Inspection of new elasticities (p = .05)

Simulation scheme

- 1000 draws from variance-covariance matrix of parameter estimates
- one-period shock (which is mathematically equivalent to shocks in *any* other period, and hence also the mean of those); this has been empirically verified

Definition of elasticities:

- "dust settling period": sum of difference of log-level sales on a dataset with shocked mmix instruments, and baseline log-level sales
- "long-term elasticity: difference of log-level sales on a dataset with shocked mmix instruments, and baseline log-level sales in one period (e.g., 12 months after shock)

Measures:

1. elast1: short-term elasticities (difference of log level sales w/ shocked mmix, and baseline log level sales)
2. elast6: sum of (1) over 6 months
3. elast12: sum of (1) over 12 months
4. elast12lt: difference in log-level sales 12 months after shock

Variables:

a. Price (ln rwpspr)
b. Distribution (ln wpswdst)
c. Line length (ln llen)

Descriptive statistics

Overview includes weighted mean elasticities, and an assessment about significance (percentage positive/negative & significant, percentage not significant).

varname	variable	N	mean	median	weightedmean	min	max	perc_positive	perc_negative	perc_ns
lnrwpspr	elast1	1687	-0.665	-0.549	-0.527	-7.087	3.284	0.067	0.444	0.489
lnrwpspr	elast12	1687	-0.961	-0.550	-0.569	-120.573	99.235	0.101	0.306	0.593
lnrwpspr	elast6	1687	-0.833	-0.528	-0.560	-22.161	17.067	0.088	0.339	0.573
lnrwpspr	elastlt12	1687	-0.014	0.000	0.000	-30.731	24.905	0.078	0.062	0.860
lnwpswdst	elast1	1687	0.650	0.558	0.550	-1.773	5.876	0.894	0.004	0.103
lnwpswdst	elast12	1687	1.294	0.871	0.881	-172.860	17.748	0.628	0.017	0.355
lnwpswdst	elast6	1687	1.049	0.771	0.794	-27.182	12.656	0.704	0.014	0.282
lnwpswdst	elastlt12	1687	0.020	0.005	0.000	-43.726	1.675	0.145	0.028	0.828
lnllen	elast1	1686	0.378	0.322	0.348	-0.805	2.405	0.619	0.008	0.374
lnllen	elast12	1686	1.119	0.806	0.895	-80.543	26.091	0.520	0.024	0.456
lnllen	elast6	1686	0.865	0.686	0.754	-12.710	8.504	0.571	0.018	0.412
lnllen	elastlt12	1686	0.031	0.005	0.000	-21.536	6.190	0.144	0.028	0.827

Descriptive stats by model type

Models in levels

varname	variable	N	mean	median	weightedmean	min	max	perc_positive	perc_negative	perc_ns
lnrwpspr	elast1	721	-0.673	-0.523	-0.475	-7.087	3.244	0.062	0.451	0.487
lnrwpspr	elast12	721	-1.913	-1.071	-1.002	-30.166	99.235	0.080	0.374	0.545
lnrwpspr	elast6	721	-1.519	-1.015	-0.915	-17.727	17.067	0.075	0.404	0.521
lnrwpspr	elastlt12	721	-0.032	-0.003	0.000	-2.311	24.905	0.040	0.076	0.883
lnwpswdst	elast1	721	0.642	0.542	0.531	-1.773	5.698	0.883	0.004	0.112
lnwpswdst	elast12	721	2.113	1.262	1.115	-172.860	17.748	0.750	0.008	0.241
lnwpswdst	elast6	721	1.562	1.076	1.023	-27.182	12.656	0.788	0.011	0.201
lnwpswdst	elastlt12	721	0.050	0.011	0.000	-43.726	1.675	0.214	0.007	0.779
lnllen	elast1	721	0.348	0.303	0.319	-0.429	2.405	0.592	0.008	0.399
lnllen	elast12	721	1.848	0.949	1.005	-5.996	26.091	0.555	0.010	0.436
lnllen	elast6	721	1.214	0.801	0.867	-2.529	8.504	0.592	0.010	0.398
lnllen	elastlt12	721	0.099	0.010	0.000	-0.593	6.190	0.198	0.004	0.798

Models in differences

varname	variable	N	mean	median	weightedmean	min	max	perc_positive	perc_negative	perc_ns
lnrwpspr	elast1	452	-0.596	-0.504	-0.540	-5.281	3.140	0.080	0.392	0.529
lnrwpspr	elast12	452	0.160	-0.131	-0.081	-18.280	30.023	0.108	0.117	0.774
lnrwpspr	elast6	452	-0.169	-0.246	-0.271	-8.890	12.974	0.084	0.186	0.730
lnrwpspr	elastlt12	452	0.056	0.033	0.034	-1.565	3.012	0.179	0.075	0.746
lnwpswdst	elast1	452	0.647	0.527	0.515	-0.700	5.876	0.872	0.007	0.122
lnwpswdst	elast12	452	0.584	0.571	0.518	-16.376	13.631	0.283	0.042	0.675
lnwpswdst	elast6	452	0.543	0.473	0.469	-6.765	8.390	0.454	0.029	0.518
lnwpswdst	elastlt12	452	0.006	0.012	0.008	-1.602	0.877	0.133	0.088	0.779
lnllen	elast1	451	0.350	0.288	0.314	-0.805	1.847	0.557	0.011	0.432
lnllen	elast12	451	0.355	0.320	0.403	-9.733	4.810	0.200	0.060	0.741
lnllen	elast6	451	0.345	0.281	0.347	-4.725	2.927	0.299	0.040	0.661
lnllen	elastlt12	451	0.001	0.008	0.008	-0.835	0.374	0.129	0.093	0.778

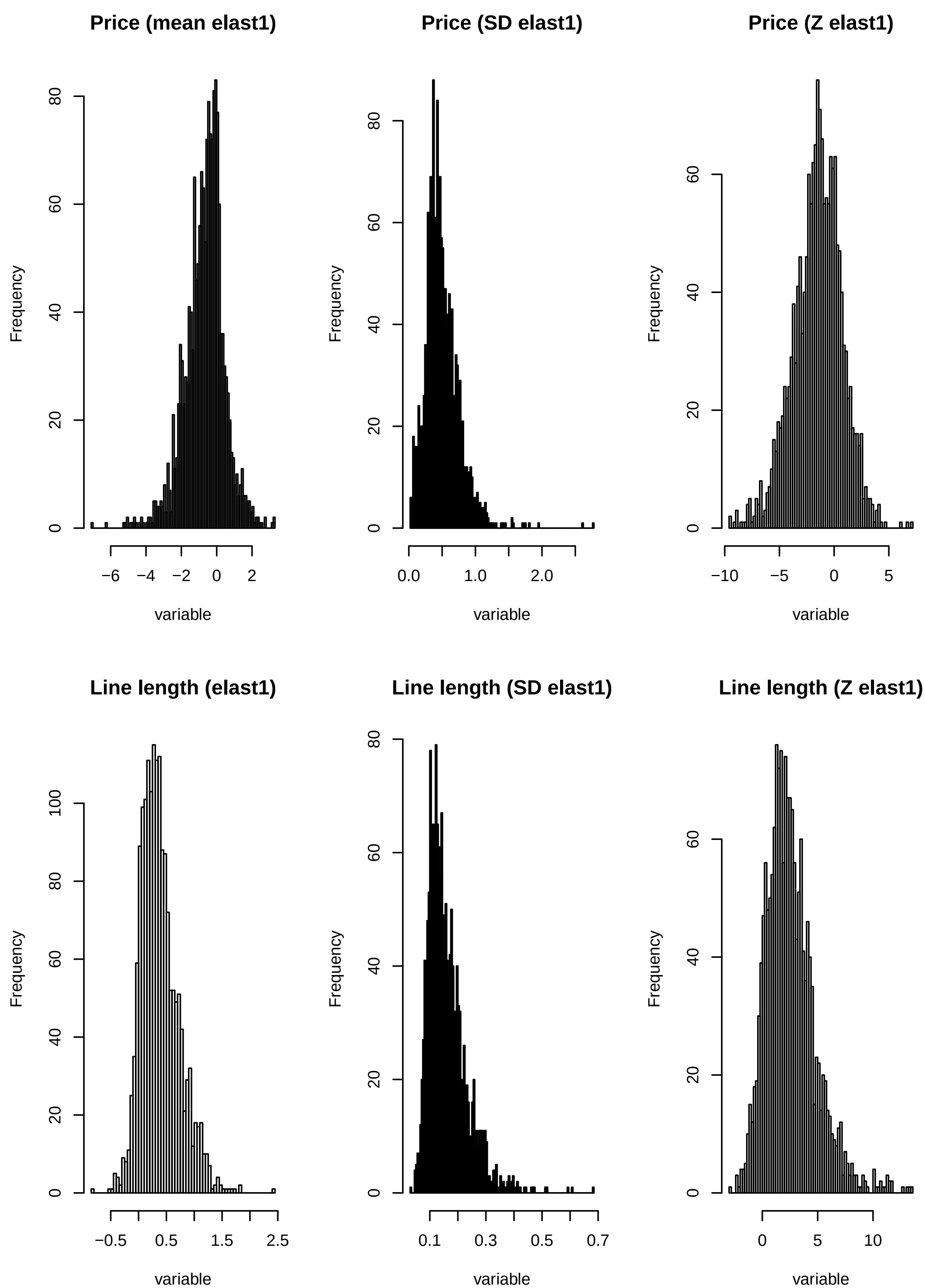
Models in EC

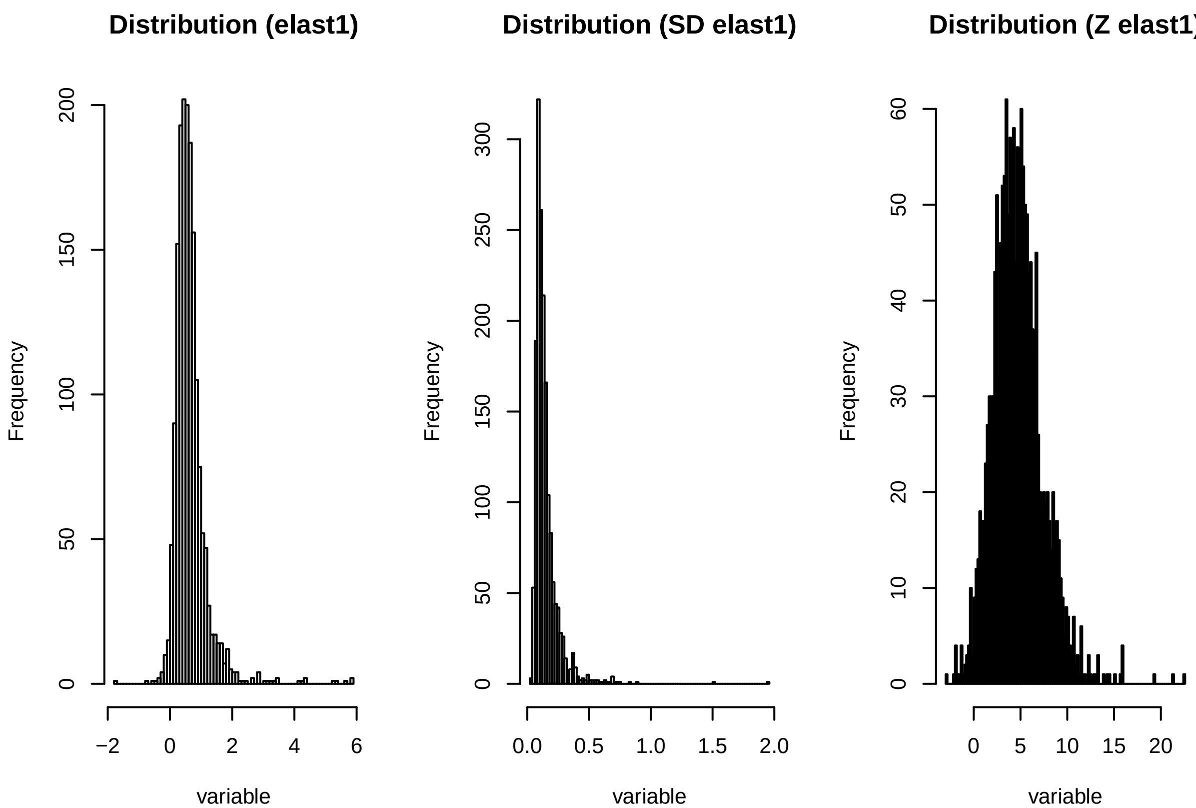
varname	variable	N	mean	median	weightedmean	min	max	perc_positive	perc_negative	perc_ns
lnrwpspr	elast1	514	-0.716	-0.648	-0.607	-4.700	3.284	0.062	0.481	0.457
lnrwpspr	elast12	514	-0.611	-0.449	-0.424	-120.573	12.832	0.123	0.375	0.502
lnrwpspr	elast6	514	-0.456	-0.441	-0.438	-22.161	10.208	0.111	0.383	0.506
lnrwpspr	elastlt12	514	-0.051	0.001	0.001	-30.731	1.437	0.043	0.031	0.926
lnwpswdst	elast1	514	0.664	0.614	0.605	-0.256	2.812	0.928	0.000	0.072
lnwpswdst	elast12	514	0.770	0.779	0.811	-39.864	8.553	0.761	0.006	0.233
lnwpswdst	elast6	514	0.774	0.740	0.763	-10.314	7.001	0.805	0.006	0.189
lnwpswdst	elastlt12	514	-0.010	0.001	0.001	-6.852	0.409	0.058	0.004	0.938
lnllen	elast1	514	0.445	0.396	0.420	-0.528	1.739	0.710	0.004	0.286
lnllen	elast12	514	0.767	0.937	0.942	-80.543	3.857	0.753	0.014	0.233
lnllen	elast6	514	0.832	0.834	0.852	-12.710	3.931	0.778	0.010	0.212
lnllen	elastlt12	514	-0.038	0.003	0.002	-21.536	0.273	0.082	0.006	0.912

Plots

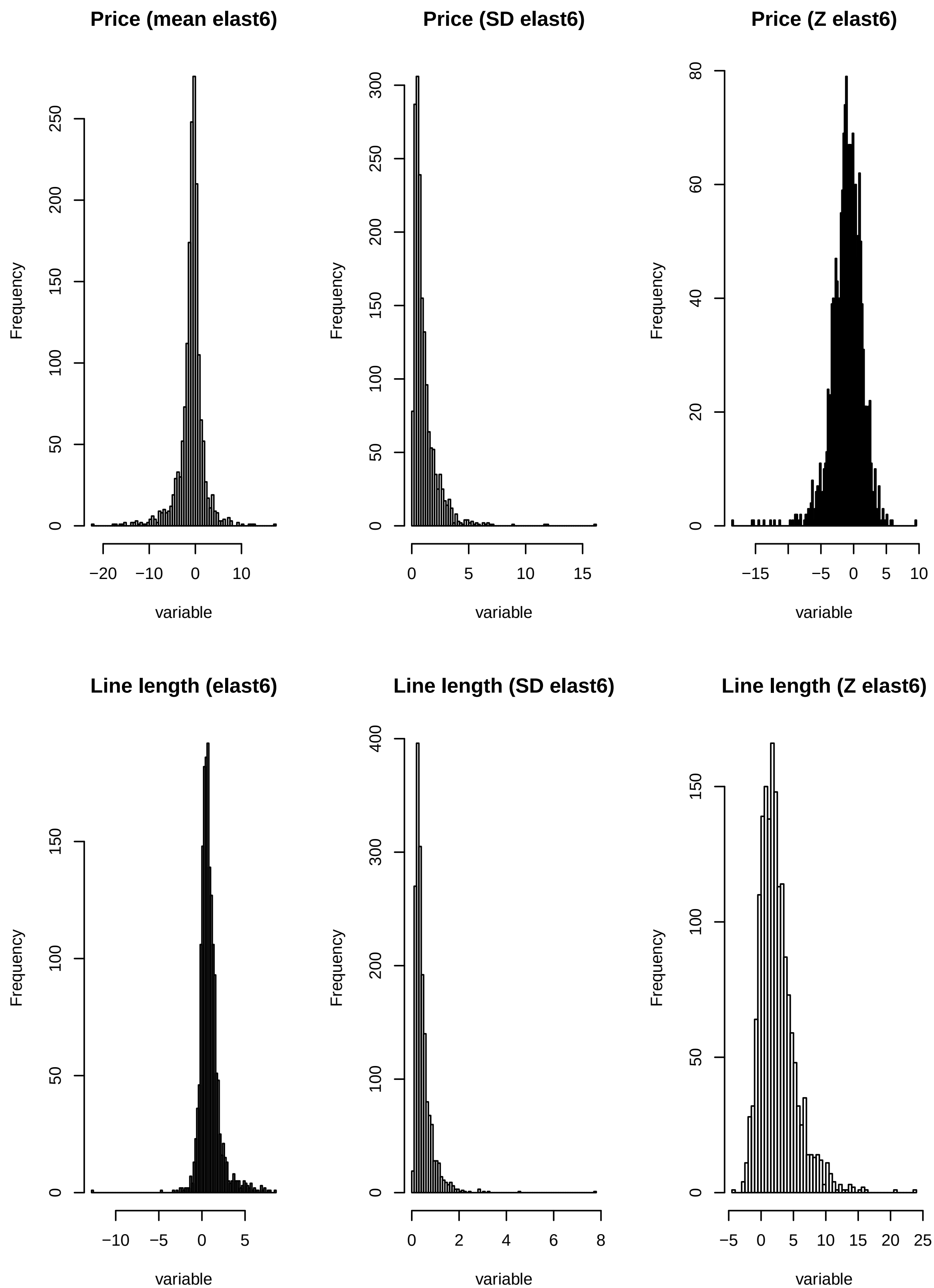
- Distribution of mean parameter
- Distribution of standard errors
- Distribution of z values

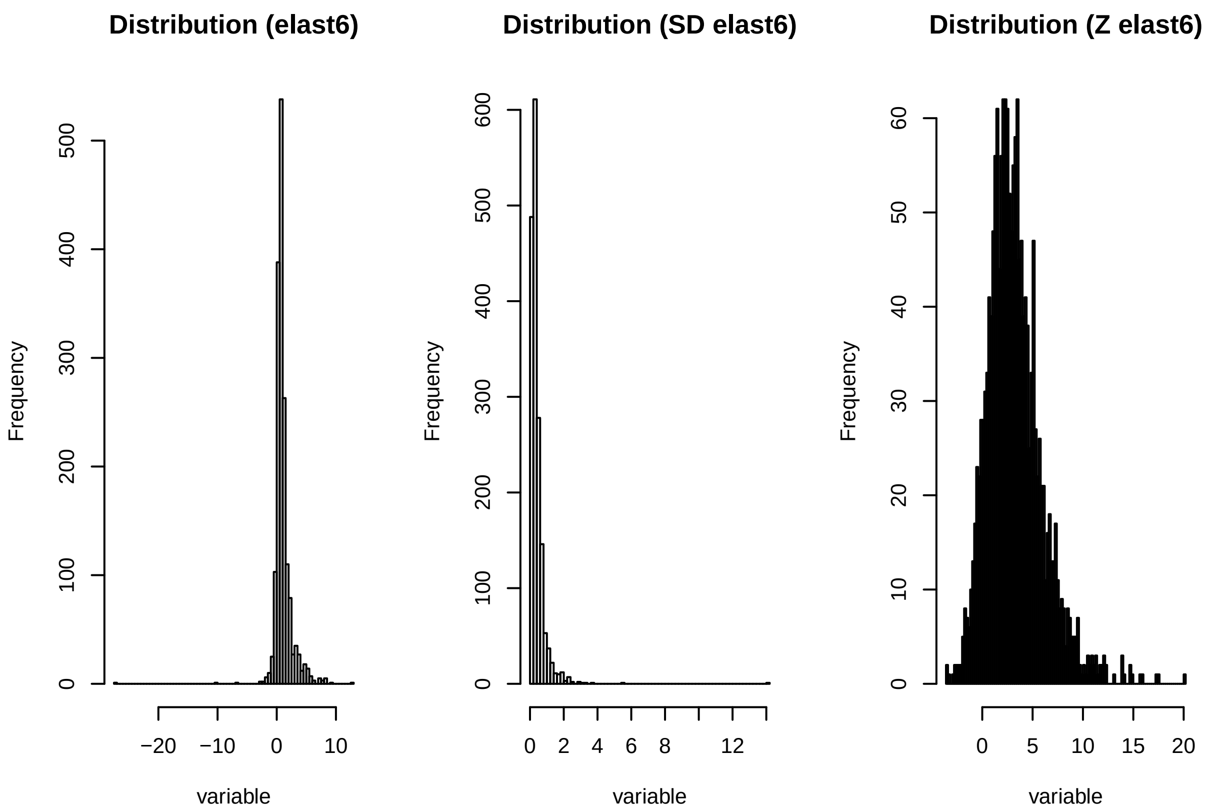
Short-term (elast1)



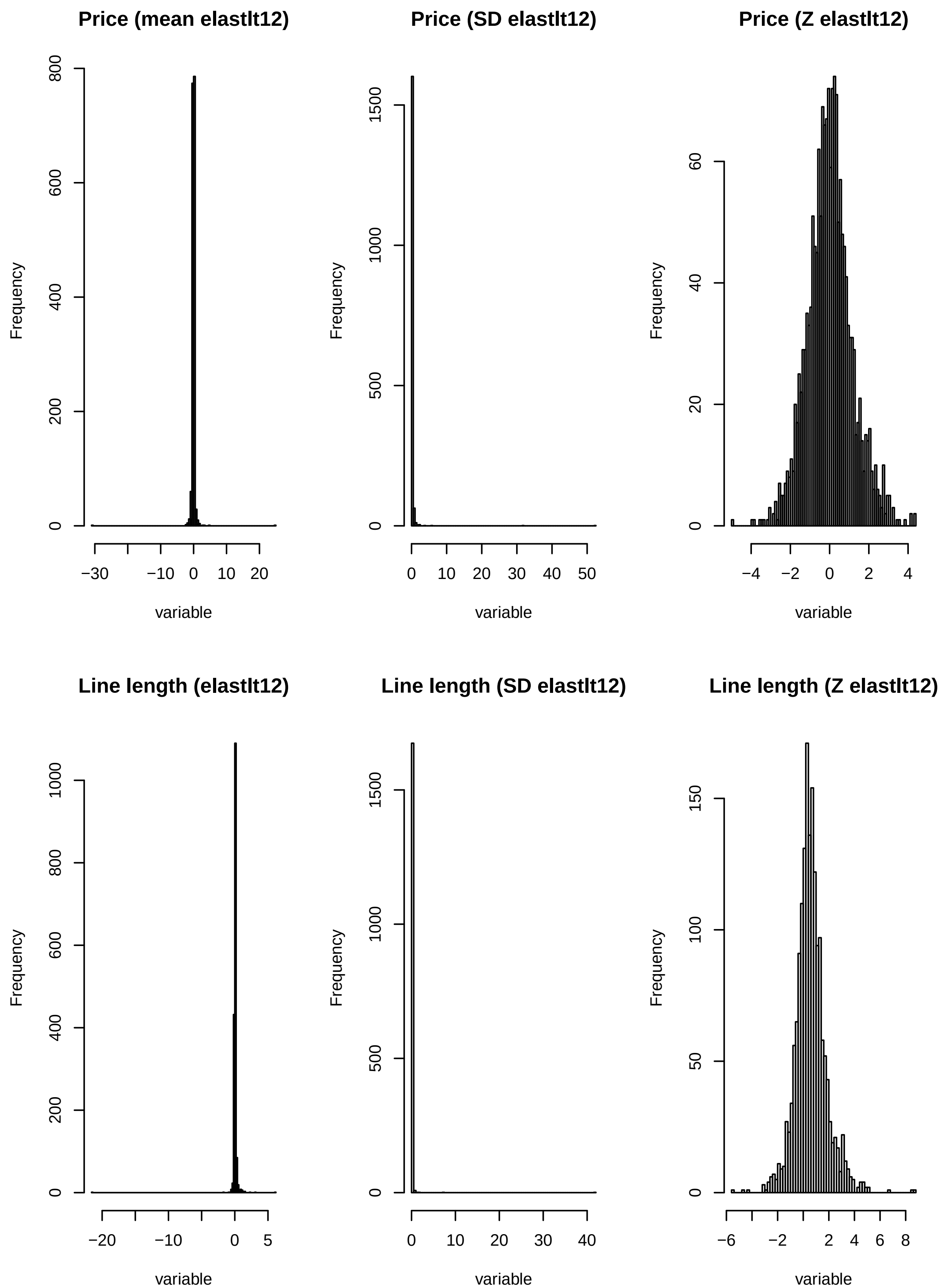

Distribution (elast1)
Frequency
variable
Distribution (SD elast1)
Frequency
variable
Distribution (Z elast1)
Frequency
variable

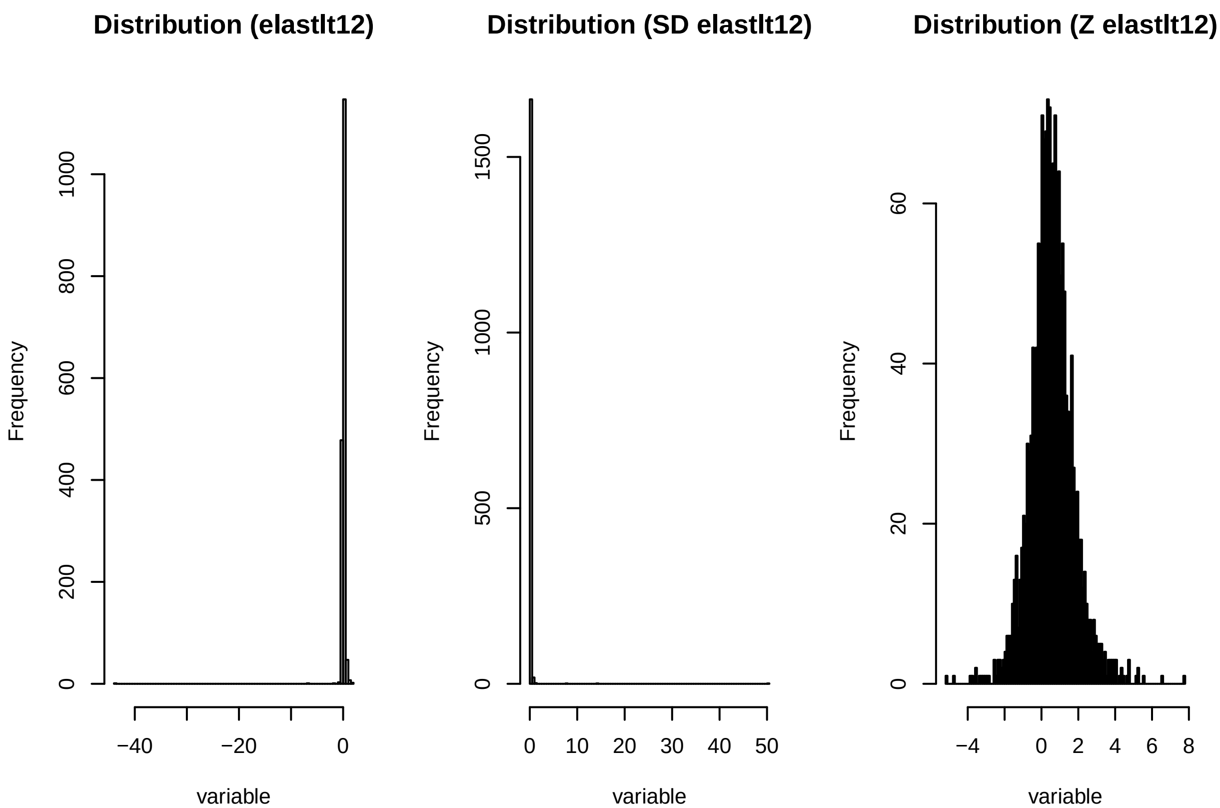
Dust-settling (6 months) (elast6)




Distribution (elast6)
Frequency
0
100
200
300
400
500
−20
−10
0
10
variable
Distribution (SD elast6)
Frequency
0
100
200
300
400
500
600
0
2
4
6
8
12
variable
Distribution (Z elast6)
Frequency
0
10
20
30
40
50
60
0
5
10
15
20
variable

Long-term (12 months) (elast12lt)




Distribution (elastlt12)
Frequency
0
200
400
600
800
1000
−40
−20
0
variable
Distribution (SD elastlt12)
Frequency
0
500
1000
1500
0
10
20
30
40
50
variable
Distribution (Z elastlt12)
Frequency
0
20
40
60
−4
0
2
4
6
8
variable