.000
FMCP 0.5*rho	0.485	0.018	2.756	0.021	5.059	0.020	3.341	0.014	0.53	0.00	0.502	0.000
CLASSO 0.5*rho	0.483	0.010	2.820	0.025	5.169	0.033	3.419	0.021	0.14	0.00	0.349	0.000
CSCAD 0.5*rho	0.491	0.012	2.808	0.024	5.149	0.030	3.402	0.020	0.55	0.00	0.500	0.000
CMCP 0.5*rho	0.492	0.012	2.808	0.024	5.150	0.028	3.402	0.020	0.67	0.00	0.473	0.000
PLASSO 0.5*rho	0.280	0.140	0.762	0.325	1.717	0.733	0.985	0.382	0.08	1.08	0.273	1.361
PSCAD1 0.5*rho	0.444	0.183	0.861	0.511	1.845	1.083	1.108	0.607	0.54	0.42	0.501	0.768
PSCAD2 0.5*rho	0.446	0.189	0.872	0.533	1.930	1.162	1.140	0.639	0.53	0.49	0.502	0.810
PSCAD3 0.5*rho	0.444	0.190	0.868	0.529	1.936	1.160	1.139	0.636	0.52	0.52	0.502	0.822
PMCP1 0.5*rho	0.429	0.192	0.857	0.532	1.860	1.104	1.112	0.622	0.52	0.46	0.502	0.809
PMCP2 0.5*rho	0.450	0.189	0.879	0.540	1.943	1.162	1.148	0.642	0.52	0.51	0.502	0.810
PMCP3 0.5*rho	0.451	0.192	0.871	0.527	1.940	1.155	1.142	0.633	0.52	0.51	0.502	0.823

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.500	-2.766	-1.841	-0.470	0.001	0.002	0.001	0.001	0.001
FSCAD	0.500	-2.756	-1.826	-0.479	-0.001	0.002	0.000	0.000	0.001
FMCP	0.500	-2.756	-1.827	-0.476	0.000	0.002	0.000	-0.001	0.002
CLASSO	0.676	-2.820	-1.874	-0.475	0.001	0.000	0.003	0.000	0.000
CSCAD	0.668	-2.808	-1.858	-0.482	-0.001	0.000	0.001	0.000	0.000
CMCP	0.668	-2.808	-1.858	-0.483	0.000	0.000	0.001	0.000	0.002
PLASSO	0.000	-0.494	-0.276	-0.125	0.030	-0.003	0.033	-0.002	0.001
PSCAD1	0.000	0.266	0.269	-0.137	0.057	0.017	0.012	0.022	-0.028
PSCAD2	0.000	0.327	0.342	-0.119	0.056	0.013	0.019	0.030	-0.032
PSCAD3	0.000	0.343	0.360	-0.111	0.056	0.015	0.011	0.030	-0.032
PMCP1	0.000	0.260	0.272	-0.133	0.058	0.011	0.018	0.024	-0.031
PMCP2	0.000	0.321	0.346	-0.119	0.056	0.008	0.020	0.025	-0.032
PMCP3	0.000	0.328	0.337	-0.116	0.058	0.008	0.013	0.026	-0.032
FULL	0.500	-2.756	-1.835	-0.460	0.001	0.000	0.002	0.002	0.000
COMPLETE	0.667	-2.808	-1.867	-0.464	-0.003	-0.001	0.005	-0.002	0.002
LOGISTIC	0.000	0.546	0.410	0.113	0.019	-0.010	0.036	-0.031	0.014

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.017	0.020	0.023	0.021	0.011	0.010	0.007	0.008	0.009
FSCAD	0.017	0.021	0.026	0.029	0.012	0.012	0.008	0.010	0.010
FMCP	0.017	0.021	0.025	0.030	0.015	0.012	0.008	0.012	0.012
CLASSO	0.026	0.025	0.027	0.021	0.013	0.012	0.015	0.014	0.011
CSCAD	0.025	0.024	0.029	0.027	0.014	0.011	0.014	0.009	0.009
CMCP	0.025	0.024	0.030	0.028	0.014	0.014	0.016	0.014	0.011
PLASSO	0.000	0.559	0.447	0.281	0.211	0.246	0.225	0.221	0.164
PSCAD1	0.000	0.805	0.619	0.456	0.227	0.253	0.190	0.167	0.194
PSCAD2	0.000	0.806	0.583	0.465	0.248	0.277	0.233	0.220	0.214
PSCAD3	0.000	0.793	0.563	0.465	0.248	0.291	0.247	0.220	0.214
PMCP1	0.000	0.822	0.613	0.445	0.222	0.253	0.200	0.189	0.206
PMCP2	0.000	0.819	0.577	0.469	0.248	0.282	0.232	0.228	0.214
PMCP3	0.000	0.799	0.584	0.471	0.250	0.282	0.239	0.218	0.214
FULL	0.017	0.020	0.024	0.024	0.022	0.022	0.020	0.021	0.019
COMPLETE	0.025	0.024	0.027	0.024	0.024	0.026	0.027	0.027	0.021
LOGISTIC	0.000	0.907	0.643	0.452	0.427	0.519	0.485	0.458	0.378

```

beta : 3 2 0.5 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: FALSE
missing_method: xy
missing_location: 3
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_2_0.5_n_400_lambda_location_l1_30_error_independent_FALSE_x_missing_location_3.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.766	0.020	5.097	0.025	3.356	0.014	0.11	1.58	0.314	1.379
FSCAD	0	0	2.756	0.021	5.078	0.036	3.341	0.014	0.53	0.92	0.502	1.346
FMCP	0	0	2.756	0.021	5.079	0.039	3.341	0.014	0.53	0.82	0.502	1.298
CLASSO	0	0	2.820	0.025	5.200	0.042	3.419	0.021	0.14	1.93	0.349	1.533
CSCAD	0	0	2.808	0.024	5.167	0.043	3.402	0.020	0.55	0.99	0.500	1.243
CMCP	0	0	2.808	0.024	5.175	0.056	3.402	0.020	0.67	0.89	0.473	1.588
PLASSO	0	0	0.762	0.325	1.910	0.743	1.007	0.375	0.08	2.88	0.273	1.305
PSCAD1	0	0	0.861	0.511	1.879	1.098	1.114	0.608	0.54	0.52	0.501	0.835
PSCAD2	0	0	0.872	0.533	1.967	1.182	1.146	0.641	0.53	0.58	0.502	0.855
PSCAD3	0	0	0.868	0.529	1.972	1.180	1.145	0.637	0.52	0.61	0.502	0.863
PMCP1	0	0	0.857	0.532	1.886	1.113	1.116	0.623	0.52	0.56	0.502	0.868
PMCP2	0	0	0.879	0.540	1.980	1.183	1.155	0.644	0.52	0.60	0.502	0.853
PMCP3	0	0	0.871	0.527	1.977	1.176	1.149	0.635	0.52	0.60	0.502	0.865

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.766	0.020	5.077	0.019	3.356	0.014	0.11	0.01	0.314	0.100

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.756	0.021	5.061	0.020	3.340	0.014	0.53	0.02	0.502	0.141
FMCP 0.05	0.05	NA	2.756	0.021	5.061	0.022	3.341	0.014	0.53	0.03	0.502	0.171
CLASSO 0.05	0.05	NA	2.820	0.025	5.172	0.034	3.419	0.021	0.14	0.05	0.349	0.261
CSCAD 0.05	0.05	NA	2.808	0.024	5.154	0.032	3.402	0.020	0.55	0.08	0.500	0.307
CMCP 0.05	0.05	NA	2.808	0.024	5.155	0.033	3.402	0.020	0.67	0.08	0.473	0.307
PLASSO 0.05	0.05	NA	0.762	0.325	1.896	0.748	1.006	0.375	0.08	2.32	0.273	1.392
PSCAD1 0.05	0.05	NA	0.861	0.511	1.879	1.098	1.114	0.608	0.54	0.52	0.501	0.835
PSCAD2 0.05	0.05	NA	0.872	0.533	1.967	1.182	1.146	0.641	0.53	0.58	0.502	0.855
PSCAD3 0.05	0.05	NA	0.868	0.529	1.972	1.180	1.145	0.637	0.52	0.61	0.502	0.863
PMCP1 0.05	0.05	NA	0.857	0.532	1.886	1.113	1.116	0.623	0.52	0.54	0.502	0.846
PMCP2 0.05	0.05	NA	0.879	0.540	1.980	1.183	1.155	0.644	0.52	0.60	0.502	0.853
PMCP3 0.05	0.05	NA	0.871	0.527	1.977	1.176	1.149	0.635	0.52	0.60	0.502	0.865

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.095	0.003	2.766	0.020	5.077	0.020	3.356	0.014	0.11	0.00	0.314	0.000
FSCAD 0.1*rho	0.097	0.003	2.756	0.021	5.060	0.019	3.340	0.014	0.53	0.00	0.502	0.000
FMCP 0.1*rho	0.097	0.004	2.756	0.021	5.059	0.020	3.341	0.014	0.53	0.00	0.502	0.000
CLASSO 0.1*rho	0.097	0.002	2.820	0.025	5.169	0.033	3.419	0.021	0.14	0.00	0.349	0.000
CSCAD 0.1*rho	0.098	0.002	2.808	0.024	5.149	0.030	3.402	0.020	0.55	0.00	0.500	0.000
CMCP 0.1*rho	0.098	0.002	2.808	0.024	5.150	0.028	3.402	0.020	0.67	0.00	0.473	0.000
PLASSO 0.1*rho	0.056	0.028	0.762	0.325	1.886	0.744	1.006	0.375	0.08	2.25	0.273	1.431
PSCAD1 0.1*rho	0.089	0.037	0.861	0.511	1.879	1.098	1.114	0.608	0.54	0.52	0.501	0.835
PSCAD2 0.1*rho	0.089	0.038	0.872	0.533	1.967	1.182	1.146	0.641	0.53	0.58	0.502	0.855
PSCAD3 0.1*rho	0.089	0.038	0.868	0.529	1.972	1.180	1.145	0.637	0.52	0.61	0.502	0.863
PMCP1 0.1*rho	0.086	0.038	0.857	0.532	1.886	1.113	1.116	0.623	0.52	0.55	0.502	0.869
PMCP2 0.1*rho	0.090	0.038	0.879	0.540	1.980	1.183	1.155	0.644	0.52	0.60	0.502	0.853
PMCP3 0.1*rho	0.090	0.038	0.871	0.527	1.977	1.176	1.149	0.635	0.52	0.60	0.502	0.865

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.286	0.008	2.766	0.020	5.077	0.020	3.356	0.014	0.11	0.00	0.314	0.000
FSCAD 0.3*rho	0.292	0.009	2.756	0.021	5.060	0.019	3.340	0.014	0.53	0.00	0.502	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.291	0.011	2.756	0.021	5.059	0.020	3.341	0.014	0.53	0.00	0.502	0.000
CLASSO 0.3*rho	0.290	0.006	2.820	0.025	5.169	0.033	3.419	0.021	0.14	0.00	0.349	0.000
CSCAD 0.3*rho	0.295	0.007	2.808	0.024	5.149	0.030	3.402	0.020	0.55	0.00	0.500	0.000
CMCP 0.3*rho	0.295	0.007	2.808	0.024	5.150	0.028	3.402	0.020	0.67	0.00	0.473	0.000
PLASSO 0.3*rho	0.168	0.084	0.762	0.325	1.800	0.742	0.998	0.378	0.08	1.44	0.273	1.402
PSCAD1 0.3*rho	0.266	0.110	0.861	0.511	1.871	1.094	1.114	0.608	0.54	0.48	0.501	0.797
PSCAD2 0.3*rho	0.268	0.114	0.872	0.533	1.955	1.175	1.145	0.640	0.53	0.54	0.502	0.834
PSCAD3 0.3*rho	0.266	0.114	0.868	0.529	1.961	1.173	1.144	0.637	0.52	0.57	0.502	0.844
PMCP1 0.3*rho	0.257	0.115	0.857	0.532	1.876	1.108	1.116	0.623	0.52	0.49	0.502	0.810
PMCP2 0.3*rho	0.270	0.114	0.879	0.540	1.968	1.175	1.153	0.643	0.52	0.56	0.502	0.833
PMCP3 0.3*rho	0.270	0.115	0.871	0.527	1.965	1.168	1.147	0.634	0.52	0.56	0.502	0.845

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.477	0.013	2.766	0.020	5.077	0.020	3.356	0.014	0.11	0.00	0.314	0.000
FSCAD 0.5*rho	0.487	0.016	2.756	0.021	5.060	0.019	3.340	0.014	0.53	0.00	0.502	0.000
FMCP 0.5*rho	0.485	0.018	2.756	0.021	5.059	0.020	3.341	0.014	0.53	0.00	0.502	0.000
CLASSO 0.5*rho	0.483	0.010	2.820	0.025	5.169	0.033	3.419	0.021	0.14	0.00	0.349	0.000
CSCAD 0.5*rho	0.491	0.012	2.808	0.024	5.149	0.030	3.402	0.020	0.55	0.00	0.500	0.000
CMCP 0.5*rho	0.492	0.012	2.808	0.024	5.150	0.028	3.402	0.020	0.67	0.00	0.473	0.000
PLASSO 0.5*rho	0.280	0.140	0.762	0.325	1.717	0.733	0.985	0.382	0.08	1.08	0.273	1.361
PSCAD1 0.5*rho	0.444	0.183	0.861	0.511	1.845	1.083	1.108	0.607	0.54	0.42	0.501	0.768
PSCAD2 0.5*rho	0.446	0.189	0.872	0.533	1.930	1.162	1.140	0.639	0.53	0.49	0.502	0.810
PSCAD3 0.5*rho	0.444	0.190	0.868	0.529	1.936	1.160	1.139	0.636	0.52	0.52	0.502	0.822
PMCP1 0.5*rho	0.429	0.192	0.857	0.532	1.860	1.104	1.112	0.622	0.52	0.46	0.502	0.809
PMCP2 0.5*rho	0.450	0.189	0.879	0.540	1.943	1.162	1.148	0.642	0.52	0.51	0.502	0.810
PMCP3 0.5*rho	0.451	0.192	0.871	0.527	1.940	1.155	1.142	0.633	0.52	0.51	0.502	0.823

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.500	-2.766	-1.841	-0.470	0.001	0.002	0.001	0.001	0.001
FSCAD	0.500	-2.756	-1.826	-0.479	-0.001	0.002	0.000	0.000	0.001
FMCP	0.500	-2.756	-1.827	-0.476	0.000	0.002	0.000	-0.001	0.002
CLASSO	0.676	-2.820	-1.874	-0.475	0.001	0.000	0.003	0.000	0.000
CSCAD	0.668	-2.808	-1.858	-0.482	-0.001	0.000	0.001	0.000	0.000
CMCP	0.668	-2.808	-1.858	-0.483	0.000	0.000	0.001	0.000	0.002
PLASSO	0.000	-0.494	-0.276	-0.125	0.030	-0.003	0.033	-0.002	0.001
PSCAD1	0.000	0.266	0.269	-0.137	0.057	0.017	0.012	0.022	-0.028
PSCAD2	0.000	0.327	0.342	-0.119	0.056	0.013	0.019	0.030	-0.032
PSCAD3	0.000	0.343	0.360	-0.111	0.056	0.015	0.011	0.030	-0.032
PMCP1	0.000	0.260	0.272	-0.133	0.058	0.011	0.018	0.024	-0.031
PMCP2	0.000	0.321	0.346	-0.119	0.056	0.008	0.020	0.025	-0.032
PMCP3	0.000	0.328	0.337	-0.116	0.058	0.008	0.013	0.026	-0.032
FULL	0.500	-2.756	-1.835	-0.460	0.001	0.000	0.002	0.002	0.000
COMPLETE	0.667	-2.808	-1.867	-0.464	-0.003	-0.001	0.005	-0.002	0.002
LOGISTIC	0.000	0.546	0.410	0.113	0.019	-0.010	0.036	-0.031	0.014

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.017	0.020	0.023	0.021	0.011	0.010	0.007	0.008	0.009
FSCAD	0.017	0.021	0.026	0.029	0.012	0.012	0.008	0.010	0.010
FMCP	0.017	0.021	0.025	0.030	0.015	0.012	0.008	0.012	0.012
CLASSO	0.026	0.025	0.027	0.021	0.013	0.012	0.015	0.014	0.011
CSCAD	0.025	0.024	0.029	0.027	0.014	0.011	0.014	0.009	0.009
CMCP	0.025	0.024	0.030	0.028	0.014	0.014	0.016	0.014	0.011
PLASSO	0.000	0.559	0.447	0.281	0.211	0.246	0.225	0.221	0.164
PSCAD1	0.000	0.805	0.619	0.456	0.227	0.253	0.190	0.167	0.194
PSCAD2	0.000	0.806	0.583	0.465	0.248	0.277	0.233	0.220	0.214
PSCAD3	0.000	0.793	0.563	0.465	0.248	0.291	0.247	0.220	0.214
PMCP1	0.000	0.822	0.613	0.445	0.222	0.253	0.200	0.189	0.206
PMCP2	0.000	0.819	0.577	0.469	0.248	0.282	0.232	0.228	0.214
PMCP3	0.000	0.799	0.584	0.471	0.250	0.282	0.239	0.218	0.214
FULL	0.017	0.020	0.024	0.024	0.022	0.022	0.020	0.021	0.019
COMPLETE	0.025	0.024	0.027	0.024	0.024	0.026	0.027	0.027	0.021
LOGISTIC	0.000	0.907	0.643	0.452	0.427	0.519	0.485	0.458	0.378

```

beta : 3 2 0.5 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: FALSE
missing_method: xy
missing_location: 8
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_2_0.5_n_400_lambda_location_l1_30_error_independent_FALSE_x_missing_location_8.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.766	0.020	5.097	0.025	3.356	0.014	0.11	1.58	0.314	1.379
FSCAD	0	0	2.756	0.021	5.078	0.036	3.341	0.014	0.53	0.92	0.502	1.346
FMCP	0	0	2.756	0.021	5.079	0.039	3.341	0.014	0.53	0.82	0.502	1.298
CLASSO	0	0	2.820	0.025	5.200	0.042	3.419	0.021	0.14	1.93	0.349	1.533
CSCAD	0	0	2.808	0.024	5.167	0.043	3.402	0.020	0.55	0.99	0.500	1.243
CMCP	0	0	2.808	0.024	5.175	0.056	3.402	0.020	0.67	0.89	0.473	1.588
PLASSO	0	0	0.762	0.325	1.910	0.743	1.007	0.375	0.08	2.88	0.273	1.305
PSCAD1	0	0	0.861	0.511	1.879	1.098	1.114	0.608	0.54	0.52	0.501	0.835
PSCAD2	0	0	0.872	0.533	1.967	1.182	1.146	0.641	0.53	0.58	0.502	0.855
PSCAD3	0	0	0.868	0.529	1.972	1.180	1.145	0.637	0.52	0.61	0.502	0.863
PMCP1	0	0	0.857	0.532	1.886	1.113	1.116	0.623	0.52	0.56	0.502	0.868
PMCP2	0	0	0.879	0.540	1.980	1.183	1.155	0.644	0.52	0.60	0.502	0.853
PMCP3	0	0	0.871	0.527	1.977	1.176	1.149	0.635	0.52	0.60	0.502	0.865

```

relative_ratio_0.05

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.766	0.020	5.077	0.019	3.356	0.014	0.11	0.01	0.314	0.100

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.756	0.021	5.061	0.020	3.340	0.014	0.53	0.02	0.502	0.141
FMCP 0.05	0.05	NA	2.756	0.021	5.061	0.022	3.341	0.014	0.53	0.03	0.502	0.171
CLASSO 0.05	0.05	NA	2.820	0.025	5.172	0.034	3.419	0.021	0.14	0.05	0.349	0.261
CSCAD 0.05	0.05	NA	2.808	0.024	5.154	0.032	3.402	0.020	0.55	0.08	0.500	0.307
CMCP 0.05	0.05	NA	2.808	0.024	5.155	0.033	3.402	0.020	0.67	0.08	0.473	0.307
PLASSO 0.05	0.05	NA	0.762	0.325	1.896	0.748	1.006	0.375	0.08	2.32	0.273	1.392
PSCAD1 0.05	0.05	NA	0.861	0.511	1.879	1.098	1.114	0.608	0.54	0.52	0.501	0.835
PSCAD2 0.05	0.05	NA	0.872	0.533	1.967	1.182	1.146	0.641	0.53	0.58	0.502	0.855
PSCAD3 0.05	0.05	NA	0.868	0.529	1.972	1.180	1.145	0.637	0.52	0.61	0.502	0.863
PMCP1 0.05	0.05	NA	0.857	0.532	1.886	1.113	1.116	0.623	0.52	0.54	0.502	0.846
PMCP2 0.05	0.05	NA	0.879	0.540	1.980	1.183	1.155	0.644	0.52	0.60	0.502	0.853
PMCP3 0.05	0.05	NA	0.871	0.527	1.977	1.176	1.149	0.635	0.52	0.60	0.502	0.865

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.095	0.003	2.766	0.020	5.077	0.020	3.356	0.014	0.11	0.00	0.314	0.000
FSCAD 0.1*rho	0.097	0.003	2.756	0.021	5.060	0.019	3.340	0.014	0.53	0.00	0.502	0.000
FMCP 0.1*rho	0.097	0.004	2.756	0.021	5.059	0.020	3.341	0.014	0.53	0.00	0.502	0.000
CLASSO 0.1*rho	0.097	0.002	2.820	0.025	5.169	0.033	3.419	0.021	0.14	0.00	0.349	0.000
CSCAD 0.1*rho	0.098	0.002	2.808	0.024	5.149	0.030	3.402	0.020	0.55	0.00	0.500	0.000
CMCP 0.1*rho	0.098	0.002	2.808	0.024	5.150	0.028	3.402	0.020	0.67	0.00	0.473	0.000
PLASSO 0.1*rho	0.056	0.028	0.762	0.325	1.886	0.744	1.006	0.375	0.08	2.25	0.273	1.431
PSCAD1 0.1*rho	0.089	0.037	0.861	0.511	1.879	1.098	1.114	0.608	0.54	0.52	0.501	0.835
PSCAD2 0.1*rho	0.089	0.038	0.872	0.533	1.967	1.182	1.146	0.641	0.53	0.58	0.502	0.855
PSCAD3 0.1*rho	0.089	0.038	0.868	0.529	1.972	1.180	1.145	0.637	0.52	0.61	0.502	0.863
PMCP1 0.1*rho	0.086	0.038	0.857	0.532	1.886	1.113	1.116	0.623	0.52	0.55	0.502	0.869
PMCP2 0.1*rho	0.090	0.038	0.879	0.540	1.980	1.183	1.155	0.644	0.52	0.60	0.502	0.853
PMCP3 0.1*rho	0.090	0.038	0.871	0.527	1.977	1.176	1.149	0.635	0.52	0.60	0.502	0.865

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.286	0.008	2.766	0.020	5.077	0.020	3.356	0.014	0.11	0.00	0.314	0.000
FSCAD 0.3*rho	0.292	0.009	2.756	0.021	5.060	0.019	3.340	0.014	0.53	0.00	0.502	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.291	0.011	2.756	0.021	5.059	0.020	3.341	0.014	0.53	0.00	0.502	0.000
CLASSO 0.3*rho	0.290	0.006	2.820	0.025	5.169	0.033	3.419	0.021	0.14	0.00	0.349	0.000
CSCAD 0.3*rho	0.295	0.007	2.808	0.024	5.149	0.030	3.402	0.020	0.55	0.00	0.500	0.000
CMCP 0.3*rho	0.295	0.007	2.808	0.024	5.150	0.028	3.402	0.020	0.67	0.00	0.473	0.000
PLASSO 0.3*rho	0.168	0.084	0.762	0.325	1.800	0.742	0.998	0.378	0.08	1.44	0.273	1.402
PSCAD1 0.3*rho	0.266	0.110	0.861	0.511	1.871	1.094	1.114	0.608	0.54	0.48	0.501	0.797
PSCAD2 0.3*rho	0.268	0.114	0.872	0.533	1.955	1.175	1.145	0.640	0.53	0.54	0.502	0.834
PSCAD3 0.3*rho	0.266	0.114	0.868	0.529	1.961	1.173	1.144	0.637	0.52	0.57	0.502	0.844
PMCP1 0.3*rho	0.257	0.115	0.857	0.532	1.876	1.108	1.116	0.623	0.52	0.49	0.502	0.810
PMCP2 0.3*rho	0.270	0.114	0.879	0.540	1.968	1.175	1.153	0.643	0.52	0.56	0.502	0.833
PMCP3 0.3*rho	0.270	0.115	0.871	0.527	1.965	1.168	1.147	0.634	0.52	0.56	0.502	0.845

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.477	0.013	2.766	0.020	5.077	0.020	3.356	0.014	0.11	0.00	0.314	0.000
FSCAD 0.5*rho	0.487	0.016	2.756	0.021	5.060	0.019	3.340	0.014	0.53	0.00	0.502	0.000
FMCP 0.5*rho	0.485	0.018	2.756	0.021	5.059	0.020	3.341	0.014	0.53	0.00	0.502	0.000
CLASSO 0.5*rho	0.483	0.010	2.820	0.025	5.169	0.033	3.419	0.021	0.14	0.00	0.349	0.000
CSCAD 0.5*rho	0.491	0.012	2.808	0.024	5.149	0.030	3.402	0.020	0.55	0.00	0.500	0.000
CMCP 0.5*rho	0.492	0.012	2.808	0.024	5.150	0.028	3.402	0.020	0.67	0.00	0.473	0.000
PLASSO 0.5*rho	0.280	0.140	0.762	0.325	1.717	0.733	0.985	0.382	0.08	1.08	0.273	1.361
PSCAD1 0.5*rho	0.444	0.183	0.861	0.511	1.845	1.083	1.108	0.607	0.54	0.42	0.501	0.768
PSCAD2 0.5*rho	0.446	0.189	0.872	0.533	1.930	1.162	1.140	0.639	0.53	0.49	0.502	0.810
PSCAD3 0.5*rho	0.444	0.190	0.868	0.529	1.936	1.160	1.139	0.636	0.52	0.52	0.502	0.822
PMCP1 0.5*rho	0.429	0.192	0.857	0.532	1.860	1.104	1.112	0.622	0.52	0.46	0.502	0.809
PMCP2 0.5*rho	0.450	0.189	0.879	0.540	1.943	1.162	1.148	0.642	0.52	0.51	0.502	0.810
PMCP3 0.5*rho	0.451	0.192	0.871	0.527	1.940	1.155	1.142	0.633	0.52	0.51	0.502	0.823

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.500	-2.766	-1.841	-0.470	0.001	0.002	0.001	0.001	0.001
FSCAD	0.500	-2.756	-1.826	-0.479	-0.001	0.002	0.000	0.000	0.001
FMCP	0.500	-2.756	-1.827	-0.476	0.000	0.002	0.000	-0.001	0.002
CLASSO	0.676	-2.820	-1.874	-0.475	0.001	0.000	0.003	0.000	0.000
CSCAD	0.668	-2.808	-1.858	-0.482	-0.001	0.000	0.001	0.000	0.000
CMCP	0.668	-2.808	-1.858	-0.483	0.000	0.000	0.001	0.000	0.002
PLASSO	0.000	-0.494	-0.276	-0.125	0.030	-0.003	0.033	-0.002	0.001
PSCAD1	0.000	0.266	0.269	-0.137	0.057	0.017	0.012	0.022	-0.028
PSCAD2	0.000	0.327	0.342	-0.119	0.056	0.013	0.019	0.030	-0.032
PSCAD3	0.000	0.343	0.360	-0.111	0.056	0.015	0.011	0.030	-0.032
PMCP1	0.000	0.260	0.272	-0.133	0.058	0.011	0.018	0.024	-0.031
PMCP2	0.000	0.321	0.346	-0.119	0.056	0.008	0.020	0.025	-0.032
PMCP3	0.000	0.328	0.337	-0.116	0.058	0.008	0.013	0.026	-0.032
FULL	0.500	-2.756	-1.835	-0.460	0.001	0.000	0.002	0.002	0.000
COMPLETE	0.667	-2.808	-1.867	-0.464	-0.003	-0.001	0.005	-0.002	0.002
LOGISTIC	0.000	0.546	0.410	0.113	0.019	-0.010	0.036	-0.031	0.014

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.017	0.020	0.023	0.021	0.011	0.010	0.007	0.008	0.009
FSCAD	0.017	0.021	0.026	0.029	0.012	0.012	0.008	0.010	0.010
FMCP	0.017	0.021	0.025	0.030	0.015	0.012	0.008	0.012	0.012
CLASSO	0.026	0.025	0.027	0.021	0.013	0.012	0.015	0.014	0.011
CSCAD	0.025	0.024	0.029	0.027	0.014	0.011	0.014	0.009	0.009
CMCP	0.025	0.024	0.030	0.028	0.014	0.014	0.016	0.014	0.011
PLASSO	0.000	0.559	0.447	0.281	0.211	0.246	0.225	0.221	0.164
PSCAD1	0.000	0.805	0.619	0.456	0.227	0.253	0.190	0.167	0.194
PSCAD2	0.000	0.806	0.583	0.465	0.248	0.277	0.233	0.220	0.214
PSCAD3	0.000	0.793	0.563	0.465	0.248	0.291	0.247	0.220	0.214
PMCP1	0.000	0.822	0.613	0.445	0.222	0.253	0.200	0.189	0.206
PMCP2	0.000	0.819	0.577	0.469	0.248	0.282	0.232	0.228	0.214
PMCP3	0.000	0.799	0.584	0.471	0.250	0.282	0.239	0.218	0.214
FULL	0.017	0.020	0.024	0.024	0.022	0.022	0.020	0.021	0.019
COMPLETE	0.025	0.024	0.027	0.024	0.024	0.026	0.027	0.027	0.021
LOGISTIC	0.000	0.907	0.643	0.452	0.427	0.519	0.485	0.458	0.378

```

beta : 3 2 0.5 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 1
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_2_0.5_n_400_lambda_location_l1_30_error_independent_TRUE_x_missing_location_1.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.714	0.015	5.033	0.034	3.298	0.016	0.04	2.73	0.197	1.663
FSCAD	0	0	2.704	0.014	5.002	0.041	3.284	0.013	0.25	1.44	0.435	1.653
FMCP	0	0	2.703	0.014	5.002	0.043	3.284	0.014	0.32	1.20	0.469	1.694
CLASSO	0	0	2.783	0.023	5.159	0.045	3.382	0.027	0.13	2.55	0.338	1.507
CSCAD	0	0	2.769	0.021	5.118	0.049	3.364	0.024	0.34	1.22	0.476	1.481
CMCP	0	0	2.769	0.021	5.122	0.049	3.365	0.024	0.49	1.11	0.502	1.757
PLASSO	0	0	0.728	0.300	1.928	0.586	0.993	0.358	0.07	3.39	0.256	1.270
PSCAD1	0	0	0.666	0.317	1.591	0.847	0.903	0.429	0.42	0.74	0.496	1.050
PSCAD2	0	0	0.683	0.342	1.663	1.024	0.933	0.489	0.38	0.77	0.488	1.072
PSCAD3	0	0	0.667	0.330	1.630	1.012	0.910	0.479	0.36	0.79	0.482	1.076
PMCP1	0	0	0.657	0.307	1.577	0.825	0.895	0.416	0.41	0.79	0.494	1.057
PMCP2	0	0	0.663	0.338	1.626	1.031	0.907	0.489	0.36	0.77	0.482	1.072
PMCP3	0	0	0.676	0.330	1.666	1.005	0.928	0.478	0.38	0.78	0.488	1.021

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.714	0.015	4.993	0.034	3.298	0.016	0.04	0.01	0.197	0.100

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.704	0.014	4.978	0.033	3.284	0.013	0.25	0.02	0.435	0.141
FMCP 0.05	0.05	NA	2.703	0.014	4.978	0.035	3.284	0.014	0.32	0.01	0.469	0.100
CLASSO 0.05	0.05	NA	2.783	0.023	5.120	0.048	3.382	0.027	0.13	0.02	0.338	0.141
CSCAD 0.05	0.05	NA	2.769	0.021	5.098	0.044	3.364	0.024	0.34	0.04	0.476	0.197
CMCP 0.05	0.05	NA	2.769	0.021	5.099	0.045	3.364	0.024	0.49	0.03	0.502	0.171
PLASSO 0.05	0.05	NA	0.728	0.300	1.911	0.584	0.993	0.358	0.07	2.69	0.256	1.368
PSCAD1 0.05	0.05	NA	0.666	0.317	1.591	0.847	0.903	0.429	0.42	0.70	0.496	0.980
PSCAD2 0.05	0.05	NA	0.683	0.342	1.663	1.024	0.933	0.489	0.38	0.77	0.488	1.072
PSCAD3 0.05	0.05	NA	0.667	0.330	1.629	1.012	0.910	0.479	0.36	0.78	0.482	1.069
PMCP1 0.05	0.05	NA	0.657	0.307	1.577	0.826	0.895	0.416	0.41	0.75	0.494	0.999
PMCP2 0.05	0.05	NA	0.663	0.338	1.626	1.031	0.907	0.489	0.36	0.77	0.482	1.072
PMCP3 0.05	0.05	NA	0.676	0.330	1.666	1.005	0.928	0.478	0.38	0.78	0.488	1.021

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.093	0.003	2.714	0.015	4.993	0.034	3.298	0.016	0.04	0.00	0.197	0.000
FSCAD 0.1*rho	0.095	0.004	2.704	0.014	4.977	0.033	3.284	0.013	0.25	0.00	0.435	0.000
FMCP 0.1*rho	0.095	0.004	2.703	0.014	4.977	0.035	3.284	0.014	0.32	0.00	0.469	0.000
CLASSO 0.1*rho	0.096	0.003	2.783	0.023	5.118	0.048	3.382	0.027	0.13	0.00	0.338	0.000
CSCAD 0.1*rho	0.097	0.003	2.769	0.021	5.096	0.044	3.364	0.024	0.34	0.00	0.476	0.000
CMCP 0.1*rho	0.097	0.003	2.769	0.021	5.097	0.045	3.364	0.024	0.49	0.00	0.502	0.000
PLASSO 0.1*rho	0.054	0.028	0.728	0.300	1.905	0.577	0.993	0.358	0.07	2.63	0.256	1.426
PSCAD1 0.1*rho	0.074	0.036	0.666	0.317	1.589	0.846	0.903	0.429	0.42	0.69	0.496	0.982
PSCAD2 0.1*rho	0.074	0.036	0.683	0.342	1.663	1.024	0.933	0.489	0.38	0.77	0.488	1.072
PSCAD3 0.1*rho	0.072	0.037	0.667	0.330	1.629	1.012	0.910	0.479	0.36	0.78	0.482	1.069
PMCP1 0.1*rho	0.073	0.036	0.657	0.307	1.576	0.824	0.895	0.416	0.41	0.74	0.494	0.960
PMCP2 0.1*rho	0.071	0.037	0.663	0.338	1.626	1.031	0.907	0.489	0.36	0.77	0.482	1.072
PMCP3 0.1*rho	0.073	0.036	0.676	0.330	1.666	1.005	0.928	0.478	0.38	0.78	0.488	1.021

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.280	0.009	2.714	0.015	4.993	0.034	3.298	0.016	0.04	0.00	0.197	0.000
FSCAD 0.3*rho	0.284	0.012	2.704	0.014	4.977	0.033	3.284	0.013	0.25	0.00	0.435	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.284	0.013	2.703	0.014	4.977	0.035	3.284	0.014	0.32	0.00	0.469	0.000
FLASSO 0.3*rho	0.287	0.008	2.783	0.023	5.118	0.048	3.382	0.027	0.13	0.00	0.338	0.000
FSCAD 0.3*rho	0.290	0.009	2.769	0.021	5.096	0.044	3.364	0.024	0.34	0.00	0.476	0.000
FMCP 0.3*rho	0.291	0.010	2.769	0.021	5.097	0.045	3.364	0.024	0.49	0.00	0.502	0.000
PLASSO 0.3*rho	0.162	0.084	0.728	0.300	1.796	0.578	0.984	0.360	0.07	1.70	0.256	1.460
PSCAD1 0.3*rho	0.221	0.109	0.666	0.317	1.570	0.832	0.900	0.428	0.42	0.61	0.496	0.886
PSCAD2 0.3*rho	0.222	0.108	0.683	0.342	1.638	1.002	0.929	0.488	0.38	0.68	0.488	0.963
PSCAD3 0.3*rho	0.216	0.110	0.667	0.330	1.609	0.989	0.907	0.477	0.36	0.70	0.482	0.948
PMCP1 0.3*rho	0.220	0.108	0.657	0.307	1.555	0.813	0.892	0.415	0.41	0.64	0.494	0.894
PMCP2 0.3*rho	0.212	0.111	0.663	0.338	1.604	1.009	0.904	0.488	0.36	0.69	0.482	0.971
PMCP3 0.3*rho	0.218	0.109	0.676	0.330	1.648	0.990	0.926	0.477	0.38	0.72	0.488	0.965

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.467	0.014	2.714	0.015	4.993	0.034	3.298	0.016	0.04	0.00	0.197	0.000
FSCAD 0.5*rho	0.473	0.020	2.704	0.014	4.977	0.033	3.284	0.013	0.25	0.00	0.435	0.000
FMCP 0.5*rho	0.474	0.021	2.703	0.014	4.977	0.035	3.284	0.014	0.32	0.00	0.469	0.000
CLASSO 0.5*rho	0.478	0.014	2.783	0.023	5.118	0.048	3.382	0.027	0.13	0.00	0.338	0.000
CSCAD 0.5*rho	0.484	0.015	2.769	0.021	5.096	0.044	3.364	0.024	0.34	0.00	0.476	0.000
CMCP 0.5*rho	0.485	0.017	2.769	0.021	5.097	0.045	3.364	0.024	0.49	0.00	0.502	0.000
PLASSO 0.5*rho	0.270	0.139	0.728	0.300	1.684	0.581	0.967	0.366	0.07	1.15	0.256	1.351
PSCAD1 0.5*rho	0.368	0.181	0.666	0.317	1.505	0.809	0.886	0.428	0.42	0.43	0.496	0.769
PSCAD2 0.5*rho	0.370	0.179	0.683	0.342	1.581	0.979	0.917	0.486	0.38	0.54	0.488	0.892
PSCAD3 0.5*rho	0.359	0.184	0.667	0.330	1.554	0.960	0.896	0.474	0.36	0.57	0.482	0.891
PMCP1 0.5*rho	0.367	0.180	0.657	0.307	1.489	0.784	0.878	0.413	0.41	0.46	0.494	0.797
PMCP2 0.5*rho	0.353	0.186	0.663	0.338	1.555	0.979	0.895	0.484	0.36	0.57	0.482	0.902
PMCP3 0.5*rho	0.363	0.182	0.676	0.330	1.593	0.962	0.915	0.473	0.38	0.58	0.488	0.901

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.500	-2.714	-1.816	-0.463	-0.001	-0.001	0.000	-0.003	-0.002
FSCAD	0.500	-2.704	-1.805	-0.468	-0.001	-0.001	0.000	-0.002	-0.001
FMCP	0.500	-2.703	-1.805	-0.469	-0.001	0.000	0.001	-0.002	-0.001
CLASSO	0.692	-2.783	-1.863	-0.473	-0.001	0.000	0.000	-0.001	-0.001
CSCAD	0.684	-2.769	-1.849	-0.477	0.001	-0.002	0.000	-0.001	-0.001
CMCP	0.685	-2.769	-1.850	-0.478	0.000	-0.001	0.000	-0.001	-0.001
PLASSO	0.000	-0.458	-0.347	-0.135	0.009	-0.026	-0.010	0.002	-0.019
PSCAD1	0.000	0.122	0.043	-0.101	0.016	-0.012	0.012	-0.006	-0.004
PSCAD2	0.000	0.218	0.121	-0.057	0.030	-0.013	0.010	-0.005	-0.016
PSCAD3	0.000	0.230	0.140	-0.055	0.034	-0.005	0.013	0.005	-0.008
PMCP1	0.000	0.132	0.052	-0.094	0.016	-0.010	0.015	-0.006	-0.006
PMCP2	0.000	0.209	0.118	-0.051	0.032	-0.006	0.012	0.001	-0.018
PMCP3	0.000	0.228	0.134	-0.045	0.038	-0.012	0.015	-0.004	-0.014
FULL	0.500	-2.704	-1.805	-0.453	-0.002	-0.002	-0.001	-0.003	-0.002
COMPLETE	0.683	-2.769	-1.849	-0.461	-0.001	-0.002	0.000	-0.002	-0.001
LOGISTIC	0.000	0.365	0.229	0.069	-0.002	-0.038	-0.039	0.014	-0.029

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.015	0.015	0.019	0.019	0.014	0.013	0.013	0.014	0.013
FSCAD	0.016	0.014	0.018	0.026	0.013	0.011	0.011	0.012	0.011
FMCP	0.015	0.014	0.018	0.027	0.012	0.012	0.011	0.013	0.011
CLASSO	0.026	0.023	0.025	0.020	0.017	0.014	0.014	0.012	0.012
CSCAD	0.026	0.021	0.024	0.025	0.014	0.011	0.012	0.009	0.010
CMCP	0.025	0.021	0.025	0.026	0.013	0.013	0.012	0.011	0.011
PLASSO	0.000	0.566	0.456	0.265	0.225	0.175	0.194	0.169	0.158
PSCAD1	0.000	0.600	0.536	0.397	0.240	0.168	0.169	0.190	0.158
PSCAD2	0.000	0.605	0.541	0.406	0.273	0.179	0.211	0.214	0.176
PSCAD3	0.000	0.584	0.508	0.398	0.273	0.169	0.219	0.224	0.169
PMCP1	0.000	0.591	0.520	0.396	0.234	0.167	0.173	0.193	0.158
PMCP2	0.000	0.592	0.526	0.394	0.277	0.169	0.209	0.215	0.172
PMCP3	0.000	0.598	0.520	0.402	0.272	0.180	0.217	0.218	0.180
FULL	0.016	0.014	0.018	0.017	0.020	0.018	0.018	0.019	0.019
COMPLETE	0.025	0.020	0.023	0.021	0.023	0.021	0.021	0.019	0.020
LOGISTIC	0.000	0.600	0.524	0.342	0.370	0.296	0.319	0.288	0.284

```

beta : 3 2 0.5 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 3
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_2_0.5_n_400_lambda_location_l1_30_error_independent_TRUE_x_missing_location_3.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.714	0.015	5.033	0.034	3.298	0.016	0.04	2.73	0.197	1.663
FSCAD	0	0	2.704	0.014	5.002	0.041	3.284	0.013	0.25	1.44	0.435	1.653
FMCP	0	0	2.703	0.014	5.002	0.043	3.284	0.014	0.32	1.20	0.469	1.694
CLASSO	0	0	2.783	0.023	5.159	0.045	3.382	0.027	0.13	2.55	0.338	1.507
CSCAD	0	0	2.769	0.021	5.118	0.049	3.364	0.024	0.34	1.22	0.476	1.481
CMCP	0	0	2.769	0.021	5.122	0.049	3.365	0.024	0.49	1.11	0.502	1.757
PLASSO	0	0	0.728	0.300	1.928	0.586	0.993	0.358	0.07	3.39	0.256	1.270
PSCAD1	0	0	0.666	0.317	1.591	0.847	0.903	0.429	0.42	0.74	0.496	1.050
PSCAD2	0	0	0.683	0.342	1.663	1.024	0.933	0.489	0.38	0.77	0.488	1.072
PSCAD3	0	0	0.667	0.330	1.630	1.012	0.910	0.479	0.36	0.79	0.482	1.076
PMCP1	0	0	0.657	0.307	1.577	0.825	0.895	0.416	0.41	0.79	0.494	1.057
PMCP2	0	0	0.663	0.338	1.626	1.031	0.907	0.489	0.36	0.77	0.482	1.072
PMCP3	0	0	0.676	0.330	1.666	1.005	0.928	0.478	0.38	0.78	0.488	1.021

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.714	0.015	4.993	0.034	3.298	0.016	0.04	0.01	0.197	0.100

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.704	0.014	4.978	0.033	3.284	0.013	0.25	0.02	0.435	0.141
FMCP 0.05	0.05	NA	2.703	0.014	4.978	0.035	3.284	0.014	0.32	0.01	0.469	0.100
CLASSO 0.05	0.05	NA	2.783	0.023	5.120	0.048	3.382	0.027	0.13	0.02	0.338	0.141
CSCAD 0.05	0.05	NA	2.769	0.021	5.098	0.044	3.364	0.024	0.34	0.04	0.476	0.197
CMCP 0.05	0.05	NA	2.769	0.021	5.099	0.045	3.364	0.024	0.49	0.03	0.502	0.171
PLASSO 0.05	0.05	NA	0.728	0.300	1.911	0.584	0.993	0.358	0.07	2.69	0.256	1.368
PSCAD1 0.05	0.05	NA	0.666	0.317	1.591	0.847	0.903	0.429	0.42	0.70	0.496	0.980
PSCAD2 0.05	0.05	NA	0.683	0.342	1.663	1.024	0.933	0.489	0.38	0.77	0.488	1.072
PSCAD3 0.05	0.05	NA	0.667	0.330	1.629	1.012	0.910	0.479	0.36	0.78	0.482	1.069
PMCP1 0.05	0.05	NA	0.657	0.307	1.577	0.826	0.895	0.416	0.41	0.75	0.494	0.999
PMCP2 0.05	0.05	NA	0.663	0.338	1.626	1.031	0.907	0.489	0.36	0.77	0.482	1.072
PMCP3 0.05	0.05	NA	0.676	0.330	1.666	1.005	0.928	0.478	0.38	0.78	0.488	1.021

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.093	0.003	2.714	0.015	4.993	0.034	3.298	0.016	0.04	0.00	0.197	0.000
FSCAD 0.1*rho	0.095	0.004	2.704	0.014	4.977	0.033	3.284	0.013	0.25	0.00	0.435	0.000
FMCP 0.1*rho	0.095	0.004	2.703	0.014	4.977	0.035	3.284	0.014	0.32	0.00	0.469	0.000
CLASSO 0.1*rho	0.096	0.003	2.783	0.023	5.118	0.048	3.382	0.027	0.13	0.00	0.338	0.000
CSCAD 0.1*rho	0.097	0.003	2.769	0.021	5.096	0.044	3.364	0.024	0.34	0.00	0.476	0.000
CMCP 0.1*rho	0.097	0.003	2.769	0.021	5.097	0.045	3.364	0.024	0.49	0.00	0.502	0.000
PLASSO 0.1*rho	0.054	0.028	0.728	0.300	1.905	0.577	0.993	0.358	0.07	2.63	0.256	1.426
PSCAD1 0.1*rho	0.074	0.036	0.666	0.317	1.589	0.846	0.903	0.429	0.42	0.69	0.496	0.982
PSCAD2 0.1*rho	0.074	0.036	0.683	0.342	1.663	1.024	0.933	0.489	0.38	0.77	0.488	1.072
PSCAD3 0.1*rho	0.072	0.037	0.667	0.330	1.629	1.012	0.910	0.479	0.36	0.78	0.482	1.069
PMCP1 0.1*rho	0.073	0.036	0.657	0.307	1.576	0.824	0.895	0.416	0.41	0.74	0.494	0.960
PMCP2 0.1*rho	0.071	0.037	0.663	0.338	1.626	1.031	0.907	0.489	0.36	0.77	0.482	1.072
PMCP3 0.1*rho	0.073	0.036	0.676	0.330	1.666	1.005	0.928	0.478	0.38	0.78	0.488	1.021

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.280	0.009	2.714	0.015	4.993	0.034	3.298	0.016	0.04	0.00	0.197	0.000
FSCAD 0.3*rho	0.284	0.012	2.704	0.014	4.977	0.033	3.284	0.013	0.25	0.00	0.435	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.284	0.013	2.703	0.014	4.977	0.035	3.284	0.014	0.32	0.00	0.469	0.000
FLASSO 0.3*rho	0.287	0.008	2.783	0.023	5.118	0.048	3.382	0.027	0.13	0.00	0.338	0.000
FSCAD 0.3*rho	0.290	0.009	2.769	0.021	5.096	0.044	3.364	0.024	0.34	0.00	0.476	0.000
FMCP 0.3*rho	0.291	0.010	2.769	0.021	5.097	0.045	3.364	0.024	0.49	0.00	0.502	0.000
PLASSO 0.3*rho	0.162	0.084	0.728	0.300	1.796	0.578	0.984	0.360	0.07	1.70	0.256	1.460
PSCAD1 0.3*rho	0.221	0.109	0.666	0.317	1.570	0.832	0.900	0.428	0.42	0.61	0.496	0.886
PSCAD2 0.3*rho	0.222	0.108	0.683	0.342	1.638	1.002	0.929	0.488	0.38	0.68	0.488	0.963
PSCAD3 0.3*rho	0.216	0.110	0.667	0.330	1.609	0.989	0.907	0.477	0.36	0.70	0.482	0.948
PMCP1 0.3*rho	0.220	0.108	0.657	0.307	1.555	0.813	0.892	0.415	0.41	0.64	0.494	0.894
PMCP2 0.3*rho	0.212	0.111	0.663	0.338	1.604	1.009	0.904	0.488	0.36	0.69	0.482	0.971
PMCP3 0.3*rho	0.218	0.109	0.676	0.330	1.648	0.990	0.926	0.477	0.38	0.72	0.488	0.965

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.467	0.014	2.714	0.015	4.993	0.034	3.298	0.016	0.04	0.00	0.197	0.000
FSCAD 0.5*rho	0.473	0.020	2.704	0.014	4.977	0.033	3.284	0.013	0.25	0.00	0.435	0.000
FMCP 0.5*rho	0.474	0.021	2.703	0.014	4.977	0.035	3.284	0.014	0.32	0.00	0.469	0.000
CLASSO 0.5*rho	0.478	0.014	2.783	0.023	5.118	0.048	3.382	0.027	0.13	0.00	0.338	0.000
CSCAD 0.5*rho	0.484	0.015	2.769	0.021	5.096	0.044	3.364	0.024	0.34	0.00	0.476	0.000
CMCP 0.5*rho	0.485	0.017	2.769	0.021	5.097	0.045	3.364	0.024	0.49	0.00	0.502	0.000
PLASSO 0.5*rho	0.270	0.139	0.728	0.300	1.684	0.581	0.967	0.366	0.07	1.15	0.256	1.351
PSCAD1 0.5*rho	0.368	0.181	0.666	0.317	1.505	0.809	0.886	0.428	0.42	0.43	0.496	0.769
PSCAD2 0.5*rho	0.370	0.179	0.683	0.342	1.581	0.979	0.917	0.486	0.38	0.54	0.488	0.892
PSCAD3 0.5*rho	0.359	0.184	0.667	0.330	1.554	0.960	0.896	0.474	0.36	0.57	0.482	0.891
PMCP1 0.5*rho	0.367	0.180	0.657	0.307	1.489	0.784	0.878	0.413	0.41	0.46	0.494	0.797
PMCP2 0.5*rho	0.353	0.186	0.663	0.338	1.555	0.979	0.895	0.484	0.36	0.57	0.482	0.902
PMCP3 0.5*rho	0.363	0.182	0.676	0.330	1.593	0.962	0.915	0.473	0.38	0.58	0.488	0.901

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.500	-2.714	-1.816	-0.463	-0.001	-0.001	0.000	-0.003	-0.002
FSCAD	0.500	-2.704	-1.805	-0.468	-0.001	-0.001	0.000	-0.002	-0.001
FMCP	0.500	-2.703	-1.805	-0.469	-0.001	0.000	0.001	-0.002	-0.001
CLASSO	0.692	-2.783	-1.863	-0.473	-0.001	0.000	0.000	-0.001	-0.001
CSCAD	0.684	-2.769	-1.849	-0.477	0.001	-0.002	0.000	-0.001	-0.001
CMCP	0.685	-2.769	-1.850	-0.478	0.000	-0.001	0.000	-0.001	-0.001
PLASSO	0.000	-0.458	-0.347	-0.135	0.009	-0.026	-0.010	0.002	-0.019
PSCAD1	0.000	0.122	0.043	-0.101	0.016	-0.012	0.012	-0.006	-0.004
PSCAD2	0.000	0.218	0.121	-0.057	0.030	-0.013	0.010	-0.005	-0.016
PSCAD3	0.000	0.230	0.140	-0.055	0.034	-0.005	0.013	0.005	-0.008
PMCP1	0.000	0.132	0.052	-0.094	0.016	-0.010	0.015	-0.006	-0.006
PMCP2	0.000	0.209	0.118	-0.051	0.032	-0.006	0.012	0.001	-0.018
PMCP3	0.000	0.228	0.134	-0.045	0.038	-0.012	0.015	-0.004	-0.014
FULL	0.500	-2.704	-1.805	-0.453	-0.002	-0.002	-0.001	-0.003	-0.002
COMPLETE	0.683	-2.769	-1.849	-0.461	-0.001	-0.002	0.000	-0.002	-0.001
LOGISTIC	0.000	0.365	0.229	0.069	-0.002	-0.038	-0.039	0.014	-0.029

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.015	0.015	0.019	0.019	0.014	0.013	0.013	0.014	0.013
FSCAD	0.016	0.014	0.018	0.026	0.013	0.011	0.011	0.012	0.011
FMCP	0.015	0.014	0.018	0.027	0.012	0.012	0.011	0.013	0.011
CLASSO	0.026	0.023	0.025	0.020	0.017	0.014	0.014	0.012	0.012
CSCAD	0.026	0.021	0.024	0.025	0.014	0.011	0.012	0.009	0.010
CMCP	0.025	0.021	0.025	0.026	0.013	0.013	0.012	0.011	0.011
PLASSO	0.000	0.566	0.456	0.265	0.225	0.175	0.194	0.169	0.158
PSCAD1	0.000	0.600	0.536	0.397	0.240	0.168	0.169	0.190	0.158
PSCAD2	0.000	0.605	0.541	0.406	0.273	0.179	0.211	0.214	0.176
PSCAD3	0.000	0.584	0.508	0.398	0.273	0.169	0.219	0.224	0.169
PMCP1	0.000	0.591	0.520	0.396	0.234	0.167	0.173	0.193	0.158
PMCP2	0.000	0.592	0.526	0.394	0.277	0.169	0.209	0.215	0.172
PMCP3	0.000	0.598	0.520	0.402	0.272	0.180	0.217	0.218	0.180
FULL	0.016	0.014	0.018	0.017	0.020	0.018	0.018	0.019	0.019
COMPLETE	0.025	0.020	0.023	0.021	0.023	0.021	0.021	0.019	0.020
LOGISTIC	0.000	0.600	0.524	0.342	0.370	0.296	0.319	0.288	0.284

```

beta : 3 2 0.5 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 8
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_2_0.5_n_400_lambda_location_l1_30_error_independent_TRUE_x_missing_location_8.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.714	0.015	5.033	0.034	3.298	0.016	0.04	2.73	0.197	1.663
FSCAD	0	0	2.704	0.014	5.002	0.041	3.284	0.013	0.25	1.44	0.435	1.653
FMCP	0	0	2.703	0.014	5.002	0.043	3.284	0.014	0.32	1.20	0.469	1.694
CLASSO	0	0	2.783	0.023	5.159	0.045	3.382	0.027	0.13	2.55	0.338	1.507
CSCAD	0	0	2.769	0.021	5.118	0.049	3.364	0.024	0.34	1.22	0.476	1.481
CMCP	0	0	2.769	0.021	5.122	0.049	3.365	0.024	0.49	1.11	0.502	1.757
PLASSO	0	0	0.728	0.300	1.928	0.586	0.993	0.358	0.07	3.39	0.256	1.270
PSCAD1	0	0	0.666	0.317	1.591	0.847	0.903	0.429	0.42	0.74	0.496	1.050
PSCAD2	0	0	0.683	0.342	1.663	1.024	0.933	0.489	0.38	0.77	0.488	1.072
PSCAD3	0	0	0.667	0.330	1.630	1.012	0.910	0.479	0.36	0.79	0.482	1.076
PMCP1	0	0	0.657	0.307	1.577	0.825	0.895	0.416	0.41	0.79	0.494	1.057
PMCP2	0	0	0.663	0.338	1.626	1.031	0.907	0.489	0.36	0.77	0.482	1.072
PMCP3	0	0	0.676	0.330	1.666	1.005	0.928	0.478	0.38	0.78	0.488	1.021

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.714	0.015	4.993	0.034	3.298	0.016	0.04	0.01	0.197	0.100

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.704	0.014	4.978	0.033	3.284	0.013	0.25	0.02	0.435	0.141
FMCP 0.05	0.05	NA	2.703	0.014	4.978	0.035	3.284	0.014	0.32	0.01	0.469	0.100
CLASSO 0.05	0.05	NA	2.783	0.023	5.120	0.048	3.382	0.027	0.13	0.02	0.338	0.141
CSCAD 0.05	0.05	NA	2.769	0.021	5.098	0.044	3.364	0.024	0.34	0.04	0.476	0.197
CMCP 0.05	0.05	NA	2.769	0.021	5.099	0.045	3.364	0.024	0.49	0.03	0.502	0.171
PLASSO 0.05	0.05	NA	0.728	0.300	1.911	0.584	0.993	0.358	0.07	2.69	0.256	1.368
PSCAD1 0.05	0.05	NA	0.666	0.317	1.591	0.847	0.903	0.429	0.42	0.70	0.496	0.980
PSCAD2 0.05	0.05	NA	0.683	0.342	1.663	1.024	0.933	0.489	0.38	0.77	0.488	1.072
PSCAD3 0.05	0.05	NA	0.667	0.330	1.629	1.012	0.910	0.479	0.36	0.78	0.482	1.069
PMCP1 0.05	0.05	NA	0.657	0.307	1.577	0.826	0.895	0.416	0.41	0.75	0.494	0.999
PMCP2 0.05	0.05	NA	0.663	0.338	1.626	1.031	0.907	0.489	0.36	0.77	0.482	1.072
PMCP3 0.05	0.05	NA	0.676	0.330	1.666	1.005	0.928	0.478	0.38	0.78	0.488	1.021

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.093	0.003	2.714	0.015	4.993	0.034	3.298	0.016	0.04	0.00	0.197	0.000
FSCAD 0.1*rho	0.095	0.004	2.704	0.014	4.977	0.033	3.284	0.013	0.25	0.00	0.435	0.000
FMCP 0.1*rho	0.095	0.004	2.703	0.014	4.977	0.035	3.284	0.014	0.32	0.00	0.469	0.000
CLASSO 0.1*rho	0.096	0.003	2.783	0.023	5.118	0.048	3.382	0.027	0.13	0.00	0.338	0.000
CSCAD 0.1*rho	0.097	0.003	2.769	0.021	5.096	0.044	3.364	0.024	0.34	0.00	0.476	0.000
CMCP 0.1*rho	0.097	0.003	2.769	0.021	5.097	0.045	3.364	0.024	0.49	0.00	0.502	0.000
PLASSO 0.1*rho	0.054	0.028	0.728	0.300	1.905	0.577	0.993	0.358	0.07	2.63	0.256	1.426
PSCAD1 0.1*rho	0.074	0.036	0.666	0.317	1.589	0.846	0.903	0.429	0.42	0.69	0.496	0.982
PSCAD2 0.1*rho	0.074	0.036	0.683	0.342	1.663	1.024	0.933	0.489	0.38	0.77	0.488	1.072
PSCAD3 0.1*rho	0.072	0.037	0.667	0.330	1.629	1.012	0.910	0.479	0.36	0.78	0.482	1.069
PMCP1 0.1*rho	0.073	0.036	0.657	0.307	1.576	0.824	0.895	0.416	0.41	0.74	0.494	0.960
PMCP2 0.1*rho	0.071	0.037	0.663	0.338	1.626	1.031	0.907	0.489	0.36	0.77	0.482	1.072
PMCP3 0.1*rho	0.073	0.036	0.676	0.330	1.666	1.005	0.928	0.478	0.38	0.78	0.488	1.021

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.280	0.009	2.714	0.015	4.993	0.034	3.298	0.016	0.04	0.00	0.197	0.000
FSCAD 0.3*rho	0.284	0.012	2.704	0.014	4.977	0.033	3.284	0.013	0.25	0.00	0.435	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.284	0.013	2.703	0.014	4.977	0.035	3.284	0.014	0.32	0.00	0.469	0.000
FLASSO 0.3*rho	0.287	0.008	2.783	0.023	5.118	0.048	3.382	0.027	0.13	0.00	0.338	0.000
FSCAD 0.3*rho	0.290	0.009	2.769	0.021	5.096	0.044	3.364	0.024	0.34	0.00	0.476	0.000
FMCP 0.3*rho	0.291	0.010	2.769	0.021	5.097	0.045	3.364	0.024	0.49	0.00	0.502	0.000
PLASSO 0.3*rho	0.162	0.084	0.728	0.300	1.796	0.578	0.984	0.360	0.07	1.70	0.256	1.460
PSCAD1 0.3*rho	0.221	0.109	0.666	0.317	1.570	0.832	0.900	0.428	0.42	0.61	0.496	0.886
PSCAD2 0.3*rho	0.222	0.108	0.683	0.342	1.638	1.002	0.929	0.488	0.38	0.68	0.488	0.963
PSCAD3 0.3*rho	0.216	0.110	0.667	0.330	1.609	0.989	0.907	0.477	0.36	0.70	0.482	0.948
PMCP1 0.3*rho	0.220	0.108	0.657	0.307	1.555	0.813	0.892	0.415	0.41	0.64	0.494	0.894
PMCP2 0.3*rho	0.212	0.111	0.663	0.338	1.604	1.009	0.904	0.488	0.36	0.69	0.482	0.971
PMCP3 0.3*rho	0.218	0.109	0.676	0.330	1.648	0.990	0.926	0.477	0.38	0.72	0.488	0.965

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.467	0.014	2.714	0.015	4.993	0.034	3.298	0.016	0.04	0.00	0.197	0.000
FSCAD 0.5*rho	0.473	0.020	2.704	0.014	4.977	0.033	3.284	0.013	0.25	0.00	0.435	0.000
FMCP 0.5*rho	0.474	0.021	2.703	0.014	4.977	0.035	3.284	0.014	0.32	0.00	0.469	0.000
CLASSO 0.5*rho	0.478	0.014	2.783	0.023	5.118	0.048	3.382	0.027	0.13	0.00	0.338	0.000
CSCAD 0.5*rho	0.484	0.015	2.769	0.021	5.096	0.044	3.364	0.024	0.34	0.00	0.476	0.000
CMCP 0.5*rho	0.485	0.017	2.769	0.021	5.097	0.045	3.364	0.024	0.49	0.00	0.502	0.000
PLASSO 0.5*rho	0.270	0.139	0.728	0.300	1.684	0.581	0.967	0.366	0.07	1.15	0.256	1.351
PSCAD1 0.5*rho	0.368	0.181	0.666	0.317	1.505	0.809	0.886	0.428	0.42	0.43	0.496	0.769
PSCAD2 0.5*rho	0.370	0.179	0.683	0.342	1.581	0.979	0.917	0.486	0.38	0.54	0.488	0.892
PSCAD3 0.5*rho	0.359	0.184	0.667	0.330	1.554	0.960	0.896	0.474	0.36	0.57	0.482	0.891
PMCP1 0.5*rho	0.367	0.180	0.657	0.307	1.489	0.784	0.878	0.413	0.41	0.46	0.494	0.797
PMCP2 0.5*rho	0.353	0.186	0.663	0.338	1.555	0.979	0.895	0.484	0.36	0.57	0.482	0.902
PMCP3 0.5*rho	0.363	0.182	0.676	0.330	1.593	0.962	0.915	0.473	0.38	0.58	0.488	0.901

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.500	-2.714	-1.816	-0.463	-0.001	-0.001	0.000	-0.003	-0.002
FSCAD	0.500	-2.704	-1.805	-0.468	-0.001	-0.001	0.000	-0.002	-0.001
FMCP	0.500	-2.703	-1.805	-0.469	-0.001	0.000	0.001	-0.002	-0.001
CLASSO	0.692	-2.783	-1.863	-0.473	-0.001	0.000	0.000	-0.001	-0.001
CSCAD	0.684	-2.769	-1.849	-0.477	0.001	-0.002	0.000	-0.001	-0.001
CMCP	0.685	-2.769	-1.850	-0.478	0.000	-0.001	0.000	-0.001	-0.001
PLASSO	0.000	-0.458	-0.347	-0.135	0.009	-0.026	-0.010	0.002	-0.019
PSCAD1	0.000	0.122	0.043	-0.101	0.016	-0.012	0.012	-0.006	-0.004
PSCAD2	0.000	0.218	0.121	-0.057	0.030	-0.013	0.010	-0.005	-0.016
PSCAD3	0.000	0.230	0.140	-0.055	0.034	-0.005	0.013	0.005	-0.008
PMCP1	0.000	0.132	0.052	-0.094	0.016	-0.010	0.015	-0.006	-0.006
PMCP2	0.000	0.209	0.118	-0.051	0.032	-0.006	0.012	0.001	-0.018
PMCP3	0.000	0.228	0.134	-0.045	0.038	-0.012	0.015	-0.004	-0.014
FULL	0.500	-2.704	-1.805	-0.453	-0.002	-0.002	-0.001	-0.003	-0.002
COMPLETE	0.683	-2.769	-1.849	-0.461	-0.001	-0.002	0.000	-0.002	-0.001
LOGISTIC	0.000	0.365	0.229	0.069	-0.002	-0.038	-0.039	0.014	-0.029

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.015	0.015	0.019	0.019	0.014	0.013	0.013	0.014	0.013
FSCAD	0.016	0.014	0.018	0.026	0.013	0.011	0.011	0.012	0.011
FMCP	0.015	0.014	0.018	0.027	0.012	0.012	0.011	0.013	0.011
CLASSO	0.026	0.023	0.025	0.020	0.017	0.014	0.014	0.012	0.012
CSCAD	0.026	0.021	0.024	0.025	0.014	0.011	0.012	0.009	0.010
CMCP	0.025	0.021	0.025	0.026	0.013	0.013	0.012	0.011	0.011
PLASSO	0.000	0.566	0.456	0.265	0.225	0.175	0.194	0.169	0.158
PSCAD1	0.000	0.600	0.536	0.397	0.240	0.168	0.169	0.190	0.158
PSCAD2	0.000	0.605	0.541	0.406	0.273	0.179	0.211	0.214	0.176
PSCAD3	0.000	0.584	0.508	0.398	0.273	0.169	0.219	0.224	0.169
PMCP1	0.000	0.591	0.520	0.396	0.234	0.167	0.173	0.193	0.158
PMCP2	0.000	0.592	0.526	0.394	0.277	0.169	0.209	0.215	0.172
PMCP3	0.000	0.598	0.520	0.402	0.272	0.180	0.217	0.218	0.180
FULL	0.016	0.014	0.018	0.017	0.020	0.018	0.018	0.019	0.019
COMPLETE	0.025	0.020	0.023	0.021	0.023	0.021	0.021	0.019	0.020
LOGISTIC	0.000	0.600	0.524	0.342	0.370	0.296	0.319	0.288	0.284

```

beta : 3 2 0.5 0 0 0 0
intercept : 0
sample size : 600
simulation time : 100
loss_rate: 0.625
error_independent: FALSE
missing_method: xy
missing_location: 1
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_2_0.5_n_600_lambda_location_l1_30_error_independent_FALSE_x_missing_location_1.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.760	0.015	5.092	0.025	3.353	0.010	0.01	1.79	0.100	1.465
FSCAD	0	0	2.753	0.014	5.075	0.034	3.343	0.009	0.26	1.21	0.441	1.472
FMCP	0	0	2.753	0.014	5.076	0.035	3.343	0.009	0.29	0.99	0.456	1.382
CLASSO	0	0	2.813	0.020	5.190	0.030	3.417	0.015	0.12	1.67	0.327	1.491
CSCAD	0	0	2.803	0.019	5.168	0.038	3.402	0.014	0.50	0.93	0.503	1.289
CMCP	0	0	2.803	0.019	5.170	0.042	3.402	0.014	0.52	0.83	0.502	1.356
PLASSO	0	0	0.641	0.285	1.669	0.699	0.855	0.338	0.07	3.16	0.256	1.293
PSCAD1	0	0	0.682	0.369	1.560	1.024	0.894	0.493	0.37	0.74	0.485	0.970
PSCAD2	0	0	0.700	0.381	1.652	1.035	0.932	0.504	0.39	0.83	0.490	0.965
PSCAD3	0	0	0.702	0.380	1.660	1.034	0.937	0.501	0.39	0.83	0.490	0.985
PMCP1	0	0	0.686	0.375	1.547	1.029	0.894	0.497	0.37	0.71	0.485	0.977
PMCP2	0	0	0.694	0.379	1.623	1.007	0.921	0.497	0.39	0.78	0.490	0.927
PMCP3	0	0	0.700	0.381	1.652	1.023	0.933	0.500	0.39	0.81	0.490	0.940

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.760	0.015	5.071	0.017	3.353	0.010	0.01	0.01	0.100	0.100

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.753	0.014	5.058	0.020	3.343	0.009	0.26	0.01	0.441	0.100
FMCP 0.05	0.05	NA	2.753	0.014	5.058	0.020	3.343	0.009	0.29	0.02	0.456	0.141
CLASSO 0.05	0.05	NA	2.813	0.020	5.169	0.026	3.417	0.015	0.12	0.01	0.327	0.100
CSCAD 0.05	0.05	NA	2.803	0.019	5.156	0.027	3.402	0.014	0.50	0.06	0.503	0.278
CMCP 0.05	0.05	NA	2.803	0.019	5.155	0.028	3.402	0.014	0.52	0.07	0.502	0.293
PLASSO 0.05	0.05	NA	0.641	0.285	1.653	0.701	0.854	0.339	0.07	2.53	0.256	1.259
PSCAD1 0.05	0.05	NA	0.682	0.369	1.559	1.024	0.894	0.493	0.37	0.73	0.485	0.941
PSCAD2 0.05	0.05	NA	0.700	0.381	1.652	1.035	0.932	0.504	0.39	0.82	0.490	0.957
PSCAD3 0.05	0.05	NA	0.702	0.380	1.660	1.034	0.937	0.501	0.39	0.83	0.490	0.985
PMCP1 0.05	0.05	NA	0.686	0.375	1.547	1.029	0.894	0.497	0.37	0.71	0.485	0.977
PMCP2 0.05	0.05	NA	0.694	0.379	1.622	1.007	0.921	0.497	0.39	0.77	0.490	0.920
PMCP3 0.05	0.05	NA	0.700	0.381	1.652	1.023	0.933	0.500	0.39	0.81	0.490	0.940

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.094	0.002	2.760	0.015	5.071	0.018	3.353	0.010	0.01	0.00	0.100	0.000
FSCAD 0.1*rho	0.095	0.003	2.753	0.014	5.057	0.019	3.343	0.009	0.26	0.00	0.441	0.000
FMCP 0.1*rho	0.095	0.003	2.753	0.014	5.057	0.019	3.343	0.009	0.29	0.00	0.456	0.000
CLASSO 0.1*rho	0.096	0.002	2.813	0.020	5.169	0.026	3.417	0.015	0.12	0.00	0.327	0.000
CSCAD 0.1*rho	0.098	0.003	2.803	0.019	5.153	0.023	3.402	0.014	0.50	0.00	0.503	0.000
CMCP 0.1*rho	0.098	0.003	2.803	0.019	5.151	0.025	3.402	0.014	0.52	0.00	0.502	0.000
PLASSO 0.1*rho	0.051	0.030	0.641	0.285	1.646	0.687	0.854	0.338	0.07	2.51	0.256	1.314
PSCAD1 0.1*rho	0.075	0.041	0.682	0.369	1.558	1.023	0.894	0.493	0.37	0.71	0.485	0.913
PSCAD2 0.1*rho	0.077	0.040	0.700	0.381	1.651	1.035	0.932	0.504	0.39	0.81	0.490	0.950
PSCAD3 0.1*rho	0.078	0.040	0.702	0.380	1.660	1.034	0.937	0.501	0.39	0.83	0.490	0.985
PMCP1 0.1*rho	0.075	0.041	0.686	0.375	1.547	1.029	0.894	0.497	0.37	0.71	0.485	0.977
PMCP2 0.1*rho	0.077	0.039	0.694	0.379	1.622	1.007	0.921	0.497	0.39	0.77	0.490	0.920
PMCP3 0.1*rho	0.077	0.040	0.700	0.381	1.652	1.023	0.933	0.500	0.39	0.81	0.490	0.940

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.282	0.006	2.760	0.015	5.071	0.018	3.353	0.010	0.01	0.00	0.100	0.000
FSCAD 0.3*rho	0.286	0.010	2.753	0.014	5.057	0.019	3.343	0.009	0.26	0.00	0.441	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.285	0.010	2.753	0.014	5.057	0.019	3.343	0.009	0.29	0.00	0.456	0.000
CLASSO 0.3*rho	0.289	0.006	2.813	0.020	5.169	0.026	3.417	0.015	0.12	0.00	0.327	0.000
CSCAD 0.3*rho	0.294	0.008	2.803	0.019	5.153	0.023	3.402	0.014	0.50	0.00	0.503	0.000
CMCP 0.3*rho	0.293	0.008	2.803	0.019	5.151	0.025	3.402	0.014	0.52	0.00	0.502	0.000
PLASSO 0.3*rho	0.153	0.091	0.641	0.285	1.543	0.655	0.845	0.337	0.07	1.64	0.256	1.337
PSCAD1 0.3*rho	0.226	0.122	0.682	0.369	1.535	0.997	0.891	0.492	0.37	0.63	0.485	0.861
PSCAD2 0.3*rho	0.232	0.121	0.700	0.381	1.639	1.017	0.931	0.503	0.39	0.77	0.490	0.920
PSCAD3 0.3*rho	0.233	0.121	0.702	0.380	1.650	1.013	0.936	0.500	0.39	0.79	0.490	0.935
PMCP1 0.3*rho	0.226	0.122	0.686	0.375	1.522	1.001	0.891	0.495	0.37	0.61	0.485	0.909
PMCP2 0.3*rho	0.230	0.118	0.694	0.379	1.610	0.991	0.920	0.496	0.39	0.72	0.490	0.866
PMCP3 0.3*rho	0.232	0.120	0.700	0.381	1.638	1.004	0.931	0.499	0.39	0.76	0.490	0.878

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.471	0.010	2.760	0.015	5.071	0.018	3.353	0.010	0.01	0.00	0.100	0.000
FSCAD 0.5*rho	0.476	0.017	2.753	0.014	5.057	0.019	3.343	0.009	0.26	0.00	0.441	0.000
FMCP 0.5*rho	0.475	0.017	2.753	0.014	5.057	0.019	3.343	0.009	0.29	0.00	0.456	0.000
CLASSO 0.5*rho	0.482	0.010	2.813	0.020	5.169	0.026	3.417	0.015	0.12	0.00	0.327	0.000
CSCAD 0.5*rho	0.490	0.013	2.803	0.019	5.153	0.023	3.402	0.014	0.50	0.00	0.503	0.000
CMCP 0.5*rho	0.488	0.013	2.803	0.019	5.151	0.025	3.402	0.014	0.52	0.00	0.502	0.000
PLASSO 0.5*rho	0.255	0.152	0.641	0.285	1.390	0.592	0.818	0.333	0.07	0.96	0.256	1.205
PSCAD1 0.5*rho	0.377	0.203	0.682	0.369	1.455	0.885	0.875	0.472	0.37	0.47	0.485	0.810
PSCAD2 0.5*rho	0.387	0.202	0.700	0.381	1.519	0.890	0.905	0.482	0.39	0.52	0.490	0.810
PSCAD3 0.5*rho	0.388	0.202	0.702	0.380	1.528	0.886	0.910	0.479	0.39	0.54	0.490	0.834
PMCP1 0.5*rho	0.377	0.204	0.686	0.375	1.435	0.884	0.873	0.475	0.37	0.42	0.485	0.741
PMCP2 0.5*rho	0.384	0.197	0.694	0.379	1.515	0.881	0.899	0.477	0.39	0.53	0.490	0.822
PMCP3 0.5*rho	0.387	0.200	0.700	0.381	1.529	0.885	0.908	0.479	0.39	0.54	0.490	0.822

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.501	-2.760	-1.846	-0.465	0.001	0.002	0.001	0.000	0.001
FSCAD	0.501	-2.753	-1.838	-0.467	0.001	0.001	0.001	0.000	0.000
FMCP	0.501	-2.753	-1.838	-0.467	0.001	0.001	0.001	-0.001	0.001
CLASSO	0.678	-2.813	-1.880	-0.476	0.002	0.001	0.001	-0.001	0.001
CSCAD	0.671	-2.803	-1.866	-0.484	0.002	-0.001	0.002	-0.001	0.001
CMCP	0.671	-2.803	-1.867	-0.481	0.002	-0.001	0.002	-0.001	0.001
PLASSO	0.000	-0.285	-0.230	-0.078	0.019	-0.011	0.009	0.014	0.026
PSCAD1	0.000	0.296	0.182	-0.041	0.007	-0.009	-0.008	0.033	0.020
PSCAD2	0.000	0.331	0.219	-0.034	0.010	-0.012	-0.001	0.026	0.022
PSCAD3	0.000	0.334	0.223	-0.031	0.006	-0.012	-0.003	0.029	0.024
PMCP1	0.000	0.288	0.183	-0.041	0.008	-0.019	-0.002	0.038	0.020
PMCP2	0.000	0.323	0.219	-0.038	0.011	-0.003	-0.004	0.031	0.006
PMCP3	0.000	0.336	0.227	-0.034	0.011	-0.008	-0.002	0.031	0.010
FULL	0.501	-2.752	-1.843	-0.457	0.000	-0.001	0.001	-0.002	0.002
COMPLETE	0.670	-2.803	-1.874	-0.466	0.000	-0.001	0.001	-0.002	0.002
LOGISTIC	0.000	0.445	0.242	0.092	0.014	-0.052	0.010	0.019	0.046

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.014	0.015	0.016	0.016	0.010	0.010	0.009	0.006	0.010
FSCAD	0.014	0.014	0.019	0.025	0.010	0.010	0.011	0.006	0.010
FMCP	0.014	0.014	0.018	0.025	0.011	0.011	0.011	0.008	0.010
CLASSO	0.019	0.020	0.021	0.018	0.011	0.010	0.009	0.010	0.008
CSCAD	0.019	0.019	0.023	0.023	0.009	0.012	0.009	0.011	0.008
CMCP	0.019	0.019	0.023	0.024	0.012	0.013	0.012	0.009	0.008
PLASSO	0.000	0.526	0.391	0.276	0.210	0.225	0.236	0.170	0.158
PSCAD1	0.000	0.570	0.450	0.423	0.214	0.236	0.238	0.185	0.165
PSCAD2	0.000	0.575	0.442	0.432	0.230	0.243	0.265	0.200	0.189
PSCAD3	0.000	0.578	0.439	0.432	0.234	0.244	0.266	0.198	0.188
PMCP1	0.000	0.596	0.427	0.423	0.203	0.222	0.243	0.193	0.168
PMCP2	0.000	0.576	0.437	0.426	0.227	0.229	0.261	0.193	0.182
PMCP3	0.000	0.573	0.439	0.430	0.227	0.235	0.268	0.199	0.194
FULL	0.014	0.014	0.017	0.016	0.018	0.018	0.016	0.015	0.017
COMPLETE	0.018	0.019	0.022	0.020	0.021	0.021	0.021	0.020	0.017
LOGISTIC	0.000	0.588	0.446	0.359	0.367	0.368	0.374	0.321	0.291

```

beta : 3 2 0.5 0 0 0 0
intercept : 0
sample size : 600
simulation time : 100
loss_rate: 0.625
error_independent: FALSE
missing_method: xy
missing_location: 3
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_2_0.5_n_600_lambda_location_l1_30_error_independent_FALSE_x_missing_location_3.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.760	0.015	5.092	0.025	3.353	0.010	0.01	1.79	0.100	1.465
FSCAD	0	0	2.753	0.014	5.075	0.034	3.343	0.009	0.26	1.21	0.441	1.472
FMCP	0	0	2.753	0.014	5.076	0.035	3.343	0.009	0.29	0.99	0.456	1.382
CLASSO	0	0	2.813	0.020	5.190	0.030	3.417	0.015	0.12	1.67	0.327	1.491
CSCAD	0	0	2.803	0.019	5.168	0.038	3.402	0.014	0.50	0.93	0.503	1.289
CMCP	0	0	2.803	0.019	5.170	0.042	3.402	0.014	0.52	0.83	0.502	1.356
PLASSO	0	0	0.641	0.285	1.669	0.699	0.855	0.338	0.07	3.16	0.256	1.293
PSCAD1	0	0	0.682	0.369	1.560	1.024	0.894	0.493	0.37	0.74	0.485	0.970
PSCAD2	0	0	0.700	0.381	1.652	1.035	0.932	0.504	0.39	0.83	0.490	0.965
PSCAD3	0	0	0.702	0.380	1.660	1.034	0.937	0.501	0.39	0.83	0.490	0.985
PMCP1	0	0	0.686	0.375	1.547	1.029	0.894	0.497	0.37	0.71	0.485	0.977
PMCP2	0	0	0.694	0.379	1.623	1.007	0.921	0.497	0.39	0.78	0.490	0.927
PMCP3	0	0	0.700	0.381	1.652	1.023	0.933	0.500	0.39	0.81	0.490	0.940

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.760	0.015	5.071	0.017	3.353	0.010	0.01	0.01	0.100	0.100

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.753	0.014	5.058	0.020	3.343	0.009	0.26	0.01	0.441	0.100
FMCP 0.05	0.05	NA	2.753	0.014	5.058	0.020	3.343	0.009	0.29	0.02	0.456	0.141
CLASSO 0.05	0.05	NA	2.813	0.020	5.169	0.026	3.417	0.015	0.12	0.01	0.327	0.100
CSCAD 0.05	0.05	NA	2.803	0.019	5.156	0.027	3.402	0.014	0.50	0.06	0.503	0.278
CMCP 0.05	0.05	NA	2.803	0.019	5.155	0.028	3.402	0.014	0.52	0.07	0.502	0.293
PLASSO 0.05	0.05	NA	0.641	0.285	1.653	0.701	0.854	0.339	0.07	2.53	0.256	1.259
PSCAD1 0.05	0.05	NA	0.682	0.369	1.559	1.024	0.894	0.493	0.37	0.73	0.485	0.941
PSCAD2 0.05	0.05	NA	0.700	0.381	1.652	1.035	0.932	0.504	0.39	0.82	0.490	0.957
PSCAD3 0.05	0.05	NA	0.702	0.380	1.660	1.034	0.937	0.501	0.39	0.83	0.490	0.985
PMCP1 0.05	0.05	NA	0.686	0.375	1.547	1.029	0.894	0.497	0.37	0.71	0.485	0.977
PMCP2 0.05	0.05	NA	0.694	0.379	1.622	1.007	0.921	0.497	0.39	0.77	0.490	0.920
PMCP3 0.05	0.05	NA	0.700	0.381	1.652	1.023	0.933	0.500	0.39	0.81	0.490	0.940

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.094	0.002	2.760	0.015	5.071	0.018	3.353	0.010	0.01	0.00	0.100	0.000
FSCAD 0.1*rho	0.095	0.003	2.753	0.014	5.057	0.019	3.343	0.009	0.26	0.00	0.441	0.000
FMCP 0.1*rho	0.095	0.003	2.753	0.014	5.057	0.019	3.343	0.009	0.29	0.00	0.456	0.000
CLASSO 0.1*rho	0.096	0.002	2.813	0.020	5.169	0.026	3.417	0.015	0.12	0.00	0.327	0.000
CSCAD 0.1*rho	0.098	0.003	2.803	0.019	5.153	0.023	3.402	0.014	0.50	0.00	0.503	0.000
CMCP 0.1*rho	0.098	0.003	2.803	0.019	5.151	0.025	3.402	0.014	0.52	0.00	0.502	0.000
PLASSO 0.1*rho	0.051	0.030	0.641	0.285	1.646	0.687	0.854	0.338	0.07	2.51	0.256	1.314
PSCAD1 0.1*rho	0.075	0.041	0.682	0.369	1.558	1.023	0.894	0.493	0.37	0.71	0.485	0.913
PSCAD2 0.1*rho	0.077	0.040	0.700	0.381	1.651	1.035	0.932	0.504	0.39	0.81	0.490	0.950
PSCAD3 0.1*rho	0.078	0.040	0.702	0.380	1.660	1.034	0.937	0.501	0.39	0.83	0.490	0.985
PMCP1 0.1*rho	0.075	0.041	0.686	0.375	1.547	1.029	0.894	0.497	0.37	0.71	0.485	0.977
PMCP2 0.1*rho	0.077	0.039	0.694	0.379	1.622	1.007	0.921	0.497	0.39	0.77	0.490	0.920
PMCP3 0.1*rho	0.077	0.040	0.700	0.381	1.652	1.023	0.933	0.500	0.39	0.81	0.490	0.940

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.282	0.006	2.760	0.015	5.071	0.018	3.353	0.010	0.01	0.00	0.100	0.000
FSCAD 0.3*rho	0.286	0.010	2.753	0.014	5.057	0.019	3.343	0.009	0.26	0.00	0.441	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.285	0.010	2.753	0.014	5.057	0.019	3.343	0.009	0.29	0.00	0.456	0.000
CLASSO 0.3*rho	0.289	0.006	2.813	0.020	5.169	0.026	3.417	0.015	0.12	0.00	0.327	0.000
CSCAD 0.3*rho	0.294	0.008	2.803	0.019	5.153	0.023	3.402	0.014	0.50	0.00	0.503	0.000
CMCP 0.3*rho	0.293	0.008	2.803	0.019	5.151	0.025	3.402	0.014	0.52	0.00	0.502	0.000
PLASSO 0.3*rho	0.153	0.091	0.641	0.285	1.543	0.655	0.845	0.337	0.07	1.64	0.256	1.337
PSCAD1 0.3*rho	0.226	0.122	0.682	0.369	1.535	0.997	0.891	0.492	0.37	0.63	0.485	0.861
PSCAD2 0.3*rho	0.232	0.121	0.700	0.381	1.639	1.017	0.931	0.503	0.39	0.77	0.490	0.920
PSCAD3 0.3*rho	0.233	0.121	0.702	0.380	1.650	1.013	0.936	0.500	0.39	0.79	0.490	0.935
PMCP1 0.3*rho	0.226	0.122	0.686	0.375	1.522	1.001	0.891	0.495	0.37	0.61	0.485	0.909
PMCP2 0.3*rho	0.230	0.118	0.694	0.379	1.610	0.991	0.920	0.496	0.39	0.72	0.490	0.866
PMCP3 0.3*rho	0.232	0.120	0.700	0.381	1.638	1.004	0.931	0.499	0.39	0.76	0.490	0.878

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.471	0.010	2.760	0.015	5.071	0.018	3.353	0.010	0.01	0.00	0.100	0.000
FSCAD 0.5*rho	0.476	0.017	2.753	0.014	5.057	0.019	3.343	0.009	0.26	0.00	0.441	0.000
FMCP 0.5*rho	0.475	0.017	2.753	0.014	5.057	0.019	3.343	0.009	0.29	0.00	0.456	0.000
CLASSO 0.5*rho	0.482	0.010	2.813	0.020	5.169	0.026	3.417	0.015	0.12	0.00	0.327	0.000
CSCAD 0.5*rho	0.490	0.013	2.803	0.019	5.153	0.023	3.402	0.014	0.50	0.00	0.503	0.000
CMCP 0.5*rho	0.488	0.013	2.803	0.019	5.151	0.025	3.402	0.014	0.52	0.00	0.502	0.000
PLASSO 0.5*rho	0.255	0.152	0.641	0.285	1.390	0.592	0.818	0.333	0.07	0.96	0.256	1.205
PSCAD1 0.5*rho	0.377	0.203	0.682	0.369	1.455	0.885	0.875	0.472	0.37	0.47	0.485	0.810
PSCAD2 0.5*rho	0.387	0.202	0.700	0.381	1.519	0.890	0.905	0.482	0.39	0.52	0.490	0.810
PSCAD3 0.5*rho	0.388	0.202	0.702	0.380	1.528	0.886	0.910	0.479	0.39	0.54	0.490	0.834
PMCP1 0.5*rho	0.377	0.204	0.686	0.375	1.435	0.884	0.873	0.475	0.37	0.42	0.485	0.741
PMCP2 0.5*rho	0.384	0.197	0.694	0.379	1.515	0.881	0.899	0.477	0.39	0.53	0.490	0.822
PMCP3 0.5*rho	0.387	0.200	0.700	0.381	1.529	0.885	0.908	0.479	0.39	0.54	0.490	0.822

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.501	-2.760	-1.846	-0.465	0.001	0.002	0.001	0.000	0.001
FSCAD	0.501	-2.753	-1.838	-0.467	0.001	0.001	0.001	0.000	0.000
FMCP	0.501	-2.753	-1.838	-0.467	0.001	0.001	0.001	-0.001	0.001
CLASSO	0.678	-2.813	-1.880	-0.476	0.002	0.001	0.001	-0.001	0.001
CSCAD	0.671	-2.803	-1.866	-0.484	0.002	-0.001	0.002	-0.001	0.001
CMCP	0.671	-2.803	-1.867	-0.481	0.002	-0.001	0.002	-0.001	0.001
PLASSO	0.000	-0.285	-0.230	-0.078	0.019	-0.011	0.009	0.014	0.026
PSCAD1	0.000	0.296	0.182	-0.041	0.007	-0.009	-0.008	0.033	0.020
PSCAD2	0.000	0.331	0.219	-0.034	0.010	-0.012	-0.001	0.026	0.022
PSCAD3	0.000	0.334	0.223	-0.031	0.006	-0.012	-0.003	0.029	0.024
PMCP1	0.000	0.288	0.183	-0.041	0.008	-0.019	-0.002	0.038	0.020
PMCP2	0.000	0.323	0.219	-0.038	0.011	-0.003	-0.004	0.031	0.006
PMCP3	0.000	0.336	0.227	-0.034	0.011	-0.008	-0.002	0.031	0.010
FULL	0.501	-2.752	-1.843	-0.457	0.000	-0.001	0.001	-0.002	0.002
COMPLETE	0.670	-2.803	-1.874	-0.466	0.000	-0.001	0.001	-0.002	0.002
LOGISTIC	0.000	0.445	0.242	0.092	0.014	-0.052	0.010	0.019	0.046

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.014	0.015	0.016	0.016	0.010	0.010	0.009	0.006	0.010
FSCAD	0.014	0.014	0.019	0.025	0.010	0.010	0.011	0.006	0.010
FMCP	0.014	0.014	0.018	0.025	0.011	0.011	0.011	0.008	0.010
CLASSO	0.019	0.020	0.021	0.018	0.011	0.010	0.009	0.010	0.008
CSCAD	0.019	0.019	0.023	0.023	0.009	0.012	0.009	0.011	0.008
CMCP	0.019	0.019	0.023	0.024	0.012	0.013	0.012	0.009	0.008
PLASSO	0.000	0.526	0.391	0.276	0.210	0.225	0.236	0.170	0.158
PSCAD1	0.000	0.570	0.450	0.423	0.214	0.236	0.238	0.185	0.165
PSCAD2	0.000	0.575	0.442	0.432	0.230	0.243	0.265	0.200	0.189
PSCAD3	0.000	0.578	0.439	0.432	0.234	0.244	0.266	0.198	0.188
PMCP1	0.000	0.596	0.427	0.423	0.203	0.222	0.243	0.193	0.168
PMCP2	0.000	0.576	0.437	0.426	0.227	0.229	0.261	0.193	0.182
PMCP3	0.000	0.573	0.439	0.430	0.227	0.235	0.268	0.199	0.194
FULL	0.014	0.014	0.017	0.016	0.018	0.018	0.016	0.015	0.017
COMPLETE	0.018	0.019	0.022	0.020	0.021	0.021	0.021	0.020	0.017
LOGISTIC	0.000	0.588	0.446	0.359	0.367	0.368	0.374	0.321	0.291

```

beta : 3 2 0.5 0 0 0 0
intercept : 0
sample size : 600
simulation time : 100
loss_rate: 0.625
error_independent: FALSE
missing_method: xy
missing_location: 8
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_2_0.5_n_600_lambda_location_l1_30_error_independent_FALSE_x_missing_location_8.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.760	0.015	5.092	0.025	3.353	0.010	0.01	1.79	0.100	1.465
FSCAD	0	0	2.753	0.014	5.075	0.034	3.343	0.009	0.26	1.21	0.441	1.472
FMCP	0	0	2.753	0.014	5.076	0.035	3.343	0.009	0.29	0.99	0.456	1.382
CLASSO	0	0	2.813	0.020	5.190	0.030	3.417	0.015	0.12	1.67	0.327	1.491
CSCAD	0	0	2.803	0.019	5.168	0.038	3.402	0.014	0.50	0.93	0.503	1.289
CMCP	0	0	2.803	0.019	5.170	0.042	3.402	0.014	0.52	0.83	0.502	1.356
PLASSO	0	0	0.641	0.285	1.669	0.699	0.855	0.338	0.07	3.16	0.256	1.293
PSCAD1	0	0	0.682	0.369	1.560	1.024	0.894	0.493	0.37	0.74	0.485	0.970
PSCAD2	0	0	0.700	0.381	1.652	1.035	0.932	0.504	0.39	0.83	0.490	0.965
PSCAD3	0	0	0.702	0.380	1.660	1.034	0.937	0.501	0.39	0.83	0.490	0.985
PMCP1	0	0	0.686	0.375	1.547	1.029	0.894	0.497	0.37	0.71	0.485	0.977
PMCP2	0	0	0.694	0.379	1.623	1.007	0.921	0.497	0.39	0.78	0.490	0.927
PMCP3	0	0	0.700	0.381	1.652	1.023	0.933	0.500	0.39	0.81	0.490	0.940

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.760	0.015	5.071	0.017	3.353	0.010	0.01	0.01	0.100	0.100

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.753	0.014	5.058	0.020	3.343	0.009	0.26	0.01	0.441	0.100
FMCP 0.05	0.05	NA	2.753	0.014	5.058	0.020	3.343	0.009	0.29	0.02	0.456	0.141
CLASSO 0.05	0.05	NA	2.813	0.020	5.169	0.026	3.417	0.015	0.12	0.01	0.327	0.100
CSCAD 0.05	0.05	NA	2.803	0.019	5.156	0.027	3.402	0.014	0.50	0.06	0.503	0.278
CMCP 0.05	0.05	NA	2.803	0.019	5.155	0.028	3.402	0.014	0.52	0.07	0.502	0.293
PLASSO 0.05	0.05	NA	0.641	0.285	1.653	0.701	0.854	0.339	0.07	2.53	0.256	1.259
PSCAD1 0.05	0.05	NA	0.682	0.369	1.559	1.024	0.894	0.493	0.37	0.73	0.485	0.941
PSCAD2 0.05	0.05	NA	0.700	0.381	1.652	1.035	0.932	0.504	0.39	0.82	0.490	0.957
PSCAD3 0.05	0.05	NA	0.702	0.380	1.660	1.034	0.937	0.501	0.39	0.83	0.490	0.985
PMCP1 0.05	0.05	NA	0.686	0.375	1.547	1.029	0.894	0.497	0.37	0.71	0.485	0.977
PMCP2 0.05	0.05	NA	0.694	0.379	1.622	1.007	0.921	0.497	0.39	0.77	0.490	0.920
PMCP3 0.05	0.05	NA	0.700	0.381	1.652	1.023	0.933	0.500	0.39	0.81	0.490	0.940

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.094	0.002	2.760	0.015	5.071	0.018	3.353	0.010	0.01	0.00	0.100	0.000
FSCAD 0.1*rho	0.095	0.003	2.753	0.014	5.057	0.019	3.343	0.009	0.26	0.00	0.441	0.000
FMCP 0.1*rho	0.095	0.003	2.753	0.014	5.057	0.019	3.343	0.009	0.29	0.00	0.456	0.000
CLASSO 0.1*rho	0.096	0.002	2.813	0.020	5.169	0.026	3.417	0.015	0.12	0.00	0.327	0.000
CSCAD 0.1*rho	0.098	0.003	2.803	0.019	5.153	0.023	3.402	0.014	0.50	0.00	0.503	0.000
CMCP 0.1*rho	0.098	0.003	2.803	0.019	5.151	0.025	3.402	0.014	0.52	0.00	0.502	0.000
PLASSO 0.1*rho	0.051	0.030	0.641	0.285	1.646	0.687	0.854	0.338	0.07	2.51	0.256	1.314
PSCAD1 0.1*rho	0.075	0.041	0.682	0.369	1.558	1.023	0.894	0.493	0.37	0.71	0.485	0.913
PSCAD2 0.1*rho	0.077	0.040	0.700	0.381	1.651	1.035	0.932	0.504	0.39	0.81	0.490	0.950
PSCAD3 0.1*rho	0.078	0.040	0.702	0.380	1.660	1.034	0.937	0.501	0.39	0.83	0.490	0.985
PMCP1 0.1*rho	0.075	0.041	0.686	0.375	1.547	1.029	0.894	0.497	0.37	0.71	0.485	0.977
PMCP2 0.1*rho	0.077	0.039	0.694	0.379	1.622	1.007	0.921	0.497	0.39	0.77	0.490	0.920
PMCP3 0.1*rho	0.077	0.040	0.700	0.381	1.652	1.023	0.933	0.500	0.39	0.81	0.490	0.940

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.282	0.006	2.760	0.015	5.071	0.018	3.353	0.010	0.01	0.00	0.100	0.000
FSCAD 0.3*rho	0.286	0.010	2.753	0.014	5.057	0.019	3.343	0.009	0.26	0.00	0.441	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.285	0.010	2.753	0.014	5.057	0.019	3.343	0.009	0.29	0.00	0.456	0.000
CLASSO 0.3*rho	0.289	0.006	2.813	0.020	5.169	0.026	3.417	0.015	0.12	0.00	0.327	0.000
CSCAD 0.3*rho	0.294	0.008	2.803	0.019	5.153	0.023	3.402	0.014	0.50	0.00	0.503	0.000
CMCP 0.3*rho	0.293	0.008	2.803	0.019	5.151	0.025	3.402	0.014	0.52	0.00	0.502	0.000
PLASSO 0.3*rho	0.153	0.091	0.641	0.285	1.543	0.655	0.845	0.337	0.07	1.64	0.256	1.337
PSCAD1 0.3*rho	0.226	0.122	0.682	0.369	1.535	0.997	0.891	0.492	0.37	0.63	0.485	0.861
PSCAD2 0.3*rho	0.232	0.121	0.700	0.381	1.639	1.017	0.931	0.503	0.39	0.77	0.490	0.920
PSCAD3 0.3*rho	0.233	0.121	0.702	0.380	1.650	1.013	0.936	0.500	0.39	0.79	0.490	0.935
PMCP1 0.3*rho	0.226	0.122	0.686	0.375	1.522	1.001	0.891	0.495	0.37	0.61	0.485	0.909
PMCP2 0.3*rho	0.230	0.118	0.694	0.379	1.610	0.991	0.920	0.496	0.39	0.72	0.490	0.866
PMCP3 0.3*rho	0.232	0.120	0.700	0.381	1.638	1.004	0.931	0.499	0.39	0.76	0.490	0.878

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.471	0.010	2.760	0.015	5.071	0.018	3.353	0.010	0.01	0.00	0.100	0.000
FSCAD 0.5*rho	0.476	0.017	2.753	0.014	5.057	0.019	3.343	0.009	0.26	0.00	0.441	0.000
FMCP 0.5*rho	0.475	0.017	2.753	0.014	5.057	0.019	3.343	0.009	0.29	0.00	0.456	0.000
CLASSO 0.5*rho	0.482	0.010	2.813	0.020	5.169	0.026	3.417	0.015	0.12	0.00	0.327	0.000
CSCAD 0.5*rho	0.490	0.013	2.803	0.019	5.153	0.023	3.402	0.014	0.50	0.00	0.503	0.000
CMCP 0.5*rho	0.488	0.013	2.803	0.019	5.151	0.025	3.402	0.014	0.52	0.00	0.502	0.000
PLASSO 0.5*rho	0.255	0.152	0.641	0.285	1.390	0.592	0.818	0.333	0.07	0.96	0.256	1.205
PSCAD1 0.5*rho	0.377	0.203	0.682	0.369	1.455	0.885	0.875	0.472	0.37	0.47	0.485	0.810
PSCAD2 0.5*rho	0.387	0.202	0.700	0.381	1.519	0.890	0.905	0.482	0.39	0.52	0.490	0.810
PSCAD3 0.5*rho	0.388	0.202	0.702	0.380	1.528	0.886	0.910	0.479	0.39	0.54	0.490	0.834
PMCP1 0.5*rho	0.377	0.204	0.686	0.375	1.435	0.884	0.873	0.475	0.37	0.42	0.485	0.741
PMCP2 0.5*rho	0.384	0.197	0.694	0.379	1.515	0.881	0.899	0.477	0.39	0.53	0.490	0.822
PMCP3 0.5*rho	0.387	0.200	0.700	0.381	1.529	0.885	0.908	0.479	0.39	0.54	0.490	0.822

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.501	-2.760	-1.846	-0.465	0.001	0.002	0.001	0.000	0.001
FSCAD	0.501	-2.753	-1.838	-0.467	0.001	0.001	0.001	0.000	0.000
FMCP	0.501	-2.753	-1.838	-0.467	0.001	0.001	0.001	-0.001	0.001
CLASSO	0.678	-2.813	-1.880	-0.476	0.002	0.001	0.001	-0.001	0.001
CSCAD	0.671	-2.803	-1.866	-0.484	0.002	-0.001	0.002	-0.001	0.001
CMCP	0.671	-2.803	-1.867	-0.481	0.002	-0.001	0.002	-0.001	0.001
PLASSO	0.000	-0.285	-0.230	-0.078	0.019	-0.011	0.009	0.014	0.026
PSCAD1	0.000	0.296	0.182	-0.041	0.007	-0.009	-0.008	0.033	0.020
PSCAD2	0.000	0.331	0.219	-0.034	0.010	-0.012	-0.001	0.026	0.022
PSCAD3	0.000	0.334	0.223	-0.031	0.006	-0.012	-0.003	0.029	0.024
PMCP1	0.000	0.288	0.183	-0.041	0.008	-0.019	-0.002	0.038	0.020
PMCP2	0.000	0.323	0.219	-0.038	0.011	-0.003	-0.004	0.031	0.006
PMCP3	0.000	0.336	0.227	-0.034	0.011	-0.008	-0.002	0.031	0.010
FULL	0.501	-2.752	-1.843	-0.457	0.000	-0.001	0.001	-0.002	0.002
COMPLETE	0.670	-2.803	-1.874	-0.466	0.000	-0.001	0.001	-0.002	0.002
LOGISTIC	0.000	0.445	0.242	0.092	0.014	-0.052	0.010	0.019	0.046

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.014	0.015	0.016	0.016	0.010	0.010	0.009	0.006	0.010
FSCAD	0.014	0.014	0.019	0.025	0.010	0.010	0.011	0.006	0.010
FMCP	0.014	0.014	0.018	0.025	0.011	0.011	0.011	0.008	0.010
CLASSO	0.019	0.020	0.021	0.018	0.011	0.010	0.009	0.010	0.008
CSCAD	0.019	0.019	0.023	0.023	0.009	0.012	0.009	0.011	0.008
CMCP	0.019	0.019	0.023	0.024	0.012	0.013	0.012	0.009	0.008
PLASSO	0.000	0.526	0.391	0.276	0.210	0.225	0.236	0.170	0.158
PSCAD1	0.000	0.570	0.450	0.423	0.214	0.236	0.238	0.185	0.165
PSCAD2	0.000	0.575	0.442	0.432	0.230	0.243	0.265	0.200	0.189
PSCAD3	0.000	0.578	0.439	0.432	0.234	0.244	0.266	0.198	0.188
PMCP1	0.000	0.596	0.427	0.423	0.203	0.222	0.243	0.193	0.168
PMCP2	0.000	0.576	0.437	0.426	0.227	0.229	0.261	0.193	0.182
PMCP3	0.000	0.573	0.439	0.430	0.227	0.235	0.268	0.199	0.194
FULL	0.014	0.014	0.017	0.016	0.018	0.018	0.016	0.015	0.017
COMPLETE	0.018	0.019	0.022	0.020	0.021	0.021	0.021	0.020	0.017
LOGISTIC	0.000	0.588	0.446	0.359	0.367	0.368	0.374	0.321	0.291

```

beta : 3 2 0.5 0 0 0 0
intercept : 0
sample size : 600
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 1
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_2_0.5_n_600_lambda_location_l1_30_error_independent_TRUE_x_missing_location_1.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.714	0.011	5.013	0.024	3.295	0.010	0.02	2.38	0.141	1.509
FSCAD	0	0	2.705	0.011	4.985	0.032	3.282	0.010	0.15	1.36	0.359	1.514
FMCP	0	0	2.705	0.011	4.986	0.033	3.282	0.010	0.17	1.09	0.378	1.558
CLASSO	0	0	2.779	0.019	5.138	0.038	3.374	0.021	0.09	2.58	0.288	1.646
CSCAD	0	0	2.768	0.018	5.106	0.041	3.360	0.020	0.35	1.13	0.479	1.440
CMCP	0	0	2.768	0.018	5.107	0.044	3.360	0.020	0.40	0.93	0.492	1.572
PLASSO	0	0	0.579	0.283	1.559	0.624	0.799	0.343	0.07	3.33	0.256	1.303
PSCAD1	0	0	0.526	0.297	1.196	0.762	0.696	0.403	0.30	0.77	0.461	1.109
PSCAD2	0	0	0.548	0.303	1.267	0.781	0.729	0.412	0.29	0.78	0.456	0.991
PSCAD3	0	0	0.552	0.304	1.269	0.791	0.733	0.416	0.30	0.78	0.461	0.991
PMCP1	0	0	0.544	0.343	1.257	0.937	0.722	0.467	0.30	0.82	0.461	1.149
PMCP2	0	0	0.556	0.340	1.302	0.944	0.741	0.466	0.29	0.86	0.456	1.092
PMCP3	0	0	0.549	0.302	1.271	0.801	0.730	0.415	0.29	0.80	0.456	1.005

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.714	0.011	4.986	0.025	3.295	0.011	0.02	0.00	0.141	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.705	0.011	4.968	0.026	3.282	0.010	0.15	0.00	0.359	0.000
FMCP 0.05	0.05	NA	2.705	0.011	4.968	0.027	3.282	0.010	0.17	0.00	0.378	0.000
CLASSO 0.05	0.05	NA	2.779	0.019	5.105	0.037	3.374	0.021	0.09	0.00	0.288	0.000
CSCAD 0.05	0.05	NA	2.768	0.018	5.090	0.037	3.360	0.020	0.35	0.01	0.479	0.100
CMCP 0.05	0.05	NA	2.768	0.018	5.089	0.036	3.360	0.020	0.40	0.00	0.492	0.000
PLASSO 0.05	0.05	NA	0.579	0.283	1.539	0.626	0.799	0.343	0.07	2.55	0.256	1.438
PSCAD1 0.05	0.05	NA	0.526	0.297	1.195	0.762	0.696	0.403	0.30	0.74	0.461	1.021
PSCAD2 0.05	0.05	NA	0.548	0.303	1.267	0.781	0.729	0.412	0.29	0.78	0.456	0.991
PSCAD3 0.05	0.05	NA	0.552	0.304	1.269	0.791	0.733	0.416	0.30	0.78	0.461	0.991
PMCP1 0.05	0.05	NA	0.544	0.343	1.257	0.937	0.722	0.467	0.30	0.80	0.461	1.119
PMCP2 0.05	0.05	NA	0.556	0.340	1.302	0.944	0.741	0.466	0.29	0.86	0.456	1.092
PMCP3 0.05	0.05	NA	0.549	0.302	1.271	0.801	0.730	0.415	0.29	0.80	0.456	1.005

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.093	0.003	2.714	0.011	4.986	0.025	3.295	0.011	0.02	0.00	0.141	0.000
FSCAD 0.1*rho	0.094	0.004	2.705	0.011	4.968	0.026	3.282	0.010	0.15	0.00	0.359	0.000
FMCP 0.1*rho	0.093	0.004	2.705	0.011	4.968	0.027	3.282	0.010	0.17	0.00	0.378	0.000
CLASSO 0.1*rho	0.095	0.002	2.779	0.019	5.105	0.037	3.374	0.021	0.09	0.00	0.288	0.000
CSCAD 0.1*rho	0.096	0.003	2.768	0.018	5.089	0.037	3.360	0.020	0.35	0.00	0.479	0.000
CMCP 0.1*rho	0.096	0.003	2.768	0.018	5.089	0.036	3.360	0.020	0.40	0.00	0.492	0.000
PLASSO 0.1*rho	0.046	0.028	0.579	0.283	1.538	0.621	0.799	0.343	0.07	2.67	0.256	1.577
PSCAD1 0.1*rho	0.056	0.038	0.526	0.297	1.195	0.761	0.696	0.403	0.30	0.75	0.461	1.077
PSCAD2 0.1*rho	0.057	0.037	0.548	0.303	1.267	0.781	0.729	0.412	0.29	0.78	0.456	0.991
PSCAD3 0.1*rho	0.058	0.038	0.552	0.304	1.269	0.791	0.733	0.416	0.30	0.78	0.461	0.991
PMCP1 0.1*rho	0.057	0.038	0.544	0.343	1.257	0.937	0.722	0.467	0.30	0.81	0.461	1.125
PMCP2 0.1*rho	0.057	0.038	0.556	0.340	1.301	0.943	0.740	0.466	0.29	0.84	0.456	1.070
PMCP3 0.1*rho	0.058	0.037	0.549	0.302	1.271	0.801	0.730	0.415	0.29	0.80	0.456	1.005

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.279	0.008	2.714	0.011	4.986	0.025	3.295	0.011	0.02	0.00	0.141	0.000
FSCAD 0.3*rho	0.281	0.011	2.705	0.011	4.968	0.026	3.282	0.010	0.15	0.00	0.359	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.280	0.011	2.705	0.011	4.968	0.027	3.282	0.010	0.17	0.00	0.378	0.000
CLASSO 0.3*rho	0.285	0.007	2.779	0.019	5.105	0.037	3.374	0.021	0.09	0.00	0.288	0.000
CSCAD 0.3*rho	0.289	0.010	2.768	0.018	5.089	0.037	3.360	0.020	0.35	0.00	0.479	0.000
CMCP 0.3*rho	0.289	0.010	2.768	0.018	5.089	0.036	3.360	0.020	0.40	0.00	0.492	0.000
PLASSO 0.3*rho	0.138	0.083	0.579	0.283	1.447	0.611	0.791	0.345	0.07	1.63	0.256	1.426
PSCAD1 0.3*rho	0.169	0.114	0.526	0.297	1.183	0.747	0.695	0.402	0.30	0.68	0.461	0.952
PSCAD2 0.3*rho	0.172	0.112	0.548	0.303	1.251	0.775	0.726	0.412	0.29	0.71	0.456	0.957
PSCAD3 0.3*rho	0.173	0.113	0.552	0.304	1.254	0.786	0.730	0.416	0.30	0.72	0.461	0.954
PMCP1 0.3*rho	0.170	0.113	0.544	0.343	1.245	0.923	0.721	0.467	0.30	0.74	0.461	1.041
PMCP2 0.3*rho	0.170	0.113	0.556	0.340	1.285	0.932	0.738	0.466	0.29	0.77	0.456	1.004
PMCP3 0.3*rho	0.173	0.111	0.549	0.302	1.249	0.784	0.727	0.413	0.29	0.71	0.456	0.946

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.466	0.013	2.714	0.011	4.986	0.025	3.295	0.011	0.02	0.00	0.141	0.000
FSCAD 0.5*rho	0.468	0.018	2.705	0.011	4.968	0.026	3.282	0.010	0.15	0.00	0.359	0.000
FMCP 0.5*rho	0.467	0.018	2.705	0.011	4.968	0.027	3.282	0.010	0.17	0.00	0.378	0.000
CLASSO 0.5*rho	0.476	0.012	2.779	0.019	5.105	0.037	3.374	0.021	0.09	0.00	0.288	0.000
CSCAD 0.5*rho	0.482	0.016	2.768	0.018	5.089	0.037	3.360	0.020	0.35	0.00	0.479	0.000
CMCP 0.5*rho	0.482	0.017	2.768	0.018	5.089	0.036	3.360	0.020	0.40	0.00	0.492	0.000
PLASSO 0.5*rho	0.231	0.138	0.579	0.283	1.324	0.537	0.771	0.347	0.07	0.99	0.256	1.259
PSCAD1 0.5*rho	0.282	0.189	0.526	0.297	1.139	0.720	0.685	0.399	0.30	0.55	0.461	0.892
PSCAD2 0.5*rho	0.287	0.186	0.548	0.303	1.201	0.748	0.714	0.409	0.29	0.58	0.456	0.923
PSCAD3 0.5*rho	0.289	0.188	0.552	0.304	1.203	0.754	0.718	0.411	0.30	0.59	0.461	0.922
PMCP1 0.5*rho	0.284	0.188	0.544	0.343	1.184	0.803	0.710	0.458	0.30	0.57	0.461	0.946
PMCP2 0.5*rho	0.283	0.188	0.556	0.340	1.217	0.810	0.725	0.456	0.29	0.60	0.456	0.921
PMCP3 0.5*rho	0.288	0.184	0.549	0.302	1.197	0.751	0.714	0.409	0.29	0.58	0.456	0.912

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.499	-2.714	-1.810	-0.462	0.000	0.002	-0.001	0.002	0.000
FSCAD	0.499	-2.705	-1.801	-0.462	-0.001	0.002	-0.001	0.001	0.000
FMCP	0.499	-2.705	-1.801	-0.462	0.000	0.002	-0.001	0.002	-0.001
CLASSO	0.684	-2.779	-1.854	-0.472	-0.001	0.002	-0.001	0.002	-0.001
CSCAD	0.678	-2.768	-1.844	-0.478	-0.001	0.001	0.001	0.000	0.000
CMCP	0.678	-2.768	-1.844	-0.478	-0.001	0.001	0.000	0.002	0.000
PLASSO	0.000	-0.376	-0.272	-0.133	-0.017	0.020	-0.006	0.005	0.024
PSCAD1	0.000	0.169	0.104	-0.082	-0.008	0.008	-0.005	0.011	0.036
PSCAD2	0.000	0.215	0.142	-0.060	-0.009	0.028	-0.003	0.008	0.029
PSCAD3	0.000	0.218	0.145	-0.056	-0.011	0.029	-0.004	0.006	0.031
PMCP1	0.000	0.174	0.103	-0.079	-0.010	0.011	-0.011	0.013	0.038
PMCP2	0.000	0.207	0.135	-0.060	-0.015	0.030	-0.010	0.012	0.036
PMCP3	0.000	0.221	0.148	-0.057	-0.010	0.027	-0.003	0.005	0.033
FULL	0.499	-2.705	-1.801	-0.453	-0.001	0.004	-0.002	0.002	0.000
COMPLETE	0.677	-2.767	-1.843	-0.462	-0.002	0.002	-0.001	0.001	0.001
LOGISTIC	0.000	0.299	0.210	0.034	-0.017	0.025	-0.019	0.007	0.031

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.015	0.011	0.013	0.018	0.012	0.009	0.009	0.009	0.009
FSCAD	0.015	0.011	0.012	0.024	0.011	0.009	0.007	0.007	0.009
FMCP	0.015	0.011	0.013	0.024	0.012	0.009	0.009	0.008	0.009
CLASSO	0.021	0.019	0.017	0.017	0.012	0.011	0.010	0.012	0.011
CSCAD	0.021	0.018	0.017	0.022	0.010	0.009	0.007	0.009	0.010
CMCP	0.021	0.018	0.017	0.022	0.011	0.008	0.010	0.010	0.009
PLASSO	0.000	0.466	0.380	0.226	0.163	0.134	0.139	0.160	0.156
PSCAD1	0.000	0.465	0.408	0.326	0.176	0.106	0.119	0.170	0.173
PSCAD2	0.000	0.467	0.408	0.333	0.183	0.127	0.132	0.188	0.191
PSCAD3	0.000	0.466	0.408	0.336	0.186	0.136	0.131	0.189	0.194
PMCP1	0.000	0.512	0.448	0.327	0.184	0.114	0.126	0.178	0.179
PMCP2	0.000	0.504	0.438	0.329	0.191	0.132	0.137	0.195	0.193
PMCP3	0.000	0.462	0.404	0.333	0.187	0.139	0.133	0.190	0.195
FULL	0.015	0.011	0.012	0.016	0.017	0.013	0.013	0.014	0.015
COMPLETE	0.021	0.018	0.016	0.016	0.017	0.016	0.015	0.017	0.016
LOGISTIC	0.000	0.495	0.435	0.268	0.251	0.223	0.225	0.249	0.252

```

beta : 3 2 0.5 0 0 0 0
intercept : 0
sample size : 600
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 3
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_2_0.5_n_600_lambda_location_l1_30_error_independent_TRUE_x_missing_location_3.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.714	0.011	5.013	0.024	3.295	0.010	0.02	2.38	0.141	1.509
FSCAD	0	0	2.705	0.011	4.985	0.032	3.282	0.010	0.15	1.36	0.359	1.514
FMCP	0	0	2.705	0.011	4.986	0.033	3.282	0.010	0.17	1.09	0.378	1.558
CLASSO	0	0	2.779	0.019	5.138	0.038	3.374	0.021	0.09	2.58	0.288	1.646
CSCAD	0	0	2.768	0.018	5.106	0.041	3.360	0.020	0.35	1.13	0.479	1.440
CMCP	0	0	2.768	0.018	5.107	0.044	3.360	0.020	0.40	0.93	0.492	1.572
PLASSO	0	0	0.579	0.283	1.559	0.624	0.799	0.343	0.07	3.33	0.256	1.303
PSCAD1	0	0	0.526	0.297	1.196	0.762	0.696	0.403	0.30	0.77	0.461	1.109
PSCAD2	0	0	0.548	0.303	1.267	0.781	0.729	0.412	0.29	0.78	0.456	0.991
PSCAD3	0	0	0.552	0.304	1.269	0.791	0.733	0.416	0.30	0.78	0.461	0.991
PMCP1	0	0	0.544	0.343	1.257	0.937	0.722	0.467	0.30	0.82	0.461	1.149
PMCP2	0	0	0.556	0.340	1.302	0.944	0.741	0.466	0.29	0.86	0.456	1.092
PMCP3	0	0	0.549	0.302	1.271	0.801	0.730	0.415	0.29	0.80	0.456	1.005

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.714	0.011	4.986	0.025	3.295	0.011	0.02	0.00	0.141	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.705	0.011	4.968	0.026	3.282	0.010	0.15	0.00	0.359	0.000
FMCP 0.05	0.05	NA	2.705	0.011	4.968	0.027	3.282	0.010	0.17	0.00	0.378	0.000
CLASSO 0.05	0.05	NA	2.779	0.019	5.105	0.037	3.374	0.021	0.09	0.00	0.288	0.000
CSCAD 0.05	0.05	NA	2.768	0.018	5.090	0.037	3.360	0.020	0.35	0.01	0.479	0.100
CMCP 0.05	0.05	NA	2.768	0.018	5.089	0.036	3.360	0.020	0.40	0.00	0.492	0.000
PLASSO 0.05	0.05	NA	0.579	0.283	1.539	0.626	0.799	0.343	0.07	2.55	0.256	1.438
PSCAD1 0.05	0.05	NA	0.526	0.297	1.195	0.762	0.696	0.403	0.30	0.74	0.461	1.021
PSCAD2 0.05	0.05	NA	0.548	0.303	1.267	0.781	0.729	0.412	0.29	0.78	0.456	0.991
PSCAD3 0.05	0.05	NA	0.552	0.304	1.269	0.791	0.733	0.416	0.30	0.78	0.461	0.991
PMCP1 0.05	0.05	NA	0.544	0.343	1.257	0.937	0.722	0.467	0.30	0.80	0.461	1.119
PMCP2 0.05	0.05	NA	0.556	0.340	1.302	0.944	0.741	0.466	0.29	0.86	0.456	1.092
PMCP3 0.05	0.05	NA	0.549	0.302	1.271	0.801	0.730	0.415	0.29	0.80	0.456	1.005

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.093	0.003	2.714	0.011	4.986	0.025	3.295	0.011	0.02	0.00	0.141	0.000
FSCAD 0.1*rho	0.094	0.004	2.705	0.011	4.968	0.026	3.282	0.010	0.15	0.00	0.359	0.000
FMCP 0.1*rho	0.093	0.004	2.705	0.011	4.968	0.027	3.282	0.010	0.17	0.00	0.378	0.000
CLASSO 0.1*rho	0.095	0.002	2.779	0.019	5.105	0.037	3.374	0.021	0.09	0.00	0.288	0.000
CSCAD 0.1*rho	0.096	0.003	2.768	0.018	5.089	0.037	3.360	0.020	0.35	0.00	0.479	0.000
CMCP 0.1*rho	0.096	0.003	2.768	0.018	5.089	0.036	3.360	0.020	0.40	0.00	0.492	0.000
PLASSO 0.1*rho	0.046	0.028	0.579	0.283	1.538	0.621	0.799	0.343	0.07	2.67	0.256	1.577
PSCAD1 0.1*rho	0.056	0.038	0.526	0.297	1.195	0.761	0.696	0.403	0.30	0.75	0.461	1.077
PSCAD2 0.1*rho	0.057	0.037	0.548	0.303	1.267	0.781	0.729	0.412	0.29	0.78	0.456	0.991
PSCAD3 0.1*rho	0.058	0.038	0.552	0.304	1.269	0.791	0.733	0.416	0.30	0.78	0.461	0.991
PMCP1 0.1*rho	0.057	0.038	0.544	0.343	1.257	0.937	0.722	0.467	0.30	0.81	0.461	1.125
PMCP2 0.1*rho	0.057	0.038	0.556	0.340	1.301	0.943	0.740	0.466	0.29	0.84	0.456	1.070
PMCP3 0.1*rho	0.058	0.037	0.549	0.302	1.271	0.801	0.730	0.415	0.29	0.80	0.456	1.005

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.279	0.008	2.714	0.011	4.986	0.025	3.295	0.011	0.02	0.00	0.141	0.000
FSCAD 0.3*rho	0.281	0.011	2.705	0.011	4.968	0.026	3.282	0.010	0.15	0.00	0.359	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.280	0.011	2.705	0.011	4.968	0.027	3.282	0.010	0.17	0.00	0.378	0.000
CLASSO 0.3*rho	0.285	0.007	2.779	0.019	5.105	0.037	3.374	0.021	0.09	0.00	0.288	0.000
CSCAD 0.3*rho	0.289	0.010	2.768	0.018	5.089	0.037	3.360	0.020	0.35	0.00	0.479	0.000
CMCP 0.3*rho	0.289	0.010	2.768	0.018	5.089	0.036	3.360	0.020	0.40	0.00	0.492	0.000
PLASSO 0.3*rho	0.138	0.083	0.579	0.283	1.447	0.611	0.791	0.345	0.07	1.63	0.256	1.426
PSCAD1 0.3*rho	0.169	0.114	0.526	0.297	1.183	0.747	0.695	0.402	0.30	0.68	0.461	0.952
PSCAD2 0.3*rho	0.172	0.112	0.548	0.303	1.251	0.775	0.726	0.412	0.29	0.71	0.456	0.957
PSCAD3 0.3*rho	0.173	0.113	0.552	0.304	1.254	0.786	0.730	0.416	0.30	0.72	0.461	0.954
PMCP1 0.3*rho	0.170	0.113	0.544	0.343	1.245	0.923	0.721	0.467	0.30	0.74	0.461	1.041
PMCP2 0.3*rho	0.170	0.113	0.556	0.340	1.285	0.932	0.738	0.466	0.29	0.77	0.456	1.004
PMCP3 0.3*rho	0.173	0.111	0.549	0.302	1.249	0.784	0.727	0.413	0.29	0.71	0.456	0.946

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.466	0.013	2.714	0.011	4.986	0.025	3.295	0.011	0.02	0.00	0.141	0.000
FSCAD 0.5*rho	0.468	0.018	2.705	0.011	4.968	0.026	3.282	0.010	0.15	0.00	0.359	0.000
FMCP 0.5*rho	0.467	0.018	2.705	0.011	4.968	0.027	3.282	0.010	0.17	0.00	0.378	0.000
CLASSO 0.5*rho	0.476	0.012	2.779	0.019	5.105	0.037	3.374	0.021	0.09	0.00	0.288	0.000
CSCAD 0.5*rho	0.482	0.016	2.768	0.018	5.089	0.037	3.360	0.020	0.35	0.00	0.479	0.000
CMCP 0.5*rho	0.482	0.017	2.768	0.018	5.089	0.036	3.360	0.020	0.40	0.00	0.492	0.000
PLASSO 0.5*rho	0.231	0.138	0.579	0.283	1.324	0.537	0.771	0.347	0.07	0.99	0.256	1.259
PSCAD1 0.5*rho	0.282	0.189	0.526	0.297	1.139	0.720	0.685	0.399	0.30	0.55	0.461	0.892
PSCAD2 0.5*rho	0.287	0.186	0.548	0.303	1.201	0.748	0.714	0.409	0.29	0.58	0.456	0.923
PSCAD3 0.5*rho	0.289	0.188	0.552	0.304	1.203	0.754	0.718	0.411	0.30	0.59	0.461	0.922
PMCP1 0.5*rho	0.284	0.188	0.544	0.343	1.184	0.803	0.710	0.458	0.30	0.57	0.461	0.946
PMCP2 0.5*rho	0.283	0.188	0.556	0.340	1.217	0.810	0.725	0.456	0.29	0.60	0.456	0.921
PMCP3 0.5*rho	0.288	0.184	0.549	0.302	1.197	0.751	0.714	0.409	0.29	0.58	0.456	0.912

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.499	-2.714	-1.810	-0.462	0.000	0.002	-0.001	0.002	0.000
FSCAD	0.499	-2.705	-1.801	-0.462	-0.001	0.002	-0.001	0.001	0.000
FMCP	0.499	-2.705	-1.801	-0.462	0.000	0.002	-0.001	0.002	-0.001
CLASSO	0.684	-2.779	-1.854	-0.472	-0.001	0.002	-0.001	0.002	-0.001
CSCAD	0.678	-2.768	-1.844	-0.478	-0.001	0.001	0.001	0.000	0.000
CMCP	0.678	-2.768	-1.844	-0.478	-0.001	0.001	0.000	0.002	0.000
PLASSO	0.000	-0.376	-0.272	-0.133	-0.017	0.020	-0.006	0.005	0.024
PSCAD1	0.000	0.169	0.104	-0.082	-0.008	0.008	-0.005	0.011	0.036
PSCAD2	0.000	0.215	0.142	-0.060	-0.009	0.028	-0.003	0.008	0.029
PSCAD3	0.000	0.218	0.145	-0.056	-0.011	0.029	-0.004	0.006	0.031
PMCP1	0.000	0.174	0.103	-0.079	-0.010	0.011	-0.011	0.013	0.038
PMCP2	0.000	0.207	0.135	-0.060	-0.015	0.030	-0.010	0.012	0.036
PMCP3	0.000	0.221	0.148	-0.057	-0.010	0.027	-0.003	0.005	0.033
FULL	0.499	-2.705	-1.801	-0.453	-0.001	0.004	-0.002	0.002	0.000
COMPLETE	0.677	-2.767	-1.843	-0.462	-0.002	0.002	-0.001	0.001	0.001
LOGISTIC	0.000	0.299	0.210	0.034	-0.017	0.025	-0.019	0.007	0.031

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.015	0.011	0.013	0.018	0.012	0.009	0.009	0.009	0.009
FSCAD	0.015	0.011	0.012	0.024	0.011	0.009	0.007	0.007	0.009
FMCP	0.015	0.011	0.013	0.024	0.012	0.009	0.009	0.008	0.009
CLASSO	0.021	0.019	0.017	0.017	0.012	0.011	0.010	0.012	0.011
CSCAD	0.021	0.018	0.017	0.022	0.010	0.009	0.007	0.009	0.010
CMCP	0.021	0.018	0.017	0.022	0.011	0.008	0.010	0.010	0.009
PLASSO	0.000	0.466	0.380	0.226	0.163	0.134	0.139	0.160	0.156
PSCAD1	0.000	0.465	0.408	0.326	0.176	0.106	0.119	0.170	0.173
PSCAD2	0.000	0.467	0.408	0.333	0.183	0.127	0.132	0.188	0.191
PSCAD3	0.000	0.466	0.408	0.336	0.186	0.136	0.131	0.189	0.194
PMCP1	0.000	0.512	0.448	0.327	0.184	0.114	0.126	0.178	0.179
PMCP2	0.000	0.504	0.438	0.329	0.191	0.132	0.137	0.195	0.193
PMCP3	0.000	0.462	0.404	0.333	0.187	0.139	0.133	0.190	0.195
FULL	0.015	0.011	0.012	0.016	0.017	0.013	0.013	0.014	0.015
COMPLETE	0.021	0.018	0.016	0.016	0.017	0.016	0.015	0.017	0.016
LOGISTIC	0.000	0.495	0.435	0.268	0.251	0.223	0.225	0.249	0.252

```

beta : 3 2 0.5 0 0 0 0
intercept : 0
sample size : 600
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 8
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_2_0.5_n_600_lambda_location_l1_30_error_independent_TRUE_x_missing_location_8.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.714	0.011	5.013	0.024	3.295	0.010	0.02	2.38	0.141	1.509
FSCAD	0	0	2.705	0.011	4.985	0.032	3.282	0.010	0.15	1.36	0.359	1.514
FMCP	0	0	2.705	0.011	4.986	0.033	3.282	0.010	0.17	1.09	0.378	1.558
CLASSO	0	0	2.779	0.019	5.138	0.038	3.374	0.021	0.09	2.58	0.288	1.646
CSCAD	0	0	2.768	0.018	5.106	0.041	3.360	0.020	0.35	1.13	0.479	1.440
CMCP	0	0	2.768	0.018	5.107	0.044	3.360	0.020	0.40	0.93	0.492	1.572
PLASSO	0	0	0.579	0.283	1.559	0.624	0.799	0.343	0.07	3.33	0.256	1.303
PSCAD1	0	0	0.526	0.297	1.196	0.762	0.696	0.403	0.30	0.77	0.461	1.109
PSCAD2	0	0	0.548	0.303	1.267	0.781	0.729	0.412	0.29	0.78	0.456	0.991
PSCAD3	0	0	0.552	0.304	1.269	0.791	0.733	0.416	0.30	0.78	0.461	0.991
PMCP1	0	0	0.544	0.343	1.257	0.937	0.722	0.467	0.30	0.82	0.461	1.149
PMCP2	0	0	0.556	0.340	1.302	0.944	0.741	0.466	0.29	0.86	0.456	1.092
PMCP3	0	0	0.549	0.302	1.271	0.801	0.730	0.415	0.29	0.80	0.456	1.005

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.714	0.011	4.986	0.025	3.295	0.011	0.02	0.00	0.141	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.705	0.011	4.968	0.026	3.282	0.010	0.15	0.00	0.359	0.000
FMCP 0.05	0.05	NA	2.705	0.011	4.968	0.027	3.282	0.010	0.17	0.00	0.378	0.000
CLASSO 0.05	0.05	NA	2.779	0.019	5.105	0.037	3.374	0.021	0.09	0.00	0.288	0.000
CSCAD 0.05	0.05	NA	2.768	0.018	5.090	0.037	3.360	0.020	0.35	0.01	0.479	0.100
CMCP 0.05	0.05	NA	2.768	0.018	5.089	0.036	3.360	0.020	0.40	0.00	0.492	0.000
PLASSO 0.05	0.05	NA	0.579	0.283	1.539	0.626	0.799	0.343	0.07	2.55	0.256	1.438
PSCAD1 0.05	0.05	NA	0.526	0.297	1.195	0.762	0.696	0.403	0.30	0.74	0.461	1.021
PSCAD2 0.05	0.05	NA	0.548	0.303	1.267	0.781	0.729	0.412	0.29	0.78	0.456	0.991
PSCAD3 0.05	0.05	NA	0.552	0.304	1.269	0.791	0.733	0.416	0.30	0.78	0.461	0.991
PMCP1 0.05	0.05	NA	0.544	0.343	1.257	0.937	0.722	0.467	0.30	0.80	0.461	1.119
PMCP2 0.05	0.05	NA	0.556	0.340	1.302	0.944	0.741	0.466	0.29	0.86	0.456	1.092
PMCP3 0.05	0.05	NA	0.549	0.302	1.271	0.801	0.730	0.415	0.29	0.80	0.456	1.005

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.093	0.003	2.714	0.011	4.986	0.025	3.295	0.011	0.02	0.00	0.141	0.000
FSCAD 0.1*rho	0.094	0.004	2.705	0.011	4.968	0.026	3.282	0.010	0.15	0.00	0.359	0.000
FMCP 0.1*rho	0.093	0.004	2.705	0.011	4.968	0.027	3.282	0.010	0.17	0.00	0.378	0.000
CLASSO 0.1*rho	0.095	0.002	2.779	0.019	5.105	0.037	3.374	0.021	0.09	0.00	0.288	0.000
CSCAD 0.1*rho	0.096	0.003	2.768	0.018	5.089	0.037	3.360	0.020	0.35	0.00	0.479	0.000
CMCP 0.1*rho	0.096	0.003	2.768	0.018	5.089	0.036	3.360	0.020	0.40	0.00	0.492	0.000
PLASSO 0.1*rho	0.046	0.028	0.579	0.283	1.538	0.621	0.799	0.343	0.07	2.67	0.256	1.577
PSCAD1 0.1*rho	0.056	0.038	0.526	0.297	1.195	0.761	0.696	0.403	0.30	0.75	0.461	1.077
PSCAD2 0.1*rho	0.057	0.037	0.548	0.303	1.267	0.781	0.729	0.412	0.29	0.78	0.456	0.991
PSCAD3 0.1*rho	0.058	0.038	0.552	0.304	1.269	0.791	0.733	0.416	0.30	0.78	0.461	0.991
PMCP1 0.1*rho	0.057	0.038	0.544	0.343	1.257	0.937	0.722	0.467	0.30	0.81	0.461	1.125
PMCP2 0.1*rho	0.057	0.038	0.556	0.340	1.301	0.943	0.740	0.466	0.29	0.84	0.456	1.070
PMCP3 0.1*rho	0.058	0.037	0.549	0.302	1.271	0.801	0.730	0.415	0.29	0.80	0.456	1.005

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.279	0.008	2.714	0.011	4.986	0.025	3.295	0.011	0.02	0.00	0.141	0.000
FSCAD 0.3*rho	0.281	0.011	2.705	0.011	4.968	0.026	3.282	0.010	0.15	0.00	0.359	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.280	0.011	2.705	0.011	4.968	0.027	3.282	0.010	0.17	0.00	0.378	0.000
CLASSO 0.3*rho	0.285	0.007	2.779	0.019	5.105	0.037	3.374	0.021	0.09	0.00	0.288	0.000
CSCAD 0.3*rho	0.289	0.010	2.768	0.018	5.089	0.037	3.360	0.020	0.35	0.00	0.479	0.000
CMCP 0.3*rho	0.289	0.010	2.768	0.018	5.089	0.036	3.360	0.020	0.40	0.00	0.492	0.000
PLASSO 0.3*rho	0.138	0.083	0.579	0.283	1.447	0.611	0.791	0.345	0.07	1.63	0.256	1.426
PSCAD1 0.3*rho	0.169	0.114	0.526	0.297	1.183	0.747	0.695	0.402	0.30	0.68	0.461	0.952
PSCAD2 0.3*rho	0.172	0.112	0.548	0.303	1.251	0.775	0.726	0.412	0.29	0.71	0.456	0.957
PSCAD3 0.3*rho	0.173	0.113	0.552	0.304	1.254	0.786	0.730	0.416	0.30	0.72	0.461	0.954
PMCP1 0.3*rho	0.170	0.113	0.544	0.343	1.245	0.923	0.721	0.467	0.30	0.74	0.461	1.041
PMCP2 0.3*rho	0.170	0.113	0.556	0.340	1.285	0.932	0.738	0.466	0.29	0.77	0.456	1.004
PMCP3 0.3*rho	0.173	0.111	0.549	0.302	1.249	0.784	0.727	0.413	0.29	0.71	0.456	0.946

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.466	0.013	2.714	0.011	4.986	0.025	3.295	0.011	0.02	0.00	0.141	0.000
FSCAD 0.5*rho	0.468	0.018	2.705	0.011	4.968	0.026	3.282	0.010	0.15	0.00	0.359	0.000
FMCP 0.5*rho	0.467	0.018	2.705	0.011	4.968	0.027	3.282	0.010	0.17	0.00	0.378	0.000
CLASSO 0.5*rho	0.476	0.012	2.779	0.019	5.105	0.037	3.374	0.021	0.09	0.00	0.288	0.000
CSCAD 0.5*rho	0.482	0.016	2.768	0.018	5.089	0.037	3.360	0.020	0.35	0.00	0.479	0.000
CMCP 0.5*rho	0.482	0.017	2.768	0.018	5.089	0.036	3.360	0.020	0.40	0.00	0.492	0.000
PLASSO 0.5*rho	0.231	0.138	0.579	0.283	1.324	0.537	0.771	0.347	0.07	0.99	0.256	1.259
PSCAD1 0.5*rho	0.282	0.189	0.526	0.297	1.139	0.720	0.685	0.399	0.30	0.55	0.461	0.892
PSCAD2 0.5*rho	0.287	0.186	0.548	0.303	1.201	0.748	0.714	0.409	0.29	0.58	0.456	0.923
PSCAD3 0.5*rho	0.289	0.188	0.552	0.304	1.203	0.754	0.718	0.411	0.30	0.59	0.461	0.922
PMCP1 0.5*rho	0.284	0.188	0.544	0.343	1.184	0.803	0.710	0.458	0.30	0.57	0.461	0.946
PMCP2 0.5*rho	0.283	0.188	0.556	0.340	1.217	0.810	0.725	0.456	0.29	0.60	0.456	0.921
PMCP3 0.5*rho	0.288	0.184	0.549	0.302	1.197	0.751	0.714	0.409	0.29	0.58	0.456	0.912

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.499	-2.714	-1.810	-0.462	0.000	0.002	-0.001	0.002	0.000
FSCAD	0.499	-2.705	-1.801	-0.462	-0.001	0.002	-0.001	0.001	0.000
FMCP	0.499	-2.705	-1.801	-0.462	0.000	0.002	-0.001	0.002	-0.001
CLASSO	0.684	-2.779	-1.854	-0.472	-0.001	0.002	-0.001	0.002	-0.001
CSCAD	0.678	-2.768	-1.844	-0.478	-0.001	0.001	0.001	0.000	0.000
CMCP	0.678	-2.768	-1.844	-0.478	-0.001	0.001	0.000	0.002	0.000
PLASSO	0.000	-0.376	-0.272	-0.133	-0.017	0.020	-0.006	0.005	0.024
PSCAD1	0.000	0.169	0.104	-0.082	-0.008	0.008	-0.005	0.011	0.036
PSCAD2	0.000	0.215	0.142	-0.060	-0.009	0.028	-0.003	0.008	0.029
PSCAD3	0.000	0.218	0.145	-0.056	-0.011	0.029	-0.004	0.006	0.031
PMCP1	0.000	0.174	0.103	-0.079	-0.010	0.011	-0.011	0.013	0.038
PMCP2	0.000	0.207	0.135	-0.060	-0.015	0.030	-0.010	0.012	0.036
PMCP3	0.000	0.221	0.148	-0.057	-0.010	0.027	-0.003	0.005	0.033
FULL	0.499	-2.705	-1.801	-0.453	-0.001	0.004	-0.002	0.002	0.000
COMPLETE	0.677	-2.767	-1.843	-0.462	-0.002	0.002	-0.001	0.001	0.001
LOGISTIC	0.000	0.299	0.210	0.034	-0.017	0.025	-0.019	0.007	0.031

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.015	0.011	0.013	0.018	0.012	0.009	0.009	0.009	0.009
FSCAD	0.015	0.011	0.012	0.024	0.011	0.009	0.007	0.007	0.009
FMCP	0.015	0.011	0.013	0.024	0.012	0.009	0.009	0.008	0.009
CLASSO	0.021	0.019	0.017	0.017	0.012	0.011	0.010	0.012	0.011
CSCAD	0.021	0.018	0.017	0.022	0.010	0.009	0.007	0.009	0.010
CMCP	0.021	0.018	0.017	0.022	0.011	0.008	0.010	0.010	0.009
PLASSO	0.000	0.466	0.380	0.226	0.163	0.134	0.139	0.160	0.156
PSCAD1	0.000	0.465	0.408	0.326	0.176	0.106	0.119	0.170	0.173
PSCAD2	0.000	0.467	0.408	0.333	0.183	0.127	0.132	0.188	0.191
PSCAD3	0.000	0.466	0.408	0.336	0.186	0.136	0.131	0.189	0.194
PMCP1	0.000	0.512	0.448	0.327	0.184	0.114	0.126	0.178	0.179
PMCP2	0.000	0.504	0.438	0.329	0.191	0.132	0.137	0.195	0.193
PMCP3	0.000	0.462	0.404	0.333	0.187	0.139	0.133	0.190	0.195
FULL	0.015	0.011	0.012	0.016	0.017	0.013	0.013	0.014	0.015
COMPLETE	0.021	0.018	0.016	0.016	0.017	0.016	0.015	0.017	0.016
LOGISTIC	0.000	0.495	0.435	0.268	0.251	0.223	0.225	0.249	0.252

```

beta : 3 2 1 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: FALSE
missing_method: xy
missing_location: 1
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_2_1_n_400_lambda_location_l1_30_error_independent_FALSE_x_missing_location_1.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.776	0.019	5.583	0.031	3.464	0.013	0.00	1.62	0.000	1.462
FSCAD	0	0	2.767	0.019	5.559	0.044	3.451	0.012	0.07	1.26	0.256	1.397
FMCP	0	0	2.767	0.019	5.557	0.043	3.452	0.012	0.10	0.82	0.302	1.250
CLASSO	0	0	2.827	0.024	5.693	0.048	3.527	0.019	0.03	2.10	0.171	1.648
CSCAD	0	0	2.817	0.024	5.662	0.056	3.513	0.019	0.11	1.41	0.314	1.319
CMCP	0	0	2.817	0.024	5.665	0.062	3.513	0.020	0.16	1.20	0.368	1.511
PLASSO	0	0	0.822	0.256	2.203	0.721	1.117	0.310	0.01	3.04	0.100	1.325
PSCAD1	0	0	0.831	0.406	1.973	1.216	1.111	0.561	0.06	0.94	0.239	1.188
PSCAD2	0	0	0.854	0.471	2.030	1.244	1.150	0.611	0.07	0.93	0.256	1.094
PSCAD3	0	0	0.875	0.502	2.113	1.386	1.185	0.667	0.07	0.97	0.256	1.096
PMCP1	0	0	0.822	0.451	1.959	1.302	1.103	0.608	0.07	0.90	0.256	1.150
PMCP2	0	0	0.868	0.486	2.071	1.310	1.167	0.636	0.06	0.95	0.239	1.114
PMCP3	0	0	0.871	0.506	2.105	1.395	1.180	0.671	0.07	0.96	0.256	1.100

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.776	0.019	5.559	0.022	3.463	0.013	0.00	0.02	0.000	0.141

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.767	0.019	5.540	0.027	3.451	0.012	0.07	0.05	0.256	0.261
FMCP 0.05	0.05	NA	2.767	0.019	5.541	0.027	3.452	0.012	0.10	0.05	0.302	0.261
CLASSO 0.05	0.05	NA	2.827	0.024	5.661	0.034	3.527	0.019	0.03	0.04	0.171	0.197
CSCAD 0.05	0.05	NA	2.817	0.024	5.641	0.039	3.513	0.019	0.11	0.06	0.314	0.239
CMCP 0.05	0.05	NA	2.817	0.024	5.638	0.040	3.513	0.020	0.16	0.04	0.368	0.243
PLASSO 0.05	0.05	NA	0.822	0.256	2.190	0.723	1.117	0.310	0.01	2.54	0.100	1.445
PSCAD1 0.05	0.05	NA	0.831	0.406	1.972	1.215	1.111	0.561	0.06	0.92	0.239	1.152
PSCAD2 0.05	0.05	NA	0.854	0.471	2.030	1.244	1.150	0.611	0.07	0.93	0.256	1.094
PSCAD3 0.05	0.05	NA	0.875	0.502	2.113	1.386	1.185	0.667	0.07	0.97	0.256	1.096
PMCP1 0.05	0.05	NA	0.822	0.451	1.959	1.302	1.103	0.608	0.07	0.90	0.256	1.150
PMCP2 0.05	0.05	NA	0.868	0.486	2.071	1.310	1.167	0.636	0.06	0.95	0.239	1.114
PMCP3 0.05	0.05	NA	0.871	0.506	2.105	1.395	1.180	0.671	0.07	0.96	0.256	1.100

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.094	0.001	2.776	0.019	5.558	0.021	3.463	0.013	0.00	0.00	0.000	0.000
FSCAD 0.1*rho	0.094	0.002	2.767	0.019	5.537	0.023	3.451	0.012	0.07	0.00	0.256	0.000
FMCP 0.1*rho	0.094	0.002	2.767	0.019	5.538	0.023	3.451	0.012	0.10	0.00	0.302	0.000
CLASSO 0.1*rho	0.096	0.001	2.827	0.024	5.659	0.034	3.527	0.019	0.03	0.01	0.171	0.100
CSCAD 0.1*rho	0.096	0.002	2.817	0.024	5.638	0.036	3.513	0.019	0.11	0.01	0.314	0.100
CMCP 0.1*rho	0.096	0.002	2.817	0.024	5.636	0.037	3.513	0.020	0.16	0.01	0.368	0.100
PLASSO 0.1*rho	0.040	0.017	0.822	0.256	2.194	0.721	1.117	0.310	0.01	2.64	0.100	1.446
PSCAD1 0.1*rho	0.049	0.027	0.831	0.406	1.973	1.215	1.111	0.561	0.06	0.93	0.239	1.166
PSCAD2 0.1*rho	0.050	0.028	0.854	0.471	2.030	1.244	1.150	0.611	0.07	0.93	0.256	1.094
PSCAD3 0.1*rho	0.050	0.029	0.875	0.502	2.113	1.386	1.185	0.667	0.07	0.97	0.256	1.096
PMCP1 0.1*rho	0.049	0.028	0.822	0.451	1.959	1.302	1.103	0.608	0.07	0.90	0.256	1.150
PMCP2 0.1*rho	0.050	0.028	0.868	0.486	2.071	1.310	1.167	0.636	0.06	0.95	0.239	1.114
PMCP3 0.1*rho	0.050	0.029	0.871	0.506	2.105	1.395	1.180	0.671	0.07	0.96	0.256	1.100

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.283	0.004	2.776	0.019	5.558	0.021	3.463	0.013	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.282	0.007	2.767	0.019	5.537	0.023	3.451	0.012	0.07	0.00	0.256	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.283	0.007	2.767	0.019	5.538	0.023	3.451	0.012	0.10	0.00	0.302	0.000
CLASSO 0.3*rho	0.288	0.004	2.827	0.024	5.658	0.033	3.527	0.019	0.03	0.00	0.171	0.000
CSCAD 0.3*rho	0.289	0.006	2.817	0.024	5.637	0.035	3.513	0.019	0.11	0.00	0.314	0.000
CMCP 0.3*rho	0.288	0.006	2.817	0.024	5.635	0.035	3.513	0.020	0.16	0.00	0.368	0.000
PLASSO 0.3*rho	0.121	0.050	0.822	0.256	2.151	0.723	1.115	0.310	0.01	2.11	0.100	1.428
PSCAD1 0.3*rho	0.146	0.081	0.831	0.406	1.966	1.210	1.111	0.561	0.06	0.89	0.239	1.127
PSCAD2 0.3*rho	0.149	0.084	0.854	0.471	2.025	1.243	1.149	0.611	0.07	0.91	0.256	1.093
PSCAD3 0.3*rho	0.151	0.088	0.875	0.502	2.109	1.385	1.185	0.667	0.07	0.95	0.256	1.095
PMCP1 0.3*rho	0.146	0.085	0.822	0.451	1.954	1.302	1.102	0.608	0.07	0.87	0.256	1.143
PMCP2 0.3*rho	0.150	0.085	0.868	0.486	2.066	1.309	1.167	0.636	0.06	0.93	0.239	1.112
PMCP3 0.3*rho	0.151	0.088	0.871	0.506	2.100	1.394	1.180	0.671	0.07	0.94	0.256	1.099

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.471	0.007	2.776	0.019	5.558	0.021	3.463	0.013	0.00	0.00	0.000	0.000
FSCAD 0.5*rho	0.470	0.011	2.767	0.019	5.537	0.023	3.451	0.012	0.07	0.00	0.256	0.000
FMCP 0.5*rho	0.471	0.011	2.767	0.019	5.538	0.023	3.451	0.012	0.10	0.00	0.302	0.000
CLASSO 0.5*rho	0.479	0.007	2.827	0.024	5.658	0.033	3.527	0.019	0.03	0.00	0.171	0.000
CSCAD 0.5*rho	0.481	0.011	2.817	0.024	5.637	0.035	3.513	0.019	0.11	0.00	0.314	0.000
CMCP 0.5*rho	0.479	0.010	2.817	0.024	5.635	0.035	3.513	0.020	0.16	0.00	0.368	0.000
PLASSO 0.5*rho	0.201	0.083	0.822	0.256	2.071	0.726	1.108	0.312	0.01	1.63	0.100	1.419
PSCAD1 0.5*rho	0.243	0.135	0.831	0.406	1.941	1.184	1.107	0.559	0.06	0.81	0.239	1.051
PSCAD2 0.5*rho	0.249	0.140	0.854	0.471	2.006	1.226	1.146	0.609	0.07	0.86	0.256	1.045
PSCAD3 0.5*rho	0.251	0.147	0.875	0.502	2.091	1.363	1.182	0.665	0.07	0.91	0.256	1.045
PMCP1 0.5*rho	0.243	0.142	0.822	0.451	1.931	1.275	1.099	0.606	0.07	0.81	0.256	1.080
PMCP2 0.5*rho	0.249	0.142	0.868	0.486	2.047	1.303	1.164	0.635	0.06	0.88	0.239	1.076
PMCP3 0.5*rho	0.251	0.147	0.871	0.506	2.083	1.372	1.177	0.670	0.07	0.90	0.256	1.049

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.499	-2.776	-1.849	-0.934	0.002	0.002	0.000	-0.001	0.001
FSCAD	0.499	-2.767	-1.842	-0.928	0.000	0.002	0.000	0.000	0.000
FMCP	0.499	-2.767	-1.841	-0.930	0.002	0.001	-0.001	0.000	0.001
CLASSO	0.674	-2.827	-1.883	-0.948	0.001	0.002	0.001	0.000	0.000
CSCAD	0.666	-2.817	-1.871	-0.949	0.000	-0.001	0.001	-0.001	0.001
CMCP	0.666	-2.817	-1.872	-0.945	0.000	0.001	0.000	-0.001	0.001
PLASSO	0.000	-0.474	-0.318	-0.193	0.062	0.007	0.006	-0.001	-0.024
PSCAD1	0.000	0.264	0.192	0.030	0.042	0.015	-0.011	0.011	-0.013
PSCAD2	0.000	0.310	0.214	0.078	0.034	0.024	-0.011	0.014	-0.023
PSCAD3	0.000	0.333	0.229	0.089	0.034	0.018	-0.009	0.019	-0.037
PMCP1	0.000	0.260	0.194	0.025	0.044	0.013	-0.006	0.008	-0.011
PMCP2	0.000	0.323	0.221	0.087	0.036	0.019	-0.010	0.017	-0.027
PMCP3	0.000	0.341	0.232	0.092	0.036	0.018	-0.013	0.016	-0.037
FULL	0.499	-2.767	-1.844	-0.923	-0.002	0.003	0.000	-0.002	0.002
COMPLETE	0.665	-2.817	-1.876	-0.937	-0.001	0.002	0.002	-0.001	0.000
LOGISTIC	0.000	0.522	0.336	0.210	0.064	0.022	-0.017	-0.021	-0.017

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.016	0.019	0.020	0.022	0.010	0.011	0.012	0.010	0.011
FSCAD	0.016	0.019	0.022	0.031	0.012	0.011	0.013	0.012	0.012
FMCP	0.016	0.019	0.023	0.031	0.011	0.012	0.012	0.011	0.011
CLASSO	0.027	0.024	0.025	0.025	0.013	0.013	0.017	0.014	0.013
CSCAD	0.027	0.024	0.028	0.034	0.011	0.012	0.016	0.014	0.011
CMCP	0.027	0.024	0.028	0.032	0.014	0.015	0.017	0.015	0.014
PLASSO	0.000	0.585	0.459	0.330	0.245	0.247	0.308	0.248	0.220
PSCAD1	0.000	0.710	0.564	0.501	0.254	0.273	0.342	0.262	0.232
PSCAD2	0.000	0.760	0.582	0.494	0.259	0.284	0.345	0.263	0.242
PSCAD3	0.000	0.790	0.589	0.501	0.298	0.307	0.358	0.283	0.274
PMCP1	0.000	0.734	0.583	0.504	0.263	0.253	0.333	0.247	0.224
PMCP2	0.000	0.775	0.586	0.494	0.282	0.293	0.353	0.273	0.250
PMCP3	0.000	0.779	0.590	0.500	0.296	0.312	0.359	0.282	0.274
FULL	0.016	0.019	0.020	0.024	0.021	0.022	0.022	0.022	0.020
COMPLETE	0.027	0.024	0.026	0.025	0.023	0.026	0.025	0.027	0.021
LOGISTIC	0.000	0.842	0.645	0.508	0.442	0.469	0.601	0.497	0.438

```

beta : 3 2 1 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: FALSE
missing_method: xy
missing_location: 3
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_2_1_n_400_lambda_location_l1_30_error_independent_FALSE_x_missing_location_3.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.776	0.019	5.583	0.031	3.464	0.013	0.00	1.62	0.000	1.462
FSCAD	0	0	2.767	0.019	5.559	0.044	3.451	0.012	0.07	1.26	0.256	1.397
FMCP	0	0	2.767	0.019	5.557	0.043	3.452	0.012	0.10	0.82	0.302	1.250
CLASSO	0	0	2.827	0.024	5.693	0.048	3.527	0.019	0.03	2.10	0.171	1.648
CSCAD	0	0	2.817	0.024	5.662	0.056	3.513	0.019	0.11	1.41	0.314	1.319
CMCP	0	0	2.817	0.024	5.665	0.062	3.513	0.020	0.16	1.20	0.368	1.511
PLASSO	0	0	0.822	0.256	2.203	0.721	1.117	0.310	0.01	3.04	0.100	1.325
PSCAD1	0	0	0.831	0.406	1.973	1.216	1.111	0.561	0.06	0.94	0.239	1.188
PSCAD2	0	0	0.854	0.471	2.030	1.244	1.150	0.611	0.07	0.93	0.256	1.094
PSCAD3	0	0	0.875	0.502	2.113	1.386	1.185	0.667	0.07	0.97	0.256	1.096
PMCP1	0	0	0.822	0.451	1.959	1.302	1.103	0.608	0.07	0.90	0.256	1.150
PMCP2	0	0	0.868	0.486	2.071	1.310	1.167	0.636	0.06	0.95	0.239	1.114
PMCP3	0	0	0.871	0.506	2.105	1.395	1.180	0.671	0.07	0.96	0.256	1.100

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.776	0.019	5.559	0.022	3.463	0.013	0.00	0.02	0.000	0.141

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.767	0.019	5.540	0.027	3.451	0.012	0.07	0.05	0.256	0.261
FMCP 0.05	0.05	NA	2.767	0.019	5.541	0.027	3.452	0.012	0.10	0.05	0.302	0.261
CLASSO 0.05	0.05	NA	2.827	0.024	5.661	0.034	3.527	0.019	0.03	0.04	0.171	0.197
CSCAD 0.05	0.05	NA	2.817	0.024	5.641	0.039	3.513	0.019	0.11	0.06	0.314	0.239
CMCP 0.05	0.05	NA	2.817	0.024	5.638	0.040	3.513	0.020	0.16	0.04	0.368	0.243
PLASSO 0.05	0.05	NA	0.822	0.256	2.190	0.723	1.117	0.310	0.01	2.54	0.100	1.445
PSCAD1 0.05	0.05	NA	0.831	0.406	1.972	1.215	1.111	0.561	0.06	0.92	0.239	1.152
PSCAD2 0.05	0.05	NA	0.854	0.471	2.030	1.244	1.150	0.611	0.07	0.93	0.256	1.094
PSCAD3 0.05	0.05	NA	0.875	0.502	2.113	1.386	1.185	0.667	0.07	0.97	0.256	1.096
PMCP1 0.05	0.05	NA	0.822	0.451	1.959	1.302	1.103	0.608	0.07	0.90	0.256	1.150
PMCP2 0.05	0.05	NA	0.868	0.486	2.071	1.310	1.167	0.636	0.06	0.95	0.239	1.114
PMCP3 0.05	0.05	NA	0.871	0.506	2.105	1.395	1.180	0.671	0.07	0.96	0.256	1.100

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.094	0.001	2.776	0.019	5.558	0.021	3.463	0.013	0.00	0.00	0.000	0.000
FSCAD 0.1*rho	0.094	0.002	2.767	0.019	5.537	0.023	3.451	0.012	0.07	0.00	0.256	0.000
FMCP 0.1*rho	0.094	0.002	2.767	0.019	5.538	0.023	3.451	0.012	0.10	0.00	0.302	0.000
CLASSO 0.1*rho	0.096	0.001	2.827	0.024	5.659	0.034	3.527	0.019	0.03	0.01	0.171	0.100
CSCAD 0.1*rho	0.096	0.002	2.817	0.024	5.638	0.036	3.513	0.019	0.11	0.01	0.314	0.100
CMCP 0.1*rho	0.096	0.002	2.817	0.024	5.636	0.037	3.513	0.020	0.16	0.01	0.368	0.100
PLASSO 0.1*rho	0.040	0.017	0.822	0.256	2.194	0.721	1.117	0.310	0.01	2.64	0.100	1.446
PSCAD1 0.1*rho	0.049	0.027	0.831	0.406	1.973	1.215	1.111	0.561	0.06	0.93	0.239	1.166
PSCAD2 0.1*rho	0.050	0.028	0.854	0.471	2.030	1.244	1.150	0.611	0.07	0.93	0.256	1.094
PSCAD3 0.1*rho	0.050	0.029	0.875	0.502	2.113	1.386	1.185	0.667	0.07	0.97	0.256	1.096
PMCP1 0.1*rho	0.049	0.028	0.822	0.451	1.959	1.302	1.103	0.608	0.07	0.90	0.256	1.150
PMCP2 0.1*rho	0.050	0.028	0.868	0.486	2.071	1.310	1.167	0.636	0.06	0.95	0.239	1.114
PMCP3 0.1*rho	0.050	0.029	0.871	0.506	2.105	1.395	1.180	0.671	0.07	0.96	0.256	1.100

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.283	0.004	2.776	0.019	5.558	0.021	3.463	0.013	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.282	0.007	2.767	0.019	5.537	0.023	3.451	0.012	0.07	0.00	0.256	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.283	0.007	2.767	0.019	5.538	0.023	3.451	0.012	0.10	0.00	0.302	0.000
CLASSO 0.3*rho	0.288	0.004	2.827	0.024	5.658	0.033	3.527	0.019	0.03	0.00	0.171	0.000
CSCAD 0.3*rho	0.289	0.006	2.817	0.024	5.637	0.035	3.513	0.019	0.11	0.00	0.314	0.000
CMCP 0.3*rho	0.288	0.006	2.817	0.024	5.635	0.035	3.513	0.020	0.16	0.00	0.368	0.000
PLASSO 0.3*rho	0.121	0.050	0.822	0.256	2.151	0.723	1.115	0.310	0.01	2.11	0.100	1.428
PSCAD1 0.3*rho	0.146	0.081	0.831	0.406	1.966	1.210	1.111	0.561	0.06	0.89	0.239	1.127
PSCAD2 0.3*rho	0.149	0.084	0.854	0.471	2.025	1.243	1.149	0.611	0.07	0.91	0.256	1.093
PSCAD3 0.3*rho	0.151	0.088	0.875	0.502	2.109	1.385	1.185	0.667	0.07	0.95	0.256	1.095
PMCP1 0.3*rho	0.146	0.085	0.822	0.451	1.954	1.302	1.102	0.608	0.07	0.87	0.256	1.143
PMCP2 0.3*rho	0.150	0.085	0.868	0.486	2.066	1.309	1.167	0.636	0.06	0.93	0.239	1.112
PMCP3 0.3*rho	0.151	0.088	0.871	0.506	2.100	1.394	1.180	0.671	0.07	0.94	0.256	1.099

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.471	0.007	2.776	0.019	5.558	0.021	3.463	0.013	0.00	0.00	0.000	0.000
FSCAD 0.5*rho	0.470	0.011	2.767	0.019	5.537	0.023	3.451	0.012	0.07	0.00	0.256	0.000
FMCP 0.5*rho	0.471	0.011	2.767	0.019	5.538	0.023	3.451	0.012	0.10	0.00	0.302	0.000
CLASSO 0.5*rho	0.479	0.007	2.827	0.024	5.658	0.033	3.527	0.019	0.03	0.00	0.171	0.000
CSCAD 0.5*rho	0.481	0.011	2.817	0.024	5.637	0.035	3.513	0.019	0.11	0.00	0.314	0.000
CMCP 0.5*rho	0.479	0.010	2.817	0.024	5.635	0.035	3.513	0.020	0.16	0.00	0.368	0.000
PLASSO 0.5*rho	0.201	0.083	0.822	0.256	2.071	0.726	1.108	0.312	0.01	1.63	0.100	1.419
PSCAD1 0.5*rho	0.243	0.135	0.831	0.406	1.941	1.184	1.107	0.559	0.06	0.81	0.239	1.051
PSCAD2 0.5*rho	0.249	0.140	0.854	0.471	2.006	1.226	1.146	0.609	0.07	0.86	0.256	1.045
PSCAD3 0.5*rho	0.251	0.147	0.875	0.502	2.091	1.363	1.182	0.665	0.07	0.91	0.256	1.045
PMCP1 0.5*rho	0.243	0.142	0.822	0.451	1.931	1.275	1.099	0.606	0.07	0.81	0.256	1.080
PMCP2 0.5*rho	0.249	0.142	0.868	0.486	2.047	1.303	1.164	0.635	0.06	0.88	0.239	1.076
PMCP3 0.5*rho	0.251	0.147	0.871	0.506	2.083	1.372	1.177	0.670	0.07	0.90	0.256	1.049

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.499	-2.776	-1.849	-0.934	0.002	0.002	0.000	-0.001	0.001
FSCAD	0.499	-2.767	-1.842	-0.928	0.000	0.002	0.000	0.000	0.000
FMCP	0.499	-2.767	-1.841	-0.930	0.002	0.001	-0.001	0.000	0.001
CLASSO	0.674	-2.827	-1.883	-0.948	0.001	0.002	0.001	0.000	0.000
CSCAD	0.666	-2.817	-1.871	-0.949	0.000	-0.001	0.001	-0.001	0.001
CMCP	0.666	-2.817	-1.872	-0.945	0.000	0.001	0.000	-0.001	0.001
PLASSO	0.000	-0.474	-0.318	-0.193	0.062	0.007	0.006	-0.001	-0.024
PSCAD1	0.000	0.264	0.192	0.030	0.042	0.015	-0.011	0.011	-0.013
PSCAD2	0.000	0.310	0.214	0.078	0.034	0.024	-0.011	0.014	-0.023
PSCAD3	0.000	0.333	0.229	0.089	0.034	0.018	-0.009	0.019	-0.037
PMCP1	0.000	0.260	0.194	0.025	0.044	0.013	-0.006	0.008	-0.011
PMCP2	0.000	0.323	0.221	0.087	0.036	0.019	-0.010	0.017	-0.027
PMCP3	0.000	0.341	0.232	0.092	0.036	0.018	-0.013	0.016	-0.037
FULL	0.499	-2.767	-1.844	-0.923	-0.002	0.003	0.000	-0.002	0.002
COMPLETE	0.665	-2.817	-1.876	-0.937	-0.001	0.002	0.002	-0.001	0.000
LOGISTIC	0.000	0.522	0.336	0.210	0.064	0.022	-0.017	-0.021	-0.017

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.016	0.019	0.020	0.022	0.010	0.011	0.012	0.010	0.011
FSCAD	0.016	0.019	0.022	0.031	0.012	0.011	0.013	0.012	0.012
FMCP	0.016	0.019	0.023	0.031	0.011	0.012	0.012	0.011	0.011
CLASSO	0.027	0.024	0.025	0.025	0.013	0.013	0.017	0.014	0.013
CSCAD	0.027	0.024	0.028	0.034	0.011	0.012	0.016	0.014	0.011
CMCP	0.027	0.024	0.028	0.032	0.014	0.015	0.017	0.015	0.014
PLASSO	0.000	0.585	0.459	0.330	0.245	0.247	0.308	0.248	0.220
PSCAD1	0.000	0.710	0.564	0.501	0.254	0.273	0.342	0.262	0.232
PSCAD2	0.000	0.760	0.582	0.494	0.259	0.284	0.345	0.263	0.242
PSCAD3	0.000	0.790	0.589	0.501	0.298	0.307	0.358	0.283	0.274
PMCP1	0.000	0.734	0.583	0.504	0.263	0.253	0.333	0.247	0.224
PMCP2	0.000	0.775	0.586	0.494	0.282	0.293	0.353	0.273	0.250
PMCP3	0.000	0.779	0.590	0.500	0.296	0.312	0.359	0.282	0.274
FULL	0.016	0.019	0.020	0.024	0.021	0.022	0.022	0.022	0.020
COMPLETE	0.027	0.024	0.026	0.025	0.023	0.026	0.025	0.027	0.021
LOGISTIC	0.000	0.842	0.645	0.508	0.442	0.469	0.601	0.497	0.438

```

beta : 3 2 1 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: FALSE
missing_method: xy
missing_location: 8
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_2_1_n_400_lambda_location_l1_30_error_independent_FALSE_x_missing_location_8.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.776	0.019	5.583	0.031	3.464	0.013	0.00	1.62	0.000	1.462
FSCAD	0	0	2.767	0.019	5.559	0.044	3.451	0.012	0.07	1.26	0.256	1.397
FMCP	0	0	2.767	0.019	5.557	0.043	3.452	0.012	0.10	0.82	0.302	1.250
CLASSO	0	0	2.827	0.024	5.693	0.048	3.527	0.019	0.03	2.10	0.171	1.648
CSCAD	0	0	2.817	0.024	5.662	0.056	3.513	0.019	0.11	1.41	0.314	1.319
CMCP	0	0	2.817	0.024	5.665	0.062	3.513	0.020	0.16	1.20	0.368	1.511
PLASSO	0	0	0.822	0.256	2.203	0.721	1.117	0.310	0.01	3.04	0.100	1.325
PSCAD1	0	0	0.831	0.406	1.973	1.216	1.111	0.561	0.06	0.94	0.239	1.188
PSCAD2	0	0	0.854	0.471	2.030	1.244	1.150	0.611	0.07	0.93	0.256	1.094
PSCAD3	0	0	0.875	0.502	2.113	1.386	1.185	0.667	0.07	0.97	0.256	1.096
PMCP1	0	0	0.822	0.451	1.959	1.302	1.103	0.608	0.07	0.90	0.256	1.150
PMCP2	0	0	0.868	0.486	2.071	1.310	1.167	0.636	0.06	0.95	0.239	1.114
PMCP3	0	0	0.871	0.506	2.105	1.395	1.180	0.671	0.07	0.96	0.256	1.100

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.776	0.019	5.559	0.022	3.463	0.013	0.00	0.02	0.000	0.141

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.767	0.019	5.540	0.027	3.451	0.012	0.07	0.05	0.256	0.261
FMCP 0.05	0.05	NA	2.767	0.019	5.541	0.027	3.452	0.012	0.10	0.05	0.302	0.261
CLASSO 0.05	0.05	NA	2.827	0.024	5.661	0.034	3.527	0.019	0.03	0.04	0.171	0.197
CSCAD 0.05	0.05	NA	2.817	0.024	5.641	0.039	3.513	0.019	0.11	0.06	0.314	0.239
CMCP 0.05	0.05	NA	2.817	0.024	5.638	0.040	3.513	0.020	0.16	0.04	0.368	0.243
PLASSO 0.05	0.05	NA	0.822	0.256	2.190	0.723	1.117	0.310	0.01	2.54	0.100	1.445
PSCAD1 0.05	0.05	NA	0.831	0.406	1.972	1.215	1.111	0.561	0.06	0.92	0.239	1.152
PSCAD2 0.05	0.05	NA	0.854	0.471	2.030	1.244	1.150	0.611	0.07	0.93	0.256	1.094
PSCAD3 0.05	0.05	NA	0.875	0.502	2.113	1.386	1.185	0.667	0.07	0.97	0.256	1.096
PMCP1 0.05	0.05	NA	0.822	0.451	1.959	1.302	1.103	0.608	0.07	0.90	0.256	1.150
PMCP2 0.05	0.05	NA	0.868	0.486	2.071	1.310	1.167	0.636	0.06	0.95	0.239	1.114
PMCP3 0.05	0.05	NA	0.871	0.506	2.105	1.395	1.180	0.671	0.07	0.96	0.256	1.100

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.094	0.001	2.776	0.019	5.558	0.021	3.463	0.013	0.00	0.00	0.000	0.000
FSCAD 0.1*rho	0.094	0.002	2.767	0.019	5.537	0.023	3.451	0.012	0.07	0.00	0.256	0.000
FMCP 0.1*rho	0.094	0.002	2.767	0.019	5.538	0.023	3.451	0.012	0.10	0.00	0.302	0.000
CLASSO 0.1*rho	0.096	0.001	2.827	0.024	5.659	0.034	3.527	0.019	0.03	0.01	0.171	0.100
CSCAD 0.1*rho	0.096	0.002	2.817	0.024	5.638	0.036	3.513	0.019	0.11	0.01	0.314	0.100
CMCP 0.1*rho	0.096	0.002	2.817	0.024	5.636	0.037	3.513	0.020	0.16	0.01	0.368	0.100
PLASSO 0.1*rho	0.040	0.017	0.822	0.256	2.194	0.721	1.117	0.310	0.01	2.64	0.100	1.446
PSCAD1 0.1*rho	0.049	0.027	0.831	0.406	1.973	1.215	1.111	0.561	0.06	0.93	0.239	1.166
PSCAD2 0.1*rho	0.050	0.028	0.854	0.471	2.030	1.244	1.150	0.611	0.07	0.93	0.256	1.094
PSCAD3 0.1*rho	0.050	0.029	0.875	0.502	2.113	1.386	1.185	0.667	0.07	0.97	0.256	1.096
PMCP1 0.1*rho	0.049	0.028	0.822	0.451	1.959	1.302	1.103	0.608	0.07	0.90	0.256	1.150
PMCP2 0.1*rho	0.050	0.028	0.868	0.486	2.071	1.310	1.167	0.636	0.06	0.95	0.239	1.114
PMCP3 0.1*rho	0.050	0.029	0.871	0.506	2.105	1.395	1.180	0.671	0.07	0.96	0.256	1.100

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.283	0.004	2.776	0.019	5.558	0.021	3.463	0.013	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.282	0.007	2.767	0.019	5.537	0.023	3.451	0.012	0.07	0.00	0.256	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.283	0.007	2.767	0.019	5.538	0.023	3.451	0.012	0.10	0.00	0.302	0.000
CLASSO 0.3*rho	0.288	0.004	2.827	0.024	5.658	0.033	3.527	0.019	0.03	0.00	0.171	0.000
CSCAD 0.3*rho	0.289	0.006	2.817	0.024	5.637	0.035	3.513	0.019	0.11	0.00	0.314	0.000
CMCP 0.3*rho	0.288	0.006	2.817	0.024	5.635	0.035	3.513	0.020	0.16	0.00	0.368	0.000
PLASSO 0.3*rho	0.121	0.050	0.822	0.256	2.151	0.723	1.115	0.310	0.01	2.11	0.100	1.428
PSCAD1 0.3*rho	0.146	0.081	0.831	0.406	1.966	1.210	1.111	0.561	0.06	0.89	0.239	1.127
PSCAD2 0.3*rho	0.149	0.084	0.854	0.471	2.025	1.243	1.149	0.611	0.07	0.91	0.256	1.093
PSCAD3 0.3*rho	0.151	0.088	0.875	0.502	2.109	1.385	1.185	0.667	0.07	0.95	0.256	1.095
PMCP1 0.3*rho	0.146	0.085	0.822	0.451	1.954	1.302	1.102	0.608	0.07	0.87	0.256	1.143
PMCP2 0.3*rho	0.150	0.085	0.868	0.486	2.066	1.309	1.167	0.636	0.06	0.93	0.239	1.112
PMCP3 0.3*rho	0.151	0.088	0.871	0.506	2.100	1.394	1.180	0.671	0.07	0.94	0.256	1.099

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.471	0.007	2.776	0.019	5.558	0.021	3.463	0.013	0.00	0.00	0.000	0.000
FSCAD 0.5*rho	0.470	0.011	2.767	0.019	5.537	0.023	3.451	0.012	0.07	0.00	0.256	0.000
FMCP 0.5*rho	0.471	0.011	2.767	0.019	5.538	0.023	3.451	0.012	0.10	0.00	0.302	0.000
CLASSO 0.5*rho	0.479	0.007	2.827	0.024	5.658	0.033	3.527	0.019	0.03	0.00	0.171	0.000
CSCAD 0.5*rho	0.481	0.011	2.817	0.024	5.637	0.035	3.513	0.019	0.11	0.00	0.314	0.000
CMCP 0.5*rho	0.479	0.010	2.817	0.024	5.635	0.035	3.513	0.020	0.16	0.00	0.368	0.000
PLASSO 0.5*rho	0.201	0.083	0.822	0.256	2.071	0.726	1.108	0.312	0.01	1.63	0.100	1.419
PSCAD1 0.5*rho	0.243	0.135	0.831	0.406	1.941	1.184	1.107	0.559	0.06	0.81	0.239	1.051
PSCAD2 0.5*rho	0.249	0.140	0.854	0.471	2.006	1.226	1.146	0.609	0.07	0.86	0.256	1.045
PSCAD3 0.5*rho	0.251	0.147	0.875	0.502	2.091	1.363	1.182	0.665	0.07	0.91	0.256	1.045
PMCP1 0.5*rho	0.243	0.142	0.822	0.451	1.931	1.275	1.099	0.606	0.07	0.81	0.256	1.080
PMCP2 0.5*rho	0.249	0.142	0.868	0.486	2.047	1.303	1.164	0.635	0.06	0.88	0.239	1.076
PMCP3 0.5*rho	0.251	0.147	0.871	0.506	2.083	1.372	1.177	0.670	0.07	0.90	0.256	1.049

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.499	-2.776	-1.849	-0.934	0.002	0.002	0.000	-0.001	0.001
FSCAD	0.499	-2.767	-1.842	-0.928	0.000	0.002	0.000	0.000	0.000
FMCP	0.499	-2.767	-1.841	-0.930	0.002	0.001	-0.001	0.000	0.001
CLASSO	0.674	-2.827	-1.883	-0.948	0.001	0.002	0.001	0.000	0.000
CSCAD	0.666	-2.817	-1.871	-0.949	0.000	-0.001	0.001	-0.001	0.001
CMCP	0.666	-2.817	-1.872	-0.945	0.000	0.001	0.000	-0.001	0.001
PLASSO	0.000	-0.474	-0.318	-0.193	0.062	0.007	0.006	-0.001	-0.024
PSCAD1	0.000	0.264	0.192	0.030	0.042	0.015	-0.011	0.011	-0.013
PSCAD2	0.000	0.310	0.214	0.078	0.034	0.024	-0.011	0.014	-0.023
PSCAD3	0.000	0.333	0.229	0.089	0.034	0.018	-0.009	0.019	-0.037
PMCP1	0.000	0.260	0.194	0.025	0.044	0.013	-0.006	0.008	-0.011
PMCP2	0.000	0.323	0.221	0.087	0.036	0.019	-0.010	0.017	-0.027
PMCP3	0.000	0.341	0.232	0.092	0.036	0.018	-0.013	0.016	-0.037
FULL	0.499	-2.767	-1.844	-0.923	-0.002	0.003	0.000	-0.002	0.002
COMPLETE	0.665	-2.817	-1.876	-0.937	-0.001	0.002	0.002	-0.001	0.000
LOGISTIC	0.000	0.522	0.336	0.210	0.064	0.022	-0.017	-0.021	-0.017

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.016	0.019	0.020	0.022	0.010	0.011	0.012	0.010	0.011
FSCAD	0.016	0.019	0.022	0.031	0.012	0.011	0.013	0.012	0.012
FMCP	0.016	0.019	0.023	0.031	0.011	0.012	0.012	0.011	0.011
CLASSO	0.027	0.024	0.025	0.025	0.013	0.013	0.017	0.014	0.013
CSCAD	0.027	0.024	0.028	0.034	0.011	0.012	0.016	0.014	0.011
CMCP	0.027	0.024	0.028	0.032	0.014	0.015	0.017	0.015	0.014
PLASSO	0.000	0.585	0.459	0.330	0.245	0.247	0.308	0.248	0.220
PSCAD1	0.000	0.710	0.564	0.501	0.254	0.273	0.342	0.262	0.232
PSCAD2	0.000	0.760	0.582	0.494	0.259	0.284	0.345	0.263	0.242
PSCAD3	0.000	0.790	0.589	0.501	0.298	0.307	0.358	0.283	0.274
PMCP1	0.000	0.734	0.583	0.504	0.263	0.253	0.333	0.247	0.224
PMCP2	0.000	0.775	0.586	0.494	0.282	0.293	0.353	0.273	0.250
PMCP3	0.000	0.779	0.590	0.500	0.296	0.312	0.359	0.282	0.274
FULL	0.016	0.019	0.020	0.024	0.021	0.022	0.022	0.022	0.020
COMPLETE	0.027	0.024	0.026	0.025	0.023	0.026	0.025	0.027	0.021
LOGISTIC	0.000	0.842	0.645	0.508	0.442	0.469	0.601	0.497	0.438

```

beta : 3 2 1 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 1
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_2_1_n_400_lambda_location_l1_30_error_independent_TRUE_x_missing_location_1.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.724	0.016	5.483	0.030	3.400	0.014	0.00	2.26	0.000	1.360
FSCAD	0	0	2.712	0.016	5.438	0.037	3.381	0.013	0.00	1.12	0.000	1.343
FMCP	0	0	2.712	0.016	5.435	0.037	3.382	0.014	0.00	0.65	0.000	1.158
CLASSO	0	0	2.789	0.020	5.624	0.043	3.480	0.021	0.00	2.84	0.000	1.426
CSCAD	0	0	2.776	0.020	5.581	0.057	3.462	0.021	0.00	1.59	0.000	1.525
CMCP	0	0	2.776	0.020	5.575	0.055	3.462	0.021	0.03	0.98	0.171	1.271
PLASSO	0	0	0.691	0.282	1.830	0.597	0.931	0.328	0.00	3.31	0.000	1.220
PSCAD1	0	0	0.703	0.389	1.593	1.023	0.915	0.517	0.02	0.82	0.141	1.058
PSCAD2	0	0	0.732	0.406	1.657	1.028	0.955	0.528	0.02	0.79	0.141	0.935
PSCAD3	0	0	0.733	0.408	1.663	1.044	0.957	0.535	0.02	0.81	0.141	0.929
PMCP1	0	0	0.693	0.393	1.567	1.022	0.903	0.519	0.02	0.79	0.141	0.998
PMCP2	0	0	0.741	0.398	1.703	1.015	0.973	0.520	0.02	0.85	0.141	0.989
PMCP3	0	0	0.729	0.406	1.664	1.032	0.957	0.531	0.01	0.83	0.100	0.954

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.724	0.016	5.456	0.025	3.400	0.014	0.00	0.01	0.000	0.100

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.712	0.016	5.421	0.023	3.381	0.013	0.00	0.00	0.000	0.000
FMCP 0.05	0.05	NA	2.712	0.016	5.423	0.026	3.382	0.014	0.00	0.01	0.000	0.100
CLASSO 0.05	0.05	NA	2.789	0.020	5.584	0.037	3.480	0.021	0.00	0.01	0.000	0.100
CSCAD 0.05	0.05	NA	2.776	0.020	5.556	0.043	3.462	0.021	0.00	0.06	0.000	0.278
CMCP 0.05	0.05	NA	2.776	0.020	5.555	0.042	3.462	0.021	0.03	0.04	0.171	0.197
PLASSO 0.05	0.05	NA	0.691	0.282	1.814	0.603	0.931	0.328	0.00	2.67	0.000	1.264
PSCAD1 0.05	0.05	NA	0.703	0.389	1.592	1.023	0.915	0.517	0.02	0.80	0.141	1.005
PSCAD2 0.05	0.05	NA	0.732	0.406	1.656	1.028	0.955	0.528	0.02	0.78	0.141	0.927
PSCAD3 0.05	0.05	NA	0.733	0.408	1.663	1.043	0.957	0.535	0.02	0.80	0.141	0.921
PMCP1 0.05	0.05	NA	0.693	0.393	1.567	1.022	0.903	0.519	0.02	0.78	0.141	0.980
PMCP2 0.05	0.05	NA	0.741	0.398	1.703	1.015	0.973	0.520	0.02	0.85	0.141	0.989
PMCP3 0.05	0.05	NA	0.729	0.406	1.664	1.032	0.957	0.531	0.01	0.83	0.100	0.954

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.092	0.001	2.724	0.016	5.455	0.025	3.400	0.014	0.00	0.00	0.000	0.000
FSCAD 0.1*rho	0.091	0.001	2.712	0.016	5.421	0.023	3.381	0.013	0.00	0.00	0.000	0.000
FMCP 0.1*rho	0.091	0.001	2.712	0.016	5.422	0.025	3.382	0.014	0.00	0.00	0.000	0.000
CLASSO 0.1*rho	0.094	0.001	2.789	0.020	5.583	0.036	3.480	0.021	0.00	0.00	0.000	0.000
CSCAD 0.1*rho	0.094	0.002	2.776	0.020	5.553	0.040	3.462	0.021	0.00	0.00	0.000	0.000
CMCP 0.1*rho	0.094	0.002	2.776	0.020	5.553	0.039	3.461	0.021	0.03	0.00	0.171	0.000
PLASSO 0.1*rho	0.033	0.015	0.691	0.282	1.823	0.597	0.931	0.328	0.00	2.91	0.000	1.311
PSCAD1 0.1*rho	0.037	0.021	0.703	0.389	1.593	1.023	0.915	0.517	0.02	0.81	0.141	1.022
PSCAD2 0.1*rho	0.038	0.021	0.732	0.406	1.657	1.028	0.955	0.528	0.02	0.79	0.141	0.935
PSCAD3 0.1*rho	0.037	0.022	0.733	0.408	1.663	1.043	0.957	0.535	0.02	0.80	0.141	0.921
PMCP1 0.1*rho	0.036	0.021	0.693	0.393	1.567	1.022	0.903	0.519	0.02	0.78	0.141	0.980
PMCP2 0.1*rho	0.037	0.022	0.741	0.398	1.703	1.015	0.973	0.520	0.02	0.85	0.141	0.989
PMCP3 0.1*rho	0.036	0.021	0.729	0.406	1.664	1.032	0.957	0.531	0.01	0.83	0.100	0.954

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.276	0.003	2.724	0.016	5.455	0.025	3.400	0.014	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.274	0.003	2.712	0.016	5.421	0.023	3.381	0.013	0.00	0.00	0.000	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.274	0.004	2.712	0.016	5.422	0.025	3.382	0.014	0.00	0.00	0.000	0.000
CLASSO 0.3*rho	0.283	0.004	2.789	0.020	5.583	0.036	3.480	0.021	0.00	0.00	0.000	0.000
CSCAD 0.3*rho	0.282	0.006	2.776	0.020	5.553	0.040	3.462	0.021	0.00	0.00	0.000	0.000
CMCP 0.3*rho	0.282	0.005	2.776	0.020	5.553	0.039	3.461	0.021	0.03	0.00	0.171	0.000
PLASSO 0.3*rho	0.099	0.045	0.691	0.282	1.760	0.585	0.928	0.328	0.00	2.02	0.000	1.456
PSCAD1 0.3*rho	0.110	0.064	0.703	0.389	1.591	1.023	0.915	0.517	0.02	0.78	0.141	0.991
PSCAD2 0.3*rho	0.113	0.064	0.732	0.406	1.655	1.026	0.955	0.528	0.02	0.78	0.141	0.927
PSCAD3 0.3*rho	0.111	0.067	0.733	0.408	1.663	1.043	0.957	0.535	0.02	0.80	0.141	0.921
PMCP1 0.3*rho	0.107	0.063	0.693	0.393	1.565	1.019	0.903	0.519	0.02	0.77	0.141	0.973
PMCP2 0.3*rho	0.111	0.066	0.741	0.398	1.700	1.005	0.973	0.520	0.02	0.84	0.141	0.972
PMCP3 0.3*rho	0.109	0.064	0.729	0.406	1.664	1.032	0.957	0.531	0.01	0.83	0.100	0.954

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.460	0.005	2.724	0.016	5.455	0.025	3.400	0.014	0.00	0.00	0.000	0.000
FSCAD 0.5*rho	0.456	0.005	2.712	0.016	5.421	0.023	3.381	0.013	0.00	0.00	0.000	0.000
FMCP 0.5*rho	0.457	0.006	2.712	0.016	5.422	0.025	3.382	0.014	0.00	0.00	0.000	0.000
CLASSO 0.5*rho	0.471	0.006	2.789	0.020	5.583	0.036	3.480	0.021	0.00	0.00	0.000	0.000
CSCAD 0.5*rho	0.470	0.010	2.776	0.020	5.553	0.040	3.462	0.021	0.00	0.00	0.000	0.000
CMCP 0.5*rho	0.470	0.009	2.776	0.020	5.553	0.039	3.461	0.021	0.03	0.00	0.171	0.000
PLASSO 0.5*rho	0.165	0.075	0.691	0.282	1.697	0.565	0.923	0.327	0.00	1.58	0.000	1.430
PSCAD1 0.5*rho	0.183	0.106	0.703	0.389	1.576	0.987	0.914	0.515	0.02	0.73	0.141	0.962
PSCAD2 0.5*rho	0.188	0.107	0.732	0.406	1.644	0.994	0.954	0.526	0.02	0.74	0.141	0.895
PSCAD3 0.5*rho	0.185	0.112	0.733	0.408	1.652	1.012	0.956	0.533	0.02	0.77	0.141	0.897
PMCP1 0.5*rho	0.178	0.105	0.693	0.393	1.555	0.985	0.902	0.517	0.02	0.74	0.141	0.949
PMCP2 0.5*rho	0.185	0.111	0.741	0.398	1.691	0.985	0.972	0.518	0.02	0.81	0.141	0.961
PMCP3 0.5*rho	0.181	0.107	0.729	0.406	1.653	1.000	0.956	0.529	0.01	0.80	0.100	0.932

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.500	-2.724	-1.818	-0.913	0.001	-0.002	0.000	-0.001	0.001
FSCAD	0.500	-2.712	-1.806	-0.902	0.000	-0.001	-0.001	-0.001	0.000
FMCP	0.500	-2.712	-1.806	-0.904	0.000	-0.002	-0.001	0.000	0.001
CLASSO	0.687	-2.789	-1.859	-0.935	-0.002	-0.001	0.001	-0.003	0.003
CSCAD	0.679	-2.776	-1.847	-0.930	-0.001	-0.001	0.001	-0.002	0.003
CMCP	0.678	-2.776	-1.847	-0.931	-0.001	-0.001	0.000	-0.001	0.002
PLASSO	0.000	-0.477	-0.314	-0.202	-0.035	-0.024	0.000	-0.012	0.016
PSCAD1	0.000	0.249	0.207	0.054	-0.012	-0.001	0.002	-0.013	0.032
PSCAD2	0.000	0.290	0.235	0.084	-0.018	-0.005	-0.004	-0.010	0.035
PSCAD3	0.000	0.318	0.251	0.111	-0.020	-0.010	-0.001	-0.009	0.038
PMCP1	0.000	0.238	0.202	0.043	-0.015	-0.002	0.001	-0.004	0.031
PMCP2	0.000	0.290	0.229	0.084	-0.027	-0.005	0.001	-0.015	0.036
PMCP3	0.000	0.308	0.248	0.102	-0.032	-0.004	0.003	-0.012	0.037
FULL	0.500	-2.712	-1.806	-0.901	-0.001	-0.004	0.001	-0.002	0.002
COMPLETE	0.677	-2.775	-1.847	-0.923	-0.005	-0.002	0.001	-0.002	0.004
LOGISTIC	0.000	0.439	0.333	0.167	-0.067	-0.014	0.015	-0.015	0.026

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.019	0.016	0.016	0.016	0.010	0.011	0.010	0.012	0.009
FSCAD	0.019	0.016	0.016	0.017	0.008	0.009	0.010	0.011	0.008
FMCP	0.019	0.016	0.016	0.019	0.008	0.009	0.009	0.010	0.007
CLASSO	0.025	0.020	0.020	0.018	0.012	0.015	0.013	0.015	0.014
CSCAD	0.026	0.020	0.020	0.026	0.009	0.014	0.013	0.014	0.014
CMCP	0.026	0.020	0.020	0.026	0.010	0.014	0.010	0.013	0.012
PLASSO	0.000	0.496	0.360	0.251	0.174	0.195	0.178	0.192	0.188
PSCAD1	0.000	0.646	0.479	0.366	0.176	0.230	0.204	0.218	0.223
PSCAD2	0.000	0.666	0.479	0.370	0.191	0.235	0.224	0.221	0.227
PSCAD3	0.000	0.652	0.469	0.362	0.198	0.236	0.224	0.236	0.234
PMCP1	0.000	0.643	0.480	0.360	0.167	0.227	0.204	0.222	0.218
PMCP2	0.000	0.670	0.484	0.368	0.212	0.235	0.215	0.241	0.240
PMCP3	0.000	0.652	0.473	0.350	0.210	0.236	0.221	0.240	0.241
FULL	0.019	0.016	0.016	0.016	0.017	0.018	0.016	0.019	0.016
COMPLETE	0.026	0.020	0.020	0.019	0.019	0.022	0.020	0.021	0.021
LOGISTIC	0.000	0.682	0.482	0.337	0.296	0.327	0.317	0.321	0.312

```

beta : 3 2 1 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 3
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_2_1_n_400_lambda_location_l1_30_error_independent_TRUE_x_missing_location_3.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.724	0.016	5.483	0.030	3.400	0.014	0.00	2.26	0.000	1.360
FSCAD	0	0	2.712	0.016	5.438	0.037	3.381	0.013	0.00	1.12	0.000	1.343
FMCP	0	0	2.712	0.016	5.435	0.037	3.382	0.014	0.00	0.65	0.000	1.158
CLASSO	0	0	2.789	0.020	5.624	0.043	3.480	0.021	0.00	2.84	0.000	1.426
CSCAD	0	0	2.776	0.020	5.581	0.057	3.462	0.021	0.00	1.59	0.000	1.525
CMCP	0	0	2.776	0.020	5.575	0.055	3.462	0.021	0.03	0.98	0.171	1.271
PLASSO	0	0	0.691	0.282	1.830	0.597	0.931	0.328	0.00	3.31	0.000	1.220
PSCAD1	0	0	0.703	0.389	1.593	1.023	0.915	0.517	0.02	0.82	0.141	1.058
PSCAD2	0	0	0.732	0.406	1.657	1.028	0.955	0.528	0.02	0.79	0.141	0.935
PSCAD3	0	0	0.733	0.408	1.663	1.044	0.957	0.535	0.02	0.81	0.141	0.929
PMCP1	0	0	0.693	0.393	1.567	1.022	0.903	0.519	0.02	0.79	0.141	0.998
PMCP2	0	0	0.741	0.398	1.703	1.015	0.973	0.520	0.02	0.85	0.141	0.989
PMCP3	0	0	0.729	0.406	1.664	1.032	0.957	0.531	0.01	0.83	0.100	0.954

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.724	0.016	5.456	0.025	3.400	0.014	0.00	0.01	0.000	0.100

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.712	0.016	5.421	0.023	3.381	0.013	0.00	0.00	0.000	0.000
FMCP 0.05	0.05	NA	2.712	0.016	5.423	0.026	3.382	0.014	0.00	0.01	0.000	0.100
CLASSO 0.05	0.05	NA	2.789	0.020	5.584	0.037	3.480	0.021	0.00	0.01	0.000	0.100
CSCAD 0.05	0.05	NA	2.776	0.020	5.556	0.043	3.462	0.021	0.00	0.06	0.000	0.278
CMCP 0.05	0.05	NA	2.776	0.020	5.555	0.042	3.462	0.021	0.03	0.04	0.171	0.197
PLASSO 0.05	0.05	NA	0.691	0.282	1.814	0.603	0.931	0.328	0.00	2.67	0.000	1.264
PSCAD1 0.05	0.05	NA	0.703	0.389	1.592	1.023	0.915	0.517	0.02	0.80	0.141	1.005
PSCAD2 0.05	0.05	NA	0.732	0.406	1.656	1.028	0.955	0.528	0.02	0.78	0.141	0.927
PSCAD3 0.05	0.05	NA	0.733	0.408	1.663	1.043	0.957	0.535	0.02	0.80	0.141	0.921
PMCP1 0.05	0.05	NA	0.693	0.393	1.567	1.022	0.903	0.519	0.02	0.78	0.141	0.980
PMCP2 0.05	0.05	NA	0.741	0.398	1.703	1.015	0.973	0.520	0.02	0.85	0.141	0.989
PMCP3 0.05	0.05	NA	0.729	0.406	1.664	1.032	0.957	0.531	0.01	0.83	0.100	0.954

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.092	0.001	2.724	0.016	5.455	0.025	3.400	0.014	0.00	0.00	0.000	0.000
FSCAD 0.1*rho	0.091	0.001	2.712	0.016	5.421	0.023	3.381	0.013	0.00	0.00	0.000	0.000
FMCP 0.1*rho	0.091	0.001	2.712	0.016	5.422	0.025	3.382	0.014	0.00	0.00	0.000	0.000
CLASSO 0.1*rho	0.094	0.001	2.789	0.020	5.583	0.036	3.480	0.021	0.00	0.00	0.000	0.000
CSCAD 0.1*rho	0.094	0.002	2.776	0.020	5.553	0.040	3.462	0.021	0.00	0.00	0.000	0.000
CMCP 0.1*rho	0.094	0.002	2.776	0.020	5.553	0.039	3.461	0.021	0.03	0.00	0.171	0.000
PLASSO 0.1*rho	0.033	0.015	0.691	0.282	1.823	0.597	0.931	0.328	0.00	2.91	0.000	1.311
PSCAD1 0.1*rho	0.037	0.021	0.703	0.389	1.593	1.023	0.915	0.517	0.02	0.81	0.141	1.022
PSCAD2 0.1*rho	0.038	0.021	0.732	0.406	1.657	1.028	0.955	0.528	0.02	0.79	0.141	0.935
PSCAD3 0.1*rho	0.037	0.022	0.733	0.408	1.663	1.043	0.957	0.535	0.02	0.80	0.141	0.921
PMCP1 0.1*rho	0.036	0.021	0.693	0.393	1.567	1.022	0.903	0.519	0.02	0.78	0.141	0.980
PMCP2 0.1*rho	0.037	0.022	0.741	0.398	1.703	1.015	0.973	0.520	0.02	0.85	0.141	0.989
PMCP3 0.1*rho	0.036	0.021	0.729	0.406	1.664	1.032	0.957	0.531	0.01	0.83	0.100	0.954

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.276	0.003	2.724	0.016	5.455	0.025	3.400	0.014	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.274	0.003	2.712	0.016	5.421	0.023	3.381	0.013	0.00	0.00	0.000	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.274	0.004	2.712	0.016	5.422	0.025	3.382	0.014	0.00	0.00	0.000	0.000
CLASSO 0.3*rho	0.283	0.004	2.789	0.020	5.583	0.036	3.480	0.021	0.00	0.00	0.000	0.000
CSCAD 0.3*rho	0.282	0.006	2.776	0.020	5.553	0.040	3.462	0.021	0.00	0.00	0.000	0.000
CMCP 0.3*rho	0.282	0.005	2.776	0.020	5.553	0.039	3.461	0.021	0.03	0.00	0.171	0.000
PLASSO 0.3*rho	0.099	0.045	0.691	0.282	1.760	0.585	0.928	0.328	0.00	2.02	0.000	1.456
PSCAD1 0.3*rho	0.110	0.064	0.703	0.389	1.591	1.023	0.915	0.517	0.02	0.78	0.141	0.991
PSCAD2 0.3*rho	0.113	0.064	0.732	0.406	1.655	1.026	0.955	0.528	0.02	0.78	0.141	0.927
PSCAD3 0.3*rho	0.111	0.067	0.733	0.408	1.663	1.043	0.957	0.535	0.02	0.80	0.141	0.921
PMCP1 0.3*rho	0.107	0.063	0.693	0.393	1.565	1.019	0.903	0.519	0.02	0.77	0.141	0.973
PMCP2 0.3*rho	0.111	0.066	0.741	0.398	1.700	1.005	0.973	0.520	0.02	0.84	0.141	0.972
PMCP3 0.3*rho	0.109	0.064	0.729	0.406	1.664	1.032	0.957	0.531	0.01	0.83	0.100	0.954

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.460	0.005	2.724	0.016	5.455	0.025	3.400	0.014	0.00	0.00	0.000	0.000
FSCAD 0.5*rho	0.456	0.005	2.712	0.016	5.421	0.023	3.381	0.013	0.00	0.00	0.000	0.000
FMCP 0.5*rho	0.457	0.006	2.712	0.016	5.422	0.025	3.382	0.014	0.00	0.00	0.000	0.000
CLASSO 0.5*rho	0.471	0.006	2.789	0.020	5.583	0.036	3.480	0.021	0.00	0.00	0.000	0.000
CSCAD 0.5*rho	0.470	0.010	2.776	0.020	5.553	0.040	3.462	0.021	0.00	0.00	0.000	0.000
CMCP 0.5*rho	0.470	0.009	2.776	0.020	5.553	0.039	3.461	0.021	0.03	0.00	0.171	0.000
PLASSO 0.5*rho	0.165	0.075	0.691	0.282	1.697	0.565	0.923	0.327	0.00	1.58	0.000	1.430
PSCAD1 0.5*rho	0.183	0.106	0.703	0.389	1.576	0.987	0.914	0.515	0.02	0.73	0.141	0.962
PSCAD2 0.5*rho	0.188	0.107	0.732	0.406	1.644	0.994	0.954	0.526	0.02	0.74	0.141	0.895
PSCAD3 0.5*rho	0.185	0.112	0.733	0.408	1.652	1.012	0.956	0.533	0.02	0.77	0.141	0.897
PMCP1 0.5*rho	0.178	0.105	0.693	0.393	1.555	0.985	0.902	0.517	0.02	0.74	0.141	0.949
PMCP2 0.5*rho	0.185	0.111	0.741	0.398	1.691	0.985	0.972	0.518	0.02	0.81	0.141	0.961
PMCP3 0.5*rho	0.181	0.107	0.729	0.406	1.653	1.000	0.956	0.529	0.01	0.80	0.100	0.932

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.500	-2.724	-1.818	-0.913	0.001	-0.002	0.000	-0.001	0.001
FSCAD	0.500	-2.712	-1.806	-0.902	0.000	-0.001	-0.001	-0.001	0.000
FMCP	0.500	-2.712	-1.806	-0.904	0.000	-0.002	-0.001	0.000	0.001
CLASSO	0.687	-2.789	-1.859	-0.935	-0.002	-0.001	0.001	-0.003	0.003
CSCAD	0.679	-2.776	-1.847	-0.930	-0.001	-0.001	0.001	-0.002	0.003
CMCP	0.678	-2.776	-1.847	-0.931	-0.001	-0.001	0.000	-0.001	0.002
PLASSO	0.000	-0.477	-0.314	-0.202	-0.035	-0.024	0.000	-0.012	0.016
PSCAD1	0.000	0.249	0.207	0.054	-0.012	-0.001	0.002	-0.013	0.032
PSCAD2	0.000	0.290	0.235	0.084	-0.018	-0.005	-0.004	-0.010	0.035
PSCAD3	0.000	0.318	0.251	0.111	-0.020	-0.010	-0.001	-0.009	0.038
PMCP1	0.000	0.238	0.202	0.043	-0.015	-0.002	0.001	-0.004	0.031
PMCP2	0.000	0.290	0.229	0.084	-0.027	-0.005	0.001	-0.015	0.036
PMCP3	0.000	0.308	0.248	0.102	-0.032	-0.004	0.003	-0.012	0.037
FULL	0.500	-2.712	-1.806	-0.901	-0.001	-0.004	0.001	-0.002	0.002
COMPLETE	0.677	-2.775	-1.847	-0.923	-0.005	-0.002	0.001	-0.002	0.004
LOGISTIC	0.000	0.439	0.333	0.167	-0.067	-0.014	0.015	-0.015	0.026

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.019	0.016	0.016	0.016	0.010	0.011	0.010	0.012	0.009
FSCAD	0.019	0.016	0.016	0.017	0.008	0.009	0.010	0.011	0.008
FMCP	0.019	0.016	0.016	0.019	0.008	0.009	0.009	0.010	0.007
CLASSO	0.025	0.020	0.020	0.018	0.012	0.015	0.013	0.015	0.014
CSCAD	0.026	0.020	0.020	0.026	0.009	0.014	0.013	0.014	0.014
CMCP	0.026	0.020	0.020	0.026	0.010	0.014	0.010	0.013	0.012
PLASSO	0.000	0.496	0.360	0.251	0.174	0.195	0.178	0.192	0.188
PSCAD1	0.000	0.646	0.479	0.366	0.176	0.230	0.204	0.218	0.223
PSCAD2	0.000	0.666	0.479	0.370	0.191	0.235	0.224	0.221	0.227
PSCAD3	0.000	0.652	0.469	0.362	0.198	0.236	0.224	0.236	0.234
PMCP1	0.000	0.643	0.480	0.360	0.167	0.227	0.204	0.222	0.218
PMCP2	0.000	0.670	0.484	0.368	0.212	0.235	0.215	0.241	0.240
PMCP3	0.000	0.652	0.473	0.350	0.210	0.236	0.221	0.240	0.241
FULL	0.019	0.016	0.016	0.016	0.017	0.018	0.016	0.019	0.016
COMPLETE	0.026	0.020	0.020	0.019	0.019	0.022	0.020	0.021	0.021
LOGISTIC	0.000	0.682	0.482	0.337	0.296	0.327	0.317	0.321	0.312

```

beta : 3 2 1 0 0 0 0
intercept : 0
sample size : 400
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 8
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_2_1_n_400_lambda_location_l1_30_error_independent_TRUE_x_missing_location_8.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.724	0.016	5.483	0.030	3.400	0.014	0.00	2.26	0.000	1.360
FSCAD	0	0	2.712	0.016	5.438	0.037	3.381	0.013	0.00	1.12	0.000	1.343
FMCP	0	0	2.712	0.016	5.435	0.037	3.382	0.014	0.00	0.65	0.000	1.158
CLASSO	0	0	2.789	0.020	5.624	0.043	3.480	0.021	0.00	2.84	0.000	1.426
CSCAD	0	0	2.776	0.020	5.581	0.057	3.462	0.021	0.00	1.59	0.000	1.525
CMCP	0	0	2.776	0.020	5.575	0.055	3.462	0.021	0.03	0.98	0.171	1.271
PLASSO	0	0	0.691	0.282	1.830	0.597	0.931	0.328	0.00	3.31	0.000	1.220
PSCAD1	0	0	0.703	0.389	1.593	1.023	0.915	0.517	0.02	0.82	0.141	1.058
PSCAD2	0	0	0.732	0.406	1.657	1.028	0.955	0.528	0.02	0.79	0.141	0.935
PSCAD3	0	0	0.733	0.408	1.663	1.044	0.957	0.535	0.02	0.81	0.141	0.929
PMCP1	0	0	0.693	0.393	1.567	1.022	0.903	0.519	0.02	0.79	0.141	0.998
PMCP2	0	0	0.741	0.398	1.703	1.015	0.973	0.520	0.02	0.85	0.141	0.989
PMCP3	0	0	0.729	0.406	1.664	1.032	0.957	0.531	0.01	0.83	0.100	0.954

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.724	0.016	5.456	0.025	3.400	0.014	0.00	0.01	0.000	0.100

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.712	0.016	5.421	0.023	3.381	0.013	0.00	0.00	0.000	0.000
FMCP 0.05	0.05	NA	2.712	0.016	5.423	0.026	3.382	0.014	0.00	0.01	0.000	0.100
CLASSO 0.05	0.05	NA	2.789	0.020	5.584	0.037	3.480	0.021	0.00	0.01	0.000	0.100
CSCAD 0.05	0.05	NA	2.776	0.020	5.556	0.043	3.462	0.021	0.00	0.06	0.000	0.278
CMCP 0.05	0.05	NA	2.776	0.020	5.555	0.042	3.462	0.021	0.03	0.04	0.171	0.197
PLASSO 0.05	0.05	NA	0.691	0.282	1.814	0.603	0.931	0.328	0.00	2.67	0.000	1.264
PSCAD1 0.05	0.05	NA	0.703	0.389	1.592	1.023	0.915	0.517	0.02	0.80	0.141	1.005
PSCAD2 0.05	0.05	NA	0.732	0.406	1.656	1.028	0.955	0.528	0.02	0.78	0.141	0.927
PSCAD3 0.05	0.05	NA	0.733	0.408	1.663	1.043	0.957	0.535	0.02	0.80	0.141	0.921
PMCP1 0.05	0.05	NA	0.693	0.393	1.567	1.022	0.903	0.519	0.02	0.78	0.141	0.980
PMCP2 0.05	0.05	NA	0.741	0.398	1.703	1.015	0.973	0.520	0.02	0.85	0.141	0.989
PMCP3 0.05	0.05	NA	0.729	0.406	1.664	1.032	0.957	0.531	0.01	0.83	0.100	0.954

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.092	0.001	2.724	0.016	5.455	0.025	3.400	0.014	0.00	0.00	0.000	0.000
FSCAD 0.1*rho	0.091	0.001	2.712	0.016	5.421	0.023	3.381	0.013	0.00	0.00	0.000	0.000
FMCP 0.1*rho	0.091	0.001	2.712	0.016	5.422	0.025	3.382	0.014	0.00	0.00	0.000	0.000
CLASSO 0.1*rho	0.094	0.001	2.789	0.020	5.583	0.036	3.480	0.021	0.00	0.00	0.000	0.000
CSCAD 0.1*rho	0.094	0.002	2.776	0.020	5.553	0.040	3.462	0.021	0.00	0.00	0.000	0.000
CMCP 0.1*rho	0.094	0.002	2.776	0.020	5.553	0.039	3.461	0.021	0.03	0.00	0.171	0.000
PLASSO 0.1*rho	0.033	0.015	0.691	0.282	1.823	0.597	0.931	0.328	0.00	2.91	0.000	1.311
PSCAD1 0.1*rho	0.037	0.021	0.703	0.389	1.593	1.023	0.915	0.517	0.02	0.81	0.141	1.022
PSCAD2 0.1*rho	0.038	0.021	0.732	0.406	1.657	1.028	0.955	0.528	0.02	0.79	0.141	0.935
PSCAD3 0.1*rho	0.037	0.022	0.733	0.408	1.663	1.043	0.957	0.535	0.02	0.80	0.141	0.921
PMCP1 0.1*rho	0.036	0.021	0.693	0.393	1.567	1.022	0.903	0.519	0.02	0.78	0.141	0.980
PMCP2 0.1*rho	0.037	0.022	0.741	0.398	1.703	1.015	0.973	0.520	0.02	0.85	0.141	0.989
PMCP3 0.1*rho	0.036	0.021	0.729	0.406	1.664	1.032	0.957	0.531	0.01	0.83	0.100	0.954

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.276	0.003	2.724	0.016	5.455	0.025	3.400	0.014	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.274	0.003	2.712	0.016	5.421	0.023	3.381	0.013	0.00	0.00	0.000	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.274	0.004	2.712	0.016	5.422	0.025	3.382	0.014	0.00	0.00	0.000	0.000
CLASSO 0.3*rho	0.283	0.004	2.789	0.020	5.583	0.036	3.480	0.021	0.00	0.00	0.000	0.000
CSCAD 0.3*rho	0.282	0.006	2.776	0.020	5.553	0.040	3.462	0.021	0.00	0.00	0.000	0.000
CMCP 0.3*rho	0.282	0.005	2.776	0.020	5.553	0.039	3.461	0.021	0.03	0.00	0.171	0.000
PLASSO 0.3*rho	0.099	0.045	0.691	0.282	1.760	0.585	0.928	0.328	0.00	2.02	0.000	1.456
PSCAD1 0.3*rho	0.110	0.064	0.703	0.389	1.591	1.023	0.915	0.517	0.02	0.78	0.141	0.991
PSCAD2 0.3*rho	0.113	0.064	0.732	0.406	1.655	1.026	0.955	0.528	0.02	0.78	0.141	0.927
PSCAD3 0.3*rho	0.111	0.067	0.733	0.408	1.663	1.043	0.957	0.535	0.02	0.80	0.141	0.921
PMCP1 0.3*rho	0.107	0.063	0.693	0.393	1.565	1.019	0.903	0.519	0.02	0.77	0.141	0.973
PMCP2 0.3*rho	0.111	0.066	0.741	0.398	1.700	1.005	0.973	0.520	0.02	0.84	0.141	0.972
PMCP3 0.3*rho	0.109	0.064	0.729	0.406	1.664	1.032	0.957	0.531	0.01	0.83	0.100	0.954

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.460	0.005	2.724	0.016	5.455	0.025	3.400	0.014	0.00	0.00	0.000	0.000
FSCAD 0.5*rho	0.456	0.005	2.712	0.016	5.421	0.023	3.381	0.013	0.00	0.00	0.000	0.000
FMCP 0.5*rho	0.457	0.006	2.712	0.016	5.422	0.025	3.382	0.014	0.00	0.00	0.000	0.000
CLASSO 0.5*rho	0.471	0.006	2.789	0.020	5.583	0.036	3.480	0.021	0.00	0.00	0.000	0.000
CSCAD 0.5*rho	0.470	0.010	2.776	0.020	5.553	0.040	3.462	0.021	0.00	0.00	0.000	0.000
CMCP 0.5*rho	0.470	0.009	2.776	0.020	5.553	0.039	3.461	0.021	0.03	0.00	0.171	0.000
PLASSO 0.5*rho	0.165	0.075	0.691	0.282	1.697	0.565	0.923	0.327	0.00	1.58	0.000	1.430
PSCAD1 0.5*rho	0.183	0.106	0.703	0.389	1.576	0.987	0.914	0.515	0.02	0.73	0.141	0.962
PSCAD2 0.5*rho	0.188	0.107	0.732	0.406	1.644	0.994	0.954	0.526	0.02	0.74	0.141	0.895
PSCAD3 0.5*rho	0.185	0.112	0.733	0.408	1.652	1.012	0.956	0.533	0.02	0.77	0.141	0.897
PMCP1 0.5*rho	0.178	0.105	0.693	0.393	1.555	0.985	0.902	0.517	0.02	0.74	0.141	0.949
PMCP2 0.5*rho	0.185	0.111	0.741	0.398	1.691	0.985	0.972	0.518	0.02	0.81	0.141	0.961
PMCP3 0.5*rho	0.181	0.107	0.729	0.406	1.653	1.000	0.956	0.529	0.01	0.80	0.100	0.932

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.500	-2.724	-1.818	-0.913	0.001	-0.002	0.000	-0.001	0.001
FSCAD	0.500	-2.712	-1.806	-0.902	0.000	-0.001	-0.001	-0.001	0.000
FMCP	0.500	-2.712	-1.806	-0.904	0.000	-0.002	-0.001	0.000	0.001
CLASSO	0.687	-2.789	-1.859	-0.935	-0.002	-0.001	0.001	-0.003	0.003
CSCAD	0.679	-2.776	-1.847	-0.930	-0.001	-0.001	0.001	-0.002	0.003
CMCP	0.678	-2.776	-1.847	-0.931	-0.001	-0.001	0.000	-0.001	0.002
PLASSO	0.000	-0.477	-0.314	-0.202	-0.035	-0.024	0.000	-0.012	0.016
PSCAD1	0.000	0.249	0.207	0.054	-0.012	-0.001	0.002	-0.013	0.032
PSCAD2	0.000	0.290	0.235	0.084	-0.018	-0.005	-0.004	-0.010	0.035
PSCAD3	0.000	0.318	0.251	0.111	-0.020	-0.010	-0.001	-0.009	0.038
PMCP1	0.000	0.238	0.202	0.043	-0.015	-0.002	0.001	-0.004	0.031
PMCP2	0.000	0.290	0.229	0.084	-0.027	-0.005	0.001	-0.015	0.036
PMCP3	0.000	0.308	0.248	0.102	-0.032	-0.004	0.003	-0.012	0.037
FULL	0.500	-2.712	-1.806	-0.901	-0.001	-0.004	0.001	-0.002	0.002
COMPLETE	0.677	-2.775	-1.847	-0.923	-0.005	-0.002	0.001	-0.002	0.004
LOGISTIC	0.000	0.439	0.333	0.167	-0.067	-0.014	0.015	-0.015	0.026

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.019	0.016	0.016	0.016	0.010	0.011	0.010	0.012	0.009
FSCAD	0.019	0.016	0.016	0.017	0.008	0.009	0.010	0.011	0.008
FMCP	0.019	0.016	0.016	0.019	0.008	0.009	0.009	0.010	0.007
CLASSO	0.025	0.020	0.020	0.018	0.012	0.015	0.013	0.015	0.014
CSCAD	0.026	0.020	0.020	0.026	0.009	0.014	0.013	0.014	0.014
CMCP	0.026	0.020	0.020	0.026	0.010	0.014	0.010	0.013	0.012
PLASSO	0.000	0.496	0.360	0.251	0.174	0.195	0.178	0.192	0.188
PSCAD1	0.000	0.646	0.479	0.366	0.176	0.230	0.204	0.218	0.223
PSCAD2	0.000	0.666	0.479	0.370	0.191	0.235	0.224	0.221	0.227
PSCAD3	0.000	0.652	0.469	0.362	0.198	0.236	0.224	0.236	0.234
PMCP1	0.000	0.643	0.480	0.360	0.167	0.227	0.204	0.222	0.218
PMCP2	0.000	0.670	0.484	0.368	0.212	0.235	0.215	0.241	0.240
PMCP3	0.000	0.652	0.473	0.350	0.210	0.236	0.221	0.240	0.241
FULL	0.019	0.016	0.016	0.016	0.017	0.018	0.016	0.019	0.016
COMPLETE	0.026	0.020	0.020	0.019	0.019	0.022	0.020	0.021	0.021
LOGISTIC	0.000	0.682	0.482	0.337	0.296	0.327	0.317	0.321	0.312

```

beta : 3 2 1 0 0 0 0
intercept : 0
sample size : 600
simulation time : 100
loss_rate: 0.625
error_independent: FALSE
missing_method: xy
missing_location: 1
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_2_1_n_600_lambda_location_l1_30_error_independent_FALSE_x_missing_location_1.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.775	0.015	5.576	0.027	3.462	0.010	0.00	1.62	0.000	1.562
FSCAD	0	0	2.768	0.015	5.551	0.036	3.452	0.009	0.01	0.98	0.100	1.295
FMCP	0	0	2.768	0.015	5.551	0.034	3.452	0.009	0.01	0.67	0.100	1.181
CLASSO	0	0	2.825	0.017	5.676	0.034	3.524	0.015	0.00	1.66	0.000	1.430
CSCAD	0	0	2.815	0.017	5.654	0.044	3.511	0.015	0.09	1.28	0.288	1.471
CMCP	0	0	2.815	0.017	5.651	0.045	3.511	0.015	0.14	0.85	0.349	1.266
PLASSO	0	0	0.659	0.337	1.780	1.000	0.901	0.440	0.00	3.08	0.000	1.331
PSCAD1	0	0	0.658	0.413	1.571	1.201	0.881	0.555	0.01	0.85	0.100	1.048
PSCAD2	0	0	0.687	0.417	1.646	1.213	0.922	0.563	0.01	0.88	0.100	1.028
PSCAD3	0	0	0.693	0.421	1.681	1.224	0.934	0.567	0.01	0.91	0.100	1.065
PMCP1	0	0	0.660	0.413	1.558	1.181	0.879	0.549	0.01	0.81	0.100	1.051
PMCP2	0	0	0.688	0.419	1.664	1.244	0.924	0.564	0.01	0.94	0.100	1.135
PMCP3	0	0	0.689	0.421	1.672	1.228	0.930	0.567	0.01	0.91	0.100	1.083

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.775	0.015	5.555	0.018	3.462	0.010	0.00	0.00	0.000	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.768	0.015	5.537	0.017	3.452	0.009	0.01	0.01	0.100	0.100
FMCP 0.05	0.05	NA	2.768	0.015	5.537	0.017	3.452	0.009	0.01	0.01	0.100	0.100
CLASSO 0.05	0.05	NA	2.825	0.017	5.654	0.027	3.524	0.016	0.00	0.02	0.000	0.141
CSCAD 0.05	0.05	NA	2.815	0.017	5.634	0.029	3.511	0.015	0.09	0.03	0.288	0.171
CMCP 0.05	0.05	NA	2.815	0.017	5.635	0.029	3.511	0.015	0.14	0.04	0.349	0.197
PLASSO 0.05	0.05	NA	0.659	0.337	1.764	1.001	0.900	0.440	0.00	2.39	0.000	1.385
PSCAD1 0.05	0.05	NA	0.658	0.413	1.571	1.201	0.881	0.555	0.01	0.84	0.100	1.051
PSCAD2 0.05	0.05	NA	0.687	0.417	1.646	1.213	0.922	0.563	0.01	0.87	0.100	1.012
PSCAD3 0.05	0.05	NA	0.693	0.421	1.681	1.224	0.934	0.567	0.01	0.90	0.100	1.049
PMCP1 0.05	0.05	NA	0.660	0.413	1.558	1.181	0.879	0.549	0.01	0.81	0.100	1.051
PMCP2 0.05	0.05	NA	0.688	0.419	1.664	1.244	0.924	0.564	0.01	0.94	0.100	1.135
PMCP3 0.05	0.05	NA	0.689	0.421	1.672	1.228	0.930	0.567	0.01	0.91	0.100	1.083

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.094	0.001	2.775	0.015	5.555	0.018	3.462	0.010	0.00	0.00	0.000	0.000
FSCAD 0.1*rho	0.093	0.001	2.768	0.015	5.536	0.016	3.452	0.009	0.01	0.00	0.100	0.000
FMCP 0.1*rho	0.093	0.001	2.768	0.015	5.537	0.016	3.452	0.009	0.01	0.00	0.100	0.000
CLASSO 0.1*rho	0.096	0.001	2.825	0.017	5.653	0.027	3.524	0.016	0.00	0.00	0.000	0.000
CSCAD 0.1*rho	0.096	0.002	2.815	0.017	5.632	0.029	3.511	0.015	0.09	0.00	0.288	0.000
CMCP 0.1*rho	0.096	0.002	2.815	0.017	5.633	0.028	3.511	0.015	0.14	0.00	0.349	0.000
PLASSO 0.1*rho	0.034	0.015	0.659	0.337	1.770	0.999	0.901	0.440	0.00	2.58	0.000	1.471
PSCAD1 0.1*rho	0.036	0.022	0.658	0.413	1.571	1.201	0.881	0.555	0.01	0.84	0.100	1.051
PSCAD2 0.1*rho	0.038	0.023	0.687	0.417	1.646	1.213	0.922	0.563	0.01	0.87	0.100	1.012
PSCAD3 0.1*rho	0.038	0.023	0.693	0.421	1.681	1.224	0.934	0.567	0.01	0.90	0.100	1.049
PMCP1 0.1*rho	0.037	0.022	0.660	0.413	1.558	1.181	0.879	0.549	0.01	0.81	0.100	1.051
PMCP2 0.1*rho	0.038	0.023	0.688	0.419	1.664	1.244	0.924	0.564	0.01	0.94	0.100	1.135
PMCP3 0.1*rho	0.038	0.023	0.689	0.421	1.672	1.228	0.930	0.567	0.01	0.91	0.100	1.083

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.281	0.003	2.775	0.015	5.555	0.018	3.462	0.010	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.280	0.003	2.768	0.015	5.536	0.016	3.452	0.009	0.01	0.00	0.100	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	tn0e0_sd	t0en0	t0en0_sd
FMCP 0.3*rho	0.280	0.003	2.768	0.015	5.537	0.016	3.452	0.009	0.01	0.00	0.00	0.000
CLASSO 0.3*rho	0.287	0.004	2.825	0.017	5.653	0.027	3.524	0.016	0.00	0.00	0.00	0.000
CSCAD 0.3*rho	0.287	0.006	2.815	0.017	5.632	0.029	3.511	0.015	0.09	0.00	0.00	0.000
CMCP 0.3*rho	0.287	0.006	2.815	0.017	5.633	0.028	3.511	0.015	0.14	0.00	0.00	0.000
PLASSO 0.3*rho	0.102	0.045	0.659	0.337	1.732	0.994	0.899	0.440	0.00	2.01	0.00	1.460
PSCAD1 0.3*rho	0.108	0.065	0.658	0.413	1.567	1.186	0.881	0.555	0.01	0.82	0.100	1.019
PSCAD2 0.3*rho	0.114	0.070	0.687	0.417	1.643	1.198	0.922	0.563	0.01	0.86	0.100	0.995
PSCAD3 0.3*rho	0.115	0.069	0.693	0.421	1.677	1.207	0.934	0.567	0.01	0.88	0.100	1.018
PMCP1 0.3*rho	0.111	0.065	0.660	0.413	1.550	1.154	0.879	0.548	0.01	0.77	0.100	0.973
PMCP2 0.3*rho	0.115	0.069	0.688	0.419	1.659	1.230	0.924	0.564	0.01	0.90	0.100	1.087
PMCP3 0.3*rho	0.115	0.069	0.689	0.421	1.669	1.213	0.929	0.567	0.01	0.89	0.100	1.053

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	tn0e0_sd	t0en0	t0en0_sd
FLASSO 0.5*rho	0.469	0.006	2.775	0.015	5.555	0.018	3.462	0.010	0.00	0.00	0.00	0.000
FSCAD 0.5*rho	0.467	0.006	2.768	0.015	5.536	0.016	3.452	0.009	0.01	0.00	0.00	0.000
FMCP 0.5*rho	0.467	0.006	2.768	0.015	5.537	0.016	3.452	0.009	0.01	0.00	0.00	0.000
CLASSO 0.5*rho	0.478	0.006	2.825	0.017	5.653	0.027	3.524	0.016	0.00	0.00	0.00	0.000
CSCAD 0.5*rho	0.478	0.010	2.815	0.017	5.632	0.029	3.511	0.015	0.09	0.00	0.00	0.000
CMCP 0.5*rho	0.478	0.010	2.815	0.017	5.633	0.028	3.511	0.015	0.14	0.00	0.00	0.000
PLASSO 0.5*rho	0.169	0.075	0.659	0.337	1.658	0.956	0.892	0.439	0.00	1.49	0.000	1.360
PSCAD1 0.5*rho	0.181	0.108	0.658	0.413	1.548	1.177	0.879	0.554	0.01	0.74	0.100	0.960
PSCAD2 0.5*rho	0.190	0.117	0.687	0.417	1.631	1.190	0.920	0.562	0.01	0.82	0.100	0.957
PSCAD3 0.5*rho	0.191	0.115	0.693	0.421	1.667	1.204	0.933	0.566	0.01	0.85	0.100	1.009
PMCP1 0.5*rho	0.185	0.108	0.660	0.413	1.531	1.145	0.876	0.547	0.01	0.70	0.100	0.916
PMCP2 0.5*rho	0.192	0.114	0.688	0.419	1.639	1.189	0.922	0.561	0.01	0.84	0.100	0.992
PMCP3 0.5*rho	0.191	0.116	0.689	0.421	1.657	1.206	0.928	0.566	0.01	0.85	0.100	1.019

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.500	-2.775	-1.848	-0.932	0.000	0.002	0.000	-0.001	0.000
FSCAD	0.500	-2.768	-1.844	-0.924	-0.002	0.002	0.000	-0.001	0.001
FMCP	0.500	-2.768	-1.844	-0.925	-0.002	0.002	0.000	-0.001	0.000
CLASSO	0.675	-2.825	-1.881	-0.947	-0.001	0.001	0.000	-0.001	0.000
CSCAD	0.667	-2.815	-1.873	-0.944	-0.001	0.000	0.001	0.000	0.000
CMCP	0.668	-2.815	-1.873	-0.945	-0.001	0.000	0.000	-0.001	0.001
PLASSO	0.000	-0.367	-0.184	-0.146	-0.009	0.025	-0.013	0.016	-0.041
PSCAD1	0.000	0.240	0.252	0.068	-0.034	0.034	-0.017	-0.007	-0.011
PSCAD2	0.000	0.279	0.268	0.112	-0.040	0.037	-0.013	-0.016	-0.011
PSCAD3	0.000	0.289	0.270	0.125	-0.041	0.033	-0.016	-0.015	-0.010
PMCP1	0.000	0.233	0.251	0.059	-0.020	0.033	-0.016	-0.013	0.003
PMCP2	0.000	0.275	0.265	0.110	-0.041	0.031	-0.014	-0.009	-0.009
PMCP3	0.000	0.286	0.269	0.123	-0.040	0.030	-0.014	-0.011	-0.010
FULL	0.500	-2.768	-1.845	-0.923	-0.002	0.001	0.000	-0.001	0.000
COMPLETE	0.667	-2.815	-1.876	-0.937	-0.002	0.000	0.001	0.000	-0.002
LOGISTIC	0.000	0.373	0.329	0.162	-0.039	0.015	-0.033	0.037	-0.055

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.014	0.015	0.019	0.017	0.010	0.009	0.010	0.009	0.009
FSCAD	0.014	0.015	0.019	0.018	0.010	0.009	0.008	0.009	0.009
FMCP	0.014	0.015	0.020	0.019	0.010	0.009	0.008	0.008	0.009
CLASSO	0.022	0.017	0.023	0.020	0.011	0.011	0.011	0.010	0.009
CSCAD	0.021	0.017	0.024	0.029	0.014	0.012	0.011	0.010	0.010
CMCP	0.021	0.017	0.024	0.029	0.013	0.012	0.012	0.011	0.009
PLASSO	0.000	0.574	0.387	0.308	0.240	0.242	0.232	0.187	0.197
PSCAD1	0.000	0.593	0.428	0.367	0.265	0.250	0.274	0.186	0.227
PSCAD2	0.000	0.604	0.428	0.383	0.269	0.256	0.276	0.203	0.243
PSCAD3	0.000	0.603	0.430	0.378	0.289	0.263	0.277	0.214	0.244
PMCP1	0.000	0.597	0.421	0.383	0.250	0.242	0.267	0.187	0.222
PMCP2	0.000	0.600	0.424	0.386	0.288	0.261	0.273	0.212	0.241
PMCP3	0.000	0.601	0.428	0.380	0.288	0.260	0.283	0.208	0.240
FULL	0.014	0.015	0.019	0.018	0.017	0.015	0.017	0.016	0.015
COMPLETE	0.021	0.017	0.023	0.022	0.020	0.021	0.020	0.018	0.016
LOGISTIC	0.000	0.648	0.458	0.379	0.364	0.390	0.363	0.339	0.342

```

beta : 3 2 1 0 0 0 0
intercept : 0
sample size : 600
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 1
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_2_1_n_600_lambda_location_l1_30_error_independent_TRUE_x_missing_location_1.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.721	0.015	5.476	0.025	3.396	0.014	0.00	2.41	0.000	1.658
FSCAD	0	0	2.711	0.014	5.434	0.032	3.381	0.011	0.00	0.94	0.000	1.340
FMCP	0	0	2.711	0.014	5.433	0.031	3.381	0.011	0.00	0.67	0.000	1.295
CLASSO	0	0	2.787	0.020	5.607	0.033	3.476	0.021	0.00	2.55	0.000	1.527
CSCAD	0	0	2.775	0.019	5.562	0.040	3.459	0.020	0.00	1.44	0.000	1.472
CMCP	0	0	2.775	0.019	5.565	0.042	3.461	0.020	0.02	0.90	0.141	1.425
PLASSO	0	0	0.592	0.240	1.603	0.490	0.809	0.272	0.00	3.60	0.000	1.181
PSCAD1	0	0	0.519	0.282	1.217	0.825	0.692	0.386	0.00	0.78	0.000	1.151
PSCAD2	0	0	0.534	0.294	1.249	0.846	0.712	0.398	0.00	0.76	0.000	1.006
PSCAD3	0	0	0.544	0.295	1.266	0.831	0.723	0.396	0.00	0.77	0.000	1.014
PMCP1	0	0	0.524	0.278	1.220	0.793	0.696	0.376	0.00	0.76	0.000	1.111
PMCP2	0	0	0.549	0.295	1.281	0.854	0.728	0.399	0.00	0.77	0.000	1.014
PMCP3	0	0	0.547	0.298	1.288	0.865	0.728	0.404	0.00	0.81	0.000	1.012

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.721	0.015	5.449	0.025	3.396	0.014	0.00	0.00	0.000	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.711	0.014	5.421	0.020	3.381	0.011	0.00	0.00	0.000	0.000
FMCP 0.05	0.05	NA	2.711	0.014	5.422	0.020	3.381	0.011	0.00	0.00	0.000	0.000
CLASSO 0.05	0.05	NA	2.787	0.020	5.576	0.035	3.476	0.021	0.00	0.00	0.000	0.000
CSCAD 0.05	0.05	NA	2.775	0.019	5.546	0.034	3.459	0.020	0.00	0.00	0.000	0.000
CMCP 0.05	0.05	NA	2.775	0.019	5.550	0.035	3.461	0.020	0.02	0.00	0.141	0.000
PLASSO 0.05	0.05	NA	0.592	0.240	1.579	0.495	0.808	0.272	0.00	2.69	0.000	1.376
PSCAD1 0.05	0.05	NA	0.519	0.282	1.216	0.825	0.692	0.386	0.00	0.74	0.000	1.079
PSCAD2 0.05	0.05	NA	0.534	0.294	1.249	0.846	0.712	0.398	0.00	0.76	0.000	1.006
PSCAD3 0.05	0.05	NA	0.544	0.295	1.265	0.831	0.723	0.396	0.00	0.75	0.000	0.989
PMCP1 0.05	0.05	NA	0.524	0.278	1.220	0.793	0.696	0.376	0.00	0.75	0.000	1.095
PMCP2 0.05	0.05	NA	0.549	0.295	1.281	0.854	0.728	0.399	0.00	0.77	0.000	1.014
PMCP3 0.05	0.05	NA	0.547	0.298	1.288	0.865	0.728	0.404	0.00	0.81	0.000	1.012

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.092	0.001	2.721	0.015	5.449	0.025	3.396	0.014	0.00	0.00	0.000	0.000
FSCAD 0.1*rho	0.091	0.001	2.711	0.014	5.421	0.020	3.381	0.011	0.00	0.00	0.000	0.000
FMCP 0.1*rho	0.091	0.001	2.711	0.014	5.422	0.020	3.381	0.011	0.00	0.00	0.000	0.000
CLASSO 0.1*rho	0.094	0.001	2.787	0.020	5.576	0.035	3.476	0.021	0.00	0.00	0.000	0.000
CSCAD 0.1*rho	0.093	0.001	2.775	0.019	5.546	0.034	3.459	0.020	0.00	0.00	0.000	0.000
CMCP 0.1*rho	0.094	0.001	2.775	0.019	5.550	0.035	3.461	0.020	0.02	0.00	0.141	0.000
PLASSO 0.1*rho	0.030	0.014	0.592	0.240	1.595	0.489	0.809	0.272	0.00	3.12	0.000	1.444
PSCAD1 0.1*rho	0.029	0.016	0.519	0.282	1.217	0.825	0.692	0.386	0.00	0.77	0.000	1.118
PSCAD2 0.1*rho	0.028	0.017	0.534	0.294	1.249	0.846	0.712	0.398	0.00	0.76	0.000	1.006
PSCAD3 0.1*rho	0.029	0.017	0.544	0.295	1.265	0.831	0.723	0.396	0.00	0.75	0.000	0.989
PMCP1 0.1*rho	0.029	0.016	0.524	0.278	1.220	0.793	0.696	0.376	0.00	0.76	0.000	1.111
PMCP2 0.1*rho	0.029	0.017	0.549	0.295	1.281	0.854	0.728	0.399	0.00	0.77	0.000	1.014
PMCP3 0.1*rho	0.029	0.017	0.547	0.298	1.288	0.865	0.728	0.404	0.00	0.81	0.000	1.012

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.275	0.003	2.721	0.015	5.449	0.025	3.396	0.014	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.274	0.002	2.711	0.014	5.421	0.020	3.381	0.011	0.00	0.00	0.000	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.274	0.002	2.711	0.014	5.422	0.020	3.381	0.011	0.00	0.00	0.000	0.000
FLASSO 0.3*rho	0.282	0.003	2.787	0.020	5.576	0.035	3.476	0.021	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.280	0.003	2.775	0.019	5.546	0.034	3.459	0.020	0.00	0.00	0.000	0.000
FMCP 0.3*rho	0.281	0.004	2.775	0.019	5.550	0.035	3.461	0.020	0.02	0.00	0.141	0.000
FLASSO 0.3*rho	0.089	0.041	0.592	0.240	1.539	0.476	0.806	0.272	0.00	2.22	0.000	1.474
FSCAD1 0.3*rho	0.086	0.048	0.519	0.282	1.216	0.825	0.692	0.386	0.00	0.74	0.000	1.079
FSCAD2 0.3*rho	0.085	0.050	0.534	0.294	1.249	0.846	0.712	0.398	0.00	0.76	0.000	1.006
FSCAD3 0.3*rho	0.087	0.050	0.544	0.295	1.265	0.831	0.723	0.396	0.00	0.75	0.000	0.989
PMCP1 0.3*rho	0.086	0.048	0.524	0.278	1.219	0.793	0.696	0.376	0.00	0.74	0.000	1.079
PMCP2 0.3*rho	0.087	0.050	0.549	0.295	1.281	0.854	0.728	0.399	0.00	0.77	0.000	1.014
PMCP3 0.3*rho	0.086	0.051	0.547	0.298	1.288	0.865	0.728	0.404	0.00	0.81	0.000	1.012

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.459	0.005	2.721	0.015	5.449	0.025	3.396	0.014	0.00	0.00	0.000	0.000
FSCAD 0.5*rho	0.456	0.004	2.711	0.014	5.421	0.020	3.381	0.011	0.00	0.00	0.000	0.000
FMCP 0.5*rho	0.456	0.004	2.711	0.014	5.422	0.020	3.381	0.011	0.00	0.00	0.000	0.000
FLASSO 0.5*rho	0.470	0.005	2.787	0.020	5.576	0.035	3.476	0.021	0.00	0.00	0.000	0.000
FSCAD 0.5*rho	0.467	0.006	2.775	0.019	5.546	0.034	3.459	0.020	0.00	0.00	0.000	0.000
FMCP 0.5*rho	0.469	0.007	2.775	0.019	5.550	0.035	3.461	0.020	0.02	0.00	0.141	0.000
FLASSO 0.5*rho	0.149	0.068	0.592	0.240	1.467	0.449	0.800	0.270	0.00	1.64	0.000	1.389
FSCAD1 0.5*rho	0.143	0.080	0.519	0.282	1.205	0.795	0.691	0.384	0.00	0.70	0.000	1.020
FSCAD2 0.5*rho	0.142	0.083	0.534	0.294	1.236	0.822	0.710	0.396	0.00	0.71	0.000	0.924
FSCAD3 0.5*rho	0.144	0.084	0.544	0.295	1.258	0.811	0.722	0.394	0.00	0.72	0.000	0.933
PMCP1 0.5*rho	0.144	0.079	0.524	0.278	1.208	0.767	0.695	0.373	0.00	0.69	0.000	1.012
PMCP2 0.5*rho	0.144	0.084	0.549	0.295	1.269	0.831	0.727	0.397	0.00	0.72	0.000	0.944
PMCP3 0.5*rho	0.143	0.084	0.547	0.298	1.277	0.843	0.727	0.402	0.00	0.77	0.000	0.952

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.500	-2.721	-1.816	-0.912	-0.001	0.001	-0.002	-0.001	0.000
FSCAD	0.500	-2.711	-1.807	-0.903	-0.001	0.001	-0.001	0.000	0.000
FMCP	0.500	-2.711	-1.807	-0.903	0.000	0.000	-0.002	0.000	0.000
CLASSO	0.686	-2.787	-1.858	-0.932	-0.001	0.000	-0.001	0.001	0.000
CSCAD	0.679	-2.775	-1.847	-0.924	0.000	0.000	-0.001	0.000	0.000
CMCP	0.679	-2.775	-1.847	-0.927	0.000	0.000	0.000	0.000	0.000
PLASSO	0.000	-0.369	-0.236	-0.143	0.007	-0.002	-0.022	0.014	-0.007
PSCAD1	0.000	0.132	0.123	0.035	0.007	-0.007	-0.004	0.007	-0.004
PSCAD2	0.000	0.171	0.148	0.073	0.008	-0.011	-0.007	0.002	-0.001
PSCAD3	0.000	0.182	0.157	0.083	0.017	-0.017	-0.007	0.001	-0.002
PMCP1	0.000	0.126	0.116	0.034	0.008	-0.006	-0.005	0.007	-0.007
PMCP2	0.000	0.176	0.154	0.074	0.021	-0.012	-0.007	0.013	-0.006
PMCP3	0.000	0.191	0.164	0.091	0.022	-0.009	-0.005	0.006	-0.005
FULL	0.500	-2.711	-1.807	-0.903	-0.001	0.002	-0.003	0.000	0.000
COMPLETE	0.678	-2.775	-1.847	-0.922	-0.001	0.000	-0.003	0.002	0.000
LOGISTIC	0.000	0.272	0.213	0.119	0.001	-0.007	-0.039	0.020	-0.010

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.015	0.015	0.014	0.015	0.010	0.010	0.010	0.011	0.008
FSCAD	0.015	0.014	0.014	0.015	0.008	0.008	0.008	0.008	0.006
FMCP	0.015	0.014	0.014	0.015	0.007	0.006	0.008	0.007	0.008
CLASSO	0.022	0.020	0.021	0.017	0.012	0.011	0.011	0.010	0.009
CSCAD	0.022	0.019	0.019	0.019	0.010	0.008	0.009	0.007	0.007
CMCP	0.022	0.019	0.019	0.022	0.010	0.009	0.010	0.008	0.006
PLASSO	0.000	0.447	0.373	0.240	0.173	0.162	0.165	0.149	0.133
PSCAD1	0.000	0.484	0.396	0.295	0.170	0.155	0.182	0.143	0.122
PSCAD2	0.000	0.484	0.404	0.284	0.169	0.155	0.191	0.172	0.124
PSCAD3	0.000	0.486	0.406	0.283	0.179	0.152	0.193	0.176	0.116
PMCP1	0.000	0.487	0.401	0.293	0.167	0.150	0.181	0.142	0.112
PMCP2	0.000	0.497	0.411	0.285	0.182	0.155	0.192	0.167	0.123
PMCP3	0.000	0.489	0.407	0.277	0.184	0.159	0.190	0.183	0.126
FULL	0.015	0.014	0.014	0.014	0.015	0.015	0.014	0.015	0.013
COMPLETE	0.022	0.019	0.019	0.016	0.017	0.016	0.015	0.015	0.014
LOGISTIC	0.000	0.517	0.429	0.281	0.263	0.250	0.252	0.238	0.211

```

beta : 3 2 1 0 0 0 0
intercept : 0
sample size : 600
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 3
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_2_1_n_600_lambda_location_l1_30_error_independent_TRUE_x_missing_location_3.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.721	0.015	5.476	0.025	3.396	0.014	0.00	2.41	0.000	1.658
FSCAD	0	0	2.711	0.014	5.434	0.032	3.381	0.011	0.00	0.94	0.000	1.340
FMCP	0	0	2.711	0.014	5.433	0.031	3.381	0.011	0.00	0.67	0.000	1.295
CLASSO	0	0	2.787	0.020	5.607	0.033	3.476	0.021	0.00	2.55	0.000	1.527
CSCAD	0	0	2.775	0.019	5.562	0.040	3.459	0.020	0.00	1.44	0.000	1.472
CMCP	0	0	2.775	0.019	5.565	0.042	3.461	0.020	0.02	0.90	0.141	1.425
PLASSO	0	0	0.592	0.240	1.603	0.490	0.809	0.272	0.00	3.60	0.000	1.181
PSCAD1	0	0	0.519	0.282	1.217	0.825	0.692	0.386	0.00	0.78	0.000	1.151
PSCAD2	0	0	0.534	0.294	1.249	0.846	0.712	0.398	0.00	0.76	0.000	1.006
PSCAD3	0	0	0.544	0.295	1.266	0.831	0.723	0.396	0.00	0.77	0.000	1.014
PMCP1	0	0	0.524	0.278	1.220	0.793	0.696	0.376	0.00	0.76	0.000	1.111
PMCP2	0	0	0.549	0.295	1.281	0.854	0.728	0.399	0.00	0.77	0.000	1.014
PMCP3	0	0	0.547	0.298	1.288	0.865	0.728	0.404	0.00	0.81	0.000	1.012

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.721	0.015	5.449	0.025	3.396	0.014	0.00	0.00	0.000	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.711	0.014	5.421	0.020	3.381	0.011	0.00	0.00	0.000	0.000
FMCP 0.05	0.05	NA	2.711	0.014	5.422	0.020	3.381	0.011	0.00	0.00	0.000	0.000
CLASSO 0.05	0.05	NA	2.787	0.020	5.576	0.035	3.476	0.021	0.00	0.00	0.000	0.000
CSCAD 0.05	0.05	NA	2.775	0.019	5.546	0.034	3.459	0.020	0.00	0.00	0.000	0.000
CMCP 0.05	0.05	NA	2.775	0.019	5.550	0.035	3.461	0.020	0.02	0.00	0.141	0.000
PLASSO 0.05	0.05	NA	0.592	0.240	1.579	0.495	0.808	0.272	0.00	2.69	0.000	1.376
PSCAD1 0.05	0.05	NA	0.519	0.282	1.216	0.825	0.692	0.386	0.00	0.74	0.000	1.079
PSCAD2 0.05	0.05	NA	0.534	0.294	1.249	0.846	0.712	0.398	0.00	0.76	0.000	1.006
PSCAD3 0.05	0.05	NA	0.544	0.295	1.265	0.831	0.723	0.396	0.00	0.75	0.000	0.989
PMCP1 0.05	0.05	NA	0.524	0.278	1.220	0.793	0.696	0.376	0.00	0.75	0.000	1.095
PMCP2 0.05	0.05	NA	0.549	0.295	1.281	0.854	0.728	0.399	0.00	0.77	0.000	1.014
PMCP3 0.05	0.05	NA	0.547	0.298	1.288	0.865	0.728	0.404	0.00	0.81	0.000	1.012

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.092	0.001	2.721	0.015	5.449	0.025	3.396	0.014	0.00	0.00	0.000	0.000
FSCAD 0.1*rho	0.091	0.001	2.711	0.014	5.421	0.020	3.381	0.011	0.00	0.00	0.000	0.000
FMCP 0.1*rho	0.091	0.001	2.711	0.014	5.422	0.020	3.381	0.011	0.00	0.00	0.000	0.000
CLASSO 0.1*rho	0.094	0.001	2.787	0.020	5.576	0.035	3.476	0.021	0.00	0.00	0.000	0.000
CSCAD 0.1*rho	0.093	0.001	2.775	0.019	5.546	0.034	3.459	0.020	0.00	0.00	0.000	0.000
CMCP 0.1*rho	0.094	0.001	2.775	0.019	5.550	0.035	3.461	0.020	0.02	0.00	0.141	0.000
PLASSO 0.1*rho	0.030	0.014	0.592	0.240	1.595	0.489	0.809	0.272	0.00	3.12	0.000	1.444
PSCAD1 0.1*rho	0.029	0.016	0.519	0.282	1.217	0.825	0.692	0.386	0.00	0.77	0.000	1.118
PSCAD2 0.1*rho	0.028	0.017	0.534	0.294	1.249	0.846	0.712	0.398	0.00	0.76	0.000	1.006
PSCAD3 0.1*rho	0.029	0.017	0.544	0.295	1.265	0.831	0.723	0.396	0.00	0.75	0.000	0.989
PMCP1 0.1*rho	0.029	0.016	0.524	0.278	1.220	0.793	0.696	0.376	0.00	0.76	0.000	1.111
PMCP2 0.1*rho	0.029	0.017	0.549	0.295	1.281	0.854	0.728	0.399	0.00	0.77	0.000	1.014
PMCP3 0.1*rho	0.029	0.017	0.547	0.298	1.288	0.865	0.728	0.404	0.00	0.81	0.000	1.012

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.275	0.003	2.721	0.015	5.449	0.025	3.396	0.014	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.274	0.002	2.711	0.014	5.421	0.020	3.381	0.011	0.00	0.00	0.000	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.274	0.002	2.711	0.014	5.422	0.020	3.381	0.011	0.00	0.00	0.000	0.000
FLASSO 0.3*rho	0.282	0.003	2.787	0.020	5.576	0.035	3.476	0.021	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.280	0.003	2.775	0.019	5.546	0.034	3.459	0.020	0.00	0.00	0.000	0.000
FMCP 0.3*rho	0.281	0.004	2.775	0.019	5.550	0.035	3.461	0.020	0.02	0.00	0.141	0.000
FLASSO 0.3*rho	0.089	0.041	0.592	0.240	1.539	0.476	0.806	0.272	0.00	2.22	0.000	1.474
FSCAD1 0.3*rho	0.086	0.048	0.519	0.282	1.216	0.825	0.692	0.386	0.00	0.74	0.000	1.079
FSCAD2 0.3*rho	0.085	0.050	0.534	0.294	1.249	0.846	0.712	0.398	0.00	0.76	0.000	1.006
FSCAD3 0.3*rho	0.087	0.050	0.544	0.295	1.265	0.831	0.723	0.396	0.00	0.75	0.000	0.989
PMCP1 0.3*rho	0.086	0.048	0.524	0.278	1.219	0.793	0.696	0.376	0.00	0.74	0.000	1.079
PMCP2 0.3*rho	0.087	0.050	0.549	0.295	1.281	0.854	0.728	0.399	0.00	0.77	0.000	1.014
PMCP3 0.3*rho	0.086	0.051	0.547	0.298	1.288	0.865	0.728	0.404	0.00	0.81	0.000	1.012

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.459	0.005	2.721	0.015	5.449	0.025	3.396	0.014	0.00	0.00	0.000	0.000
FSCAD 0.5*rho	0.456	0.004	2.711	0.014	5.421	0.020	3.381	0.011	0.00	0.00	0.000	0.000
FMCP 0.5*rho	0.456	0.004	2.711	0.014	5.422	0.020	3.381	0.011	0.00	0.00	0.000	0.000
FLASSO 0.5*rho	0.470	0.005	2.787	0.020	5.576	0.035	3.476	0.021	0.00	0.00	0.000	0.000
FSCAD 0.5*rho	0.467	0.006	2.775	0.019	5.546	0.034	3.459	0.020	0.00	0.00	0.000	0.000
FMCP 0.5*rho	0.469	0.007	2.775	0.019	5.550	0.035	3.461	0.020	0.02	0.00	0.141	0.000
FLASSO 0.5*rho	0.149	0.068	0.592	0.240	1.467	0.449	0.800	0.270	0.00	1.64	0.000	1.389
FSCAD1 0.5*rho	0.143	0.080	0.519	0.282	1.205	0.795	0.691	0.384	0.00	0.70	0.000	1.020
FSCAD2 0.5*rho	0.142	0.083	0.534	0.294	1.236	0.822	0.710	0.396	0.00	0.71	0.000	0.924
FSCAD3 0.5*rho	0.144	0.084	0.544	0.295	1.258	0.811	0.722	0.394	0.00	0.72	0.000	0.933
PMCP1 0.5*rho	0.144	0.079	0.524	0.278	1.208	0.767	0.695	0.373	0.00	0.69	0.000	1.012
PMCP2 0.5*rho	0.144	0.084	0.549	0.295	1.269	0.831	0.727	0.397	0.00	0.72	0.000	0.944
PMCP3 0.5*rho	0.143	0.084	0.547	0.298	1.277	0.843	0.727	0.402	0.00	0.77	0.000	0.952

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.500	-2.721	-1.816	-0.912	-0.001	0.001	-0.002	-0.001	0.000
FSCAD	0.500	-2.711	-1.807	-0.903	-0.001	0.001	-0.001	0.000	0.000
FMCP	0.500	-2.711	-1.807	-0.903	0.000	0.000	-0.002	0.000	0.000
CLASSO	0.686	-2.787	-1.858	-0.932	-0.001	0.000	-0.001	0.001	0.000
CSCAD	0.679	-2.775	-1.847	-0.924	0.000	0.000	-0.001	0.000	0.000
CMCP	0.679	-2.775	-1.847	-0.927	0.000	0.000	0.000	0.000	0.000
PLASSO	0.000	-0.369	-0.236	-0.143	0.007	-0.002	-0.022	0.014	-0.007
PSCAD1	0.000	0.132	0.123	0.035	0.007	-0.007	-0.004	0.007	-0.004
PSCAD2	0.000	0.171	0.148	0.073	0.008	-0.011	-0.007	0.002	-0.001
PSCAD3	0.000	0.182	0.157	0.083	0.017	-0.017	-0.007	0.001	-0.002
PMCP1	0.000	0.126	0.116	0.034	0.008	-0.006	-0.005	0.007	-0.007
PMCP2	0.000	0.176	0.154	0.074	0.021	-0.012	-0.007	0.013	-0.006
PMCP3	0.000	0.191	0.164	0.091	0.022	-0.009	-0.005	0.006	-0.005
FULL	0.500	-2.711	-1.807	-0.903	-0.001	0.002	-0.003	0.000	0.000
COMPLETE	0.678	-2.775	-1.847	-0.922	-0.001	0.000	-0.003	0.002	0.000
LOGISTIC	0.000	0.272	0.213	0.119	0.001	-0.007	-0.039	0.020	-0.010

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.015	0.015	0.014	0.015	0.010	0.010	0.010	0.011	0.008
FSCAD	0.015	0.014	0.014	0.015	0.008	0.008	0.008	0.008	0.006
FMCP	0.015	0.014	0.014	0.015	0.007	0.006	0.008	0.007	0.008
CLASSO	0.022	0.020	0.021	0.017	0.012	0.011	0.011	0.010	0.009
CSCAD	0.022	0.019	0.019	0.019	0.010	0.008	0.009	0.007	0.007
CMCP	0.022	0.019	0.019	0.022	0.010	0.009	0.010	0.008	0.006
PLASSO	0.000	0.447	0.373	0.240	0.173	0.162	0.165	0.149	0.133
PSCAD1	0.000	0.484	0.396	0.295	0.170	0.155	0.182	0.143	0.122
PSCAD2	0.000	0.484	0.404	0.284	0.169	0.155	0.191	0.172	0.124
PSCAD3	0.000	0.486	0.406	0.283	0.179	0.152	0.193	0.176	0.116
PMCP1	0.000	0.487	0.401	0.293	0.167	0.150	0.181	0.142	0.112
PMCP2	0.000	0.497	0.411	0.285	0.182	0.155	0.192	0.167	0.123
PMCP3	0.000	0.489	0.407	0.277	0.184	0.159	0.190	0.183	0.126
FULL	0.015	0.014	0.014	0.014	0.015	0.015	0.014	0.015	0.013
COMPLETE	0.022	0.019	0.019	0.016	0.017	0.016	0.015	0.015	0.014
LOGISTIC	0.000	0.517	0.429	0.281	0.263	0.250	0.252	0.238	0.211

```

beta : 3 2 1 0 0 0 0
intercept : 0
sample size : 600
simulation time : 100
loss_rate: 0.625
error_independent: TRUE
missing_method: xy
missing_location: 8
lambda_location_for_cv(SCAD): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
lambda_location_for_cv(MCP): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
file_name: ./data/beta_3_2_1_n_600_lambda_location_l1_30_error_independent_TRUE_x_missing_location_8.Rdata
table_original

```

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO	0	0	2.721	0.015	5.476	0.025	3.396	0.014	0.00	2.41	0.000	1.658
FSCAD	0	0	2.711	0.014	5.434	0.032	3.381	0.011	0.00	0.94	0.000	1.340
FMCP	0	0	2.711	0.014	5.433	0.031	3.381	0.011	0.00	0.67	0.000	1.295
CLASSO	0	0	2.787	0.020	5.607	0.033	3.476	0.021	0.00	2.55	0.000	1.527
CSCAD	0	0	2.775	0.019	5.562	0.040	3.459	0.020	0.00	1.44	0.000	1.472
CMCP	0	0	2.775	0.019	5.565	0.042	3.461	0.020	0.02	0.90	0.141	1.425
PLASSO	0	0	0.592	0.240	1.603	0.490	0.809	0.272	0.00	3.60	0.000	1.181
PSCAD1	0	0	0.519	0.282	1.217	0.825	0.692	0.386	0.00	0.78	0.000	1.151
PSCAD2	0	0	0.534	0.294	1.249	0.846	0.712	0.398	0.00	0.76	0.000	1.006
PSCAD3	0	0	0.544	0.295	1.266	0.831	0.723	0.396	0.00	0.77	0.000	1.014
PMCP1	0	0	0.524	0.278	1.220	0.793	0.696	0.376	0.00	0.76	0.000	1.111
PMCP2	0	0	0.549	0.295	1.281	0.854	0.728	0.399	0.00	0.77	0.000	1.014
PMCP3	0	0	0.547	0.298	1.288	0.865	0.728	0.404	0.00	0.81	0.000	1.012

relative_ratio_0.05

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.05	0.05	NA	2.721	0.015	5.449	0.025	3.396	0.014	0.00	0.00	0.000	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FSCAD 0.05	0.05	NA	2.711	0.014	5.421	0.020	3.381	0.011	0.00	0.00	0.000	0.000
FMCP 0.05	0.05	NA	2.711	0.014	5.422	0.020	3.381	0.011	0.00	0.00	0.000	0.000
CLASSO 0.05	0.05	NA	2.787	0.020	5.576	0.035	3.476	0.021	0.00	0.00	0.000	0.000
CSCAD 0.05	0.05	NA	2.775	0.019	5.546	0.034	3.459	0.020	0.00	0.00	0.000	0.000
CMCP 0.05	0.05	NA	2.775	0.019	5.550	0.035	3.461	0.020	0.02	0.00	0.141	0.000
PLASSO 0.05	0.05	NA	0.592	0.240	1.579	0.495	0.808	0.272	0.00	2.69	0.000	1.376
PSCAD1 0.05	0.05	NA	0.519	0.282	1.216	0.825	0.692	0.386	0.00	0.74	0.000	1.079
PSCAD2 0.05	0.05	NA	0.534	0.294	1.249	0.846	0.712	0.398	0.00	0.76	0.000	1.006
PSCAD3 0.05	0.05	NA	0.544	0.295	1.265	0.831	0.723	0.396	0.00	0.75	0.000	0.989
PMCP1 0.05	0.05	NA	0.524	0.278	1.220	0.793	0.696	0.376	0.00	0.75	0.000	1.095
PMCP2 0.05	0.05	NA	0.549	0.295	1.281	0.854	0.728	0.399	0.00	0.77	0.000	1.014
PMCP3 0.05	0.05	NA	0.547	0.298	1.288	0.865	0.728	0.404	0.00	0.81	0.000	1.012

relative_ratio_0.1

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.1*rho	0.092	0.001	2.721	0.015	5.449	0.025	3.396	0.014	0.00	0.00	0.000	0.000
FSCAD 0.1*rho	0.091	0.001	2.711	0.014	5.421	0.020	3.381	0.011	0.00	0.00	0.000	0.000
FMCP 0.1*rho	0.091	0.001	2.711	0.014	5.422	0.020	3.381	0.011	0.00	0.00	0.000	0.000
CLASSO 0.1*rho	0.094	0.001	2.787	0.020	5.576	0.035	3.476	0.021	0.00	0.00	0.000	0.000
CSCAD 0.1*rho	0.093	0.001	2.775	0.019	5.546	0.034	3.459	0.020	0.00	0.00	0.000	0.000
CMCP 0.1*rho	0.094	0.001	2.775	0.019	5.550	0.035	3.461	0.020	0.02	0.00	0.141	0.000
PLASSO 0.1*rho	0.030	0.014	0.592	0.240	1.595	0.489	0.809	0.272	0.00	3.12	0.000	1.444
PSCAD1 0.1*rho	0.029	0.016	0.519	0.282	1.217	0.825	0.692	0.386	0.00	0.77	0.000	1.118
PSCAD2 0.1*rho	0.028	0.017	0.534	0.294	1.249	0.846	0.712	0.398	0.00	0.76	0.000	1.006
PSCAD3 0.1*rho	0.029	0.017	0.544	0.295	1.265	0.831	0.723	0.396	0.00	0.75	0.000	0.989
PMCP1 0.1*rho	0.029	0.016	0.524	0.278	1.220	0.793	0.696	0.376	0.00	0.76	0.000	1.111
PMCP2 0.1*rho	0.029	0.017	0.549	0.295	1.281	0.854	0.728	0.399	0.00	0.77	0.000	1.014
PMCP3 0.1*rho	0.029	0.017	0.547	0.298	1.288	0.865	0.728	0.404	0.00	0.81	0.000	1.012

relative_ratio_0.3

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.3*rho	0.275	0.003	2.721	0.015	5.449	0.025	3.396	0.014	0.00	0.00	0.000	0.000
FSCAD 0.3*rho	0.274	0.002	2.711	0.014	5.421	0.020	3.381	0.011	0.00	0.00	0.000	0.000

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FMCP 0.3*rho	0.274	0.002	2.711	0.014	5.422	0.020	3.381	0.011	0.00	0.00	0.000	0.000
CLASSO 0.3*rho	0.282	0.003	2.787	0.020	5.576	0.035	3.476	0.021	0.00	0.00	0.000	0.000
CSCAD 0.3*rho	0.280	0.003	2.775	0.019	5.546	0.034	3.459	0.020	0.00	0.00	0.000	0.000
CMCP 0.3*rho	0.281	0.004	2.775	0.019	5.550	0.035	3.461	0.020	0.02	0.00	0.141	0.000
PLASSO 0.3*rho	0.089	0.041	0.592	0.240	1.539	0.476	0.806	0.272	0.00	2.22	0.000	1.474
PSCAD1 0.3*rho	0.086	0.048	0.519	0.282	1.216	0.825	0.692	0.386	0.00	0.74	0.000	1.079
PSCAD2 0.3*rho	0.085	0.050	0.534	0.294	1.249	0.846	0.712	0.398	0.00	0.76	0.000	1.006
PSCAD3 0.3*rho	0.087	0.050	0.544	0.295	1.265	0.831	0.723	0.396	0.00	0.75	0.000	0.989
PMCP1 0.3*rho	0.086	0.048	0.524	0.278	1.219	0.793	0.696	0.376	0.00	0.74	0.000	1.079
PMCP2 0.3*rho	0.087	0.050	0.549	0.295	1.281	0.854	0.728	0.399	0.00	0.77	0.000	1.014
PMCP3 0.3*rho	0.086	0.051	0.547	0.298	1.288	0.865	0.728	0.404	0.00	0.81	0.000	1.012

relative_ratio_0.5

	rho	r_sd	L_inf	L_sd	L_1	L_1_sd	L_2	L_2_sd	tn0e0	t0en0	tn0e0_sd	t0en0_sd
FLASSO 0.5*rho	0.459	0.005	2.721	0.015	5.449	0.025	3.396	0.014	0.00	0.00	0.000	0.000
FSCAD 0.5*rho	0.456	0.004	2.711	0.014	5.421	0.020	3.381	0.011	0.00	0.00	0.000	0.000
FMCP 0.5*rho	0.456	0.004	2.711	0.014	5.422	0.020	3.381	0.011	0.00	0.00	0.000	0.000
CLASSO 0.5*rho	0.470	0.005	2.787	0.020	5.576	0.035	3.476	0.021	0.00	0.00	0.000	0.000
CSCAD 0.5*rho	0.467	0.006	2.775	0.019	5.546	0.034	3.459	0.020	0.00	0.00	0.000	0.000
CMCP 0.5*rho	0.469	0.007	2.775	0.019	5.550	0.035	3.461	0.020	0.02	0.00	0.141	0.000
PLASSO 0.5*rho	0.149	0.068	0.592	0.240	1.467	0.449	0.800	0.270	0.00	1.64	0.000	1.389
PSCAD1 0.5*rho	0.143	0.080	0.519	0.282	1.205	0.795	0.691	0.384	0.00	0.70	0.000	1.020
PSCAD2 0.5*rho	0.142	0.083	0.534	0.294	1.236	0.822	0.710	0.396	0.00	0.71	0.000	0.924
PSCAD3 0.5*rho	0.144	0.084	0.544	0.295	1.258	0.811	0.722	0.394	0.00	0.72	0.000	0.933
PMCP1 0.5*rho	0.144	0.079	0.524	0.278	1.208	0.767	0.695	0.373	0.00	0.69	0.000	1.012
PMCP2 0.5*rho	0.144	0.084	0.549	0.295	1.269	0.831	0.727	0.397	0.00	0.72	0.000	0.944
PMCP3 0.5*rho	0.143	0.084	0.547	0.298	1.277	0.843	0.727	0.402	0.00	0.77	0.000	0.952

Mean difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.500	-2.721	-1.816	-0.912	-0.001	0.001	-0.002	-0.001	0.000
FSCAD	0.500	-2.711	-1.807	-0.903	-0.001	0.001	-0.001	0.000	0.000
FMCP	0.500	-2.711	-1.807	-0.903	0.000	0.000	-0.002	0.000	0.000
CLASSO	0.686	-2.787	-1.858	-0.932	-0.001	0.000	-0.001	0.001	0.000
CSCAD	0.679	-2.775	-1.847	-0.924	0.000	0.000	-0.001	0.000	0.000
CMCP	0.679	-2.775	-1.847	-0.927	0.000	0.000	0.000	0.000	0.000
PLASSO	0.000	-0.369	-0.236	-0.143	0.007	-0.002	-0.022	0.014	-0.007
PSCAD1	0.000	0.132	0.123	0.035	0.007	-0.007	-0.004	0.007	-0.004
PSCAD2	0.000	0.171	0.148	0.073	0.008	-0.011	-0.007	0.002	-0.001
PSCAD3	0.000	0.182	0.157	0.083	0.017	-0.017	-0.007	0.001	-0.002
PMCP1	0.000	0.126	0.116	0.034	0.008	-0.006	-0.005	0.007	-0.007
PMCP2	0.000	0.176	0.154	0.074	0.021	-0.012	-0.007	0.013	-0.006
PMCP3	0.000	0.191	0.164	0.091	0.022	-0.009	-0.005	0.006	-0.005
FULL	0.500	-2.711	-1.807	-0.903	-0.001	0.002	-0.003	0.000	0.000
COMPLETE	0.678	-2.775	-1.847	-0.922	-0.001	0.000	-0.003	0.002	0.000
LOGISTIC	0.000	0.272	0.213	0.119	0.001	-0.007	-0.039	0.020	-0.010

sd difference between estimation and true beta value

	(intercept)	x1	x2	x3	x4	x5	x6	x7	x8
FLASSO	0.015	0.015	0.014	0.015	0.010	0.010	0.010	0.011	0.008
FSCAD	0.015	0.014	0.014	0.015	0.008	0.008	0.008	0.008	0.006
FMCP	0.015	0.014	0.014	0.015	0.007	0.006	0.008	0.007	0.008
CLASSO	0.022	0.020	0.021	0.017	0.012	0.011	0.011	0.010	0.009
CSCAD	0.022	0.019	0.019	0.019	0.010	0.008	0.009	0.007	0.007
CMCP	0.022	0.019	0.019	0.022	0.010	0.009	0.010	0.008	0.006
PLASSO	0.000	0.447	0.373	0.240	0.173	0.162	0.165	0.149	0.133
PSCAD1	0.000	0.484	0.396	0.295	0.170	0.155	0.182	0.143	0.122
PSCAD2	0.000	0.484	0.404	0.284	0.169	0.155	0.191	0.172	0.124
PSCAD3	0.000	0.486	0.406	0.283	0.179	0.152	0.193	0.176	0.116
PMCP1	0.000	0.487	0.401	0.293	0.167	0.150	0.181	0.142	0.112
PMCP2	0.000	0.497	0.411	0.285	0.182	0.155	0.192	0.167	0.123
PMCP3	0.000	0.489	0.407	0.277	0.184	0.159	0.190	0.183	0.126
FULL	0.015	0.014	0.014	0.014	0.015	0.015	0.014	0.015	0.013
COMPLETE	0.022	0.019	0.019	0.016	0.017	0.016	0.015	0.015	0.014
LOGISTIC	0.000	0.517	0.429	0.281	0.263	0.250	0.252	0.238	0.211