Inspection of new elasticities (p = .10)

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	-0.649	-0.530	-0.500	-7.087	2.832	0.065	0.443	0.492
lnrwpspr	elast12	1687	-1.011	-0.550	-0.579	-75.702	99.235	0.102	0.321	0.577
lnrwpspr	elast6	1687	-0.857	-0.566	-0.566	-18.118	17.067	0.095	0.349	0.557
lnrwpspr	elastlt12	1687	-0.015	0.000	0.000	-17.049	24.905	0.075	0.065	0.860
lnwpswdst	elast1	1687	0.647	0.556	0.547	-1.773	5.877	0.898	0.002	0.100
lnwpswdst	elast12	1687	1.258	0.853	0.858	-172.860	21.446	0.651	0.017	0.331
lnwpswdst	elast6	1687	1.033	0.756	0.781	-27.182	13.106	0.724	0.015	0.261
lnwpswdst	elastlt12	1687	0.016	0.003	0.000	-43.726	2.041	0.145	0.029	0.826
lnllen	elast1	1686	0.382	0.325	0.347	-0.611	2.405	0.632	0.007	0.361
lnllen	elast12	1686	1.154	0.840	0.880	-44.832	26.091	0.537	0.026	0.438
lnllen	elast6	1686	0.891	0.706	0.754	-8.608	8.903	0.587	0.021	0.392
lnllen	elastlt12	1686	0.035	0.005	0.000	-10.845	6.190	0.141	0.031	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	857	-0.659	-0.492	-0.451	-7.087	2.832	0.071	0.449	0.480
lnrwpspr	elast12	857	-1.750	-0.936	-0.866	-34.512	99.235	0.074	0.375	0.552
lnrwpspr	elast6	857	-1.353	-0.844	-0.808	-18.118	17.067	0.070	0.392	0.538
lnrwpspr	elastlt12	857	-0.041	-0.001	0.000	-2.813	24.905	0.030	0.075	0.895
lnwpswdst	elast1	857	0.648	0.557	0.539	-1.773	5.698	0.902	0.001	0.097
lnwpswdst	elast12	857	1.799	1.031	0.976	-172.860	21.446	0.760	0.008	0.232
lnwpswdst	elast6	857	1.388	0.922	0.915	-27.182	13.106	0.795	0.008	0.197
lnwpswdst	elastlt12	857	0.032	0.006	0.000	-43.726	2.041	0.182	0.007	0.811
lnllen	elast1	856	0.362	0.302	0.327	-0.533	2.405	0.624	0.011	0.366
lnllen	elast12	856	1.714	0.970	0.958	-5.656	26.091	0.602	0.013	0.386
lnllen	elast6	856	1.181	0.820	0.842	-4.512	8.903	0.633	0.012	0.355
lnllen	elastlt12	856	0.080	0.007	0.000	-0.553	6.190	0.186	0.006	0.808

Models in differences

varname	variable	N	mean	median	weightedmean	min	max	perc_positive	perc_negative	perc_ns
lnrwpspr	elast1	410	-0.628	-0.539	-0.563	-6.005	2.164	0.071	0.410	0.520
lnrwpspr	elast12	410	0.067	-0.140	-0.112	-18.280	30.023	0.120	0.146	0.734
lnrwpspr	elast6	410	-0.226	-0.251	-0.282	-8.890	12.160	0.105	0.207	0.688
lnrwpspr	elastlt12	410	0.050	0.027	0.031	-1.565	3.012	0.202	0.083	0.715
lnwpswdst	elast1	410	0.647	0.528	0.514	-0.901	5.877	0.871	0.005	0.124
lnwpswdst	elast12	410	0.676	0.528	0.548	-7.743	16.392	0.293	0.044	0.663
lnwpswdst	elast6	410	0.590	0.473	0.484	-3.965	9.718	0.463	0.037	0.500
lnwpswdst	elastlt12	410	0.013	0.010	0.010	-0.628	1.100	0.166	0.105	0.729
lnllen	elast1	410	0.352	0.295	0.309	-0.487	1.847	0.556	0.002	0.441
lnllen	elast12	410	0.310	0.369	0.376	-9.750	5.341	0.190	0.066	0.744
lnllen	elast6	410	0.330	0.312	0.337	-4.737	2.821	0.305	0.051	0.644
lnllen	elastlt12	410	-0.004	0.005	0.006	-0.836	0.420	0.107	0.112	0.780

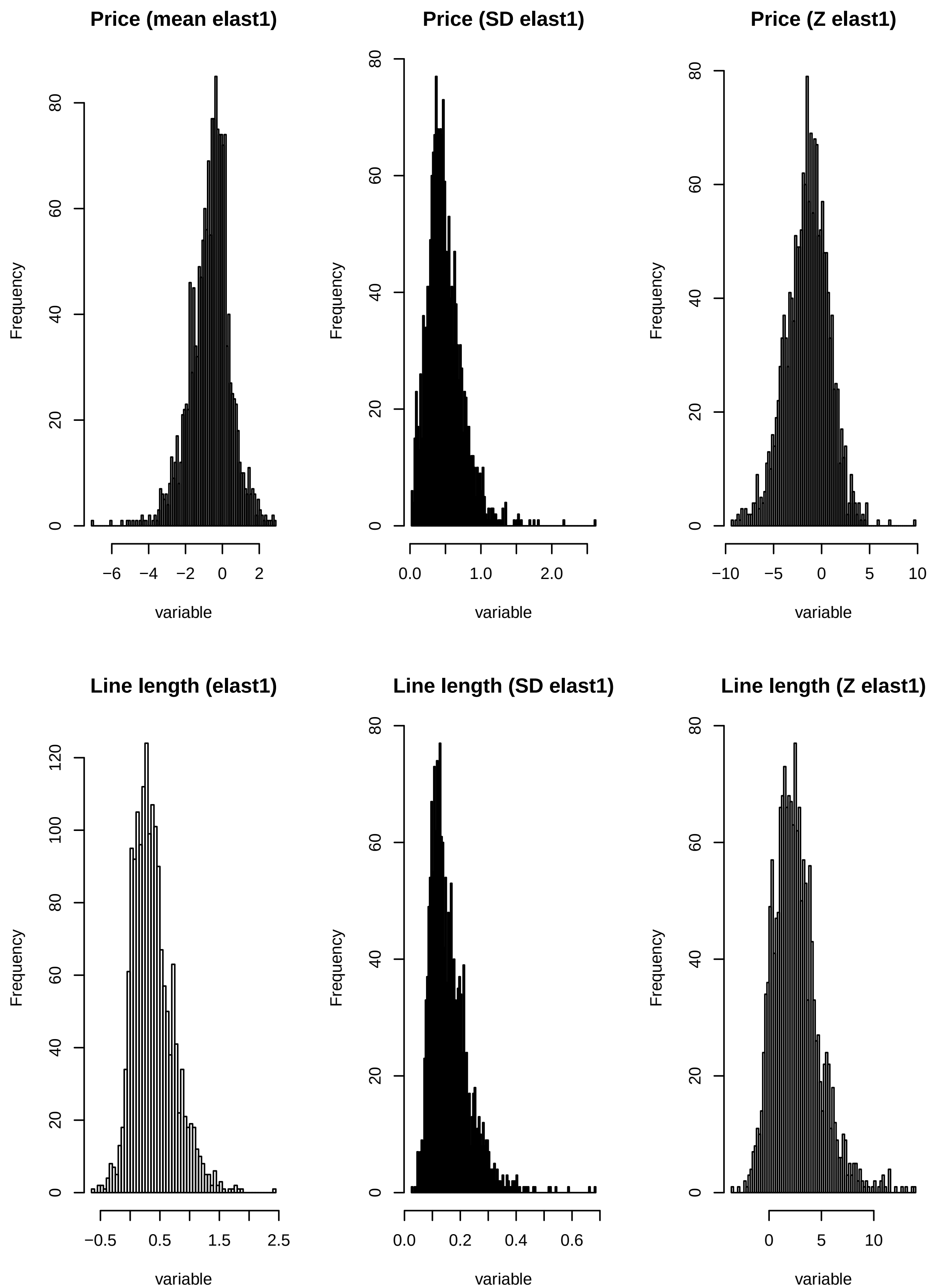
Models in EC

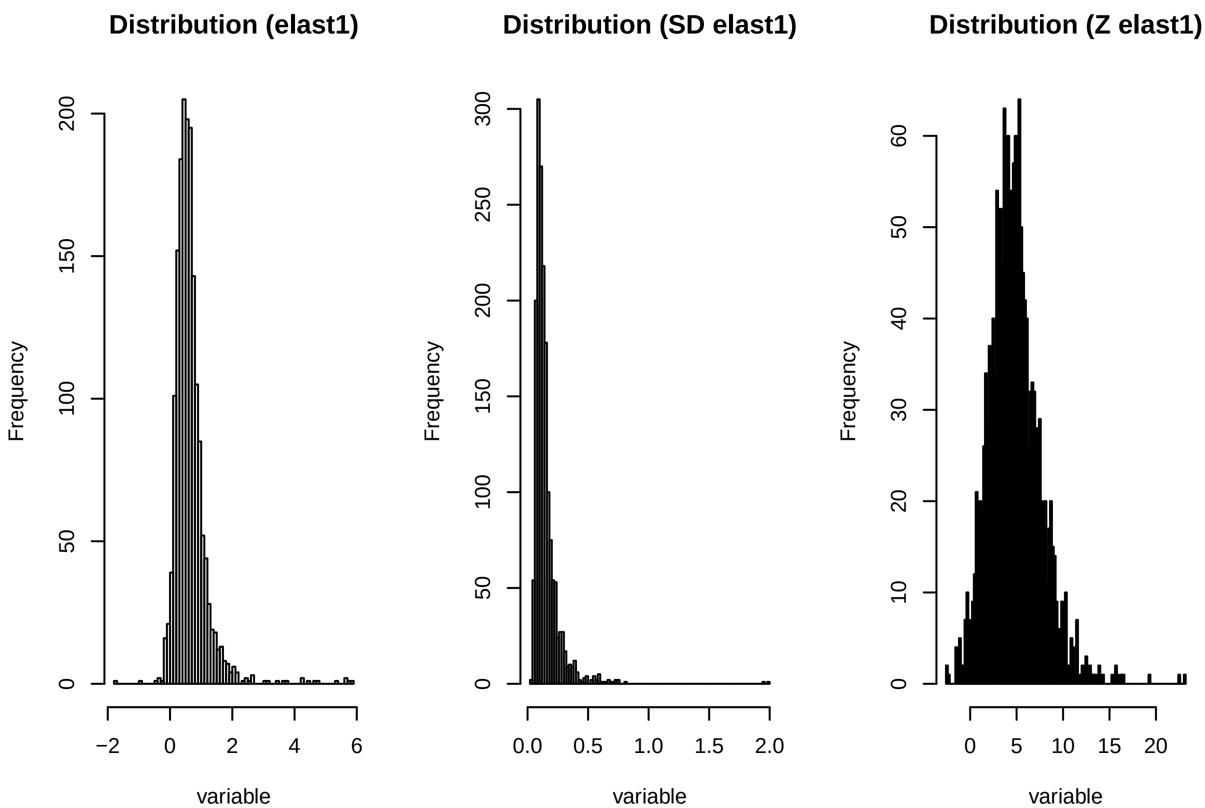
varname	variable	N	mean	median	weightedmean	min	max	perc_positive	perc_negative	perc_ns
lnrwpspr	elast1	420	-0.651	-0.610	-0.572	-3.479	2.728	0.048	0.462	0.490
lnrwpspr	elast12	420	-0.555	-0.413	-0.418	-75.702	10.709	0.143	0.381	0.476
lnrwpspr	elast6	420	-0.460	-0.433	-0.427	-17.634	5.978	0.136	0.398	0.467
lnrwpspr	elastlt12	420	-0.028	0.001	0.000	-17.049	1.437	0.043	0.029	0.929
lnwpswdst	elast1	420	0.645	0.588	0.594	-0.157	2.186	0.917	0.000	0.083
lnwpswdst	elast12	420	0.721	0.767	0.806	-39.864	5.758	0.781	0.010	0.210
lnwpswdst	elast6	420	0.742	0.739	0.760	-10.314	3.262	0.833	0.010	0.157
lnwpswdst	elastlt12	420	-0.013	0.001	0.001	-6.852	0.522	0.050	0.000	0.950
lnllen	elast1	420	0.454	0.417	0.429	-0.611	1.739	0.721	0.005	0.274
lnllen	elast12	420	0.836	0.936	0.933	-44.832	6.610	0.743	0.012	0.245
lnllen	elast6	420	0.847	0.849	0.854	-8.608	3.931	0.767	0.012	0.221
lnllen	elastlt12	420	-0.021	0.003	0.001	-10.845	0.503	0.083	0.005	0.912

Plots

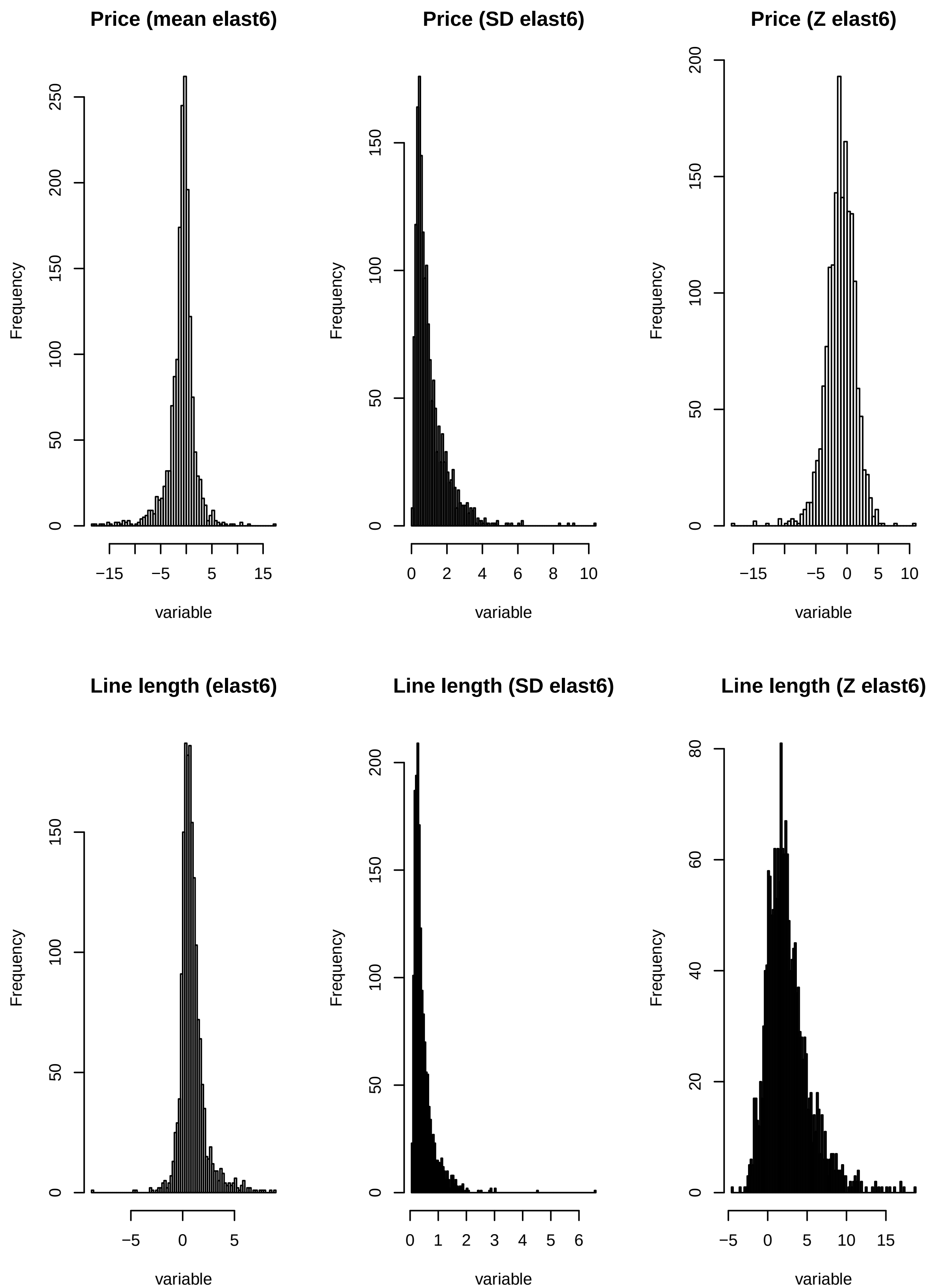
- Distribution of mean parameter
- Distribution of standard errors
- Distribution of z values

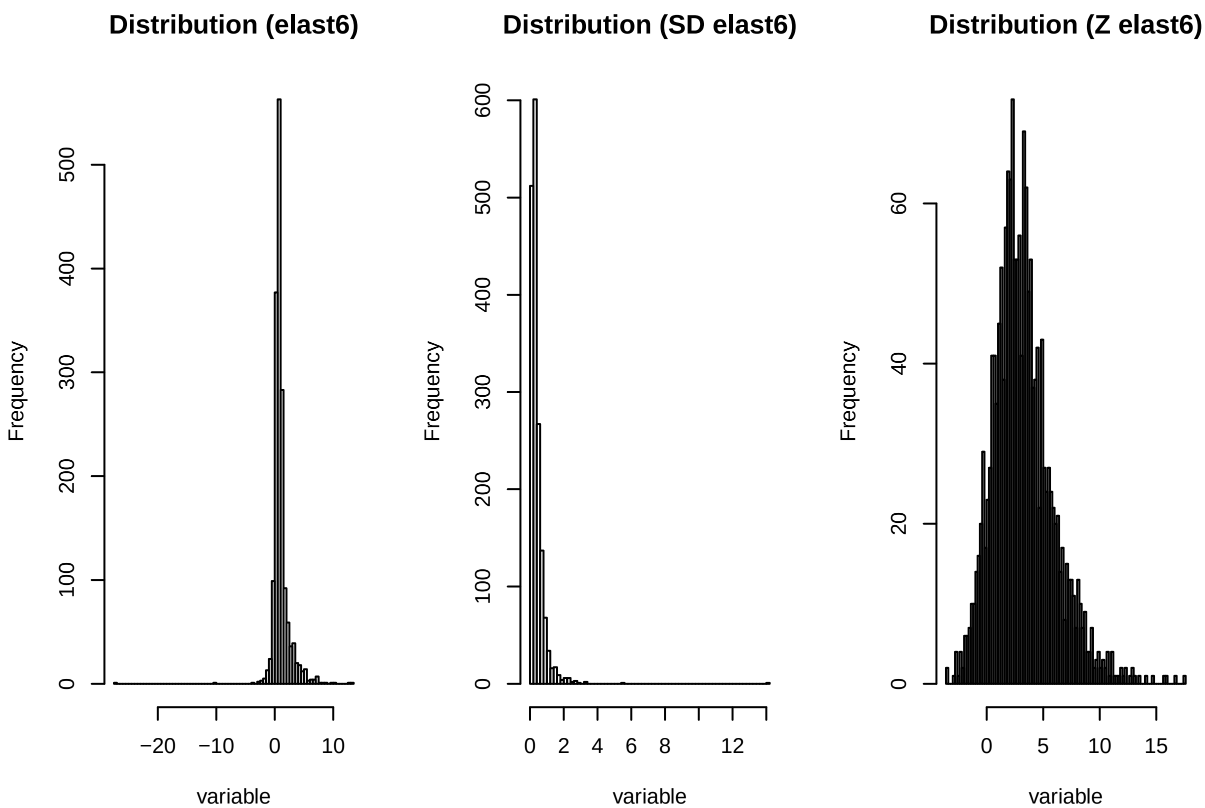
Short-term (elast1)



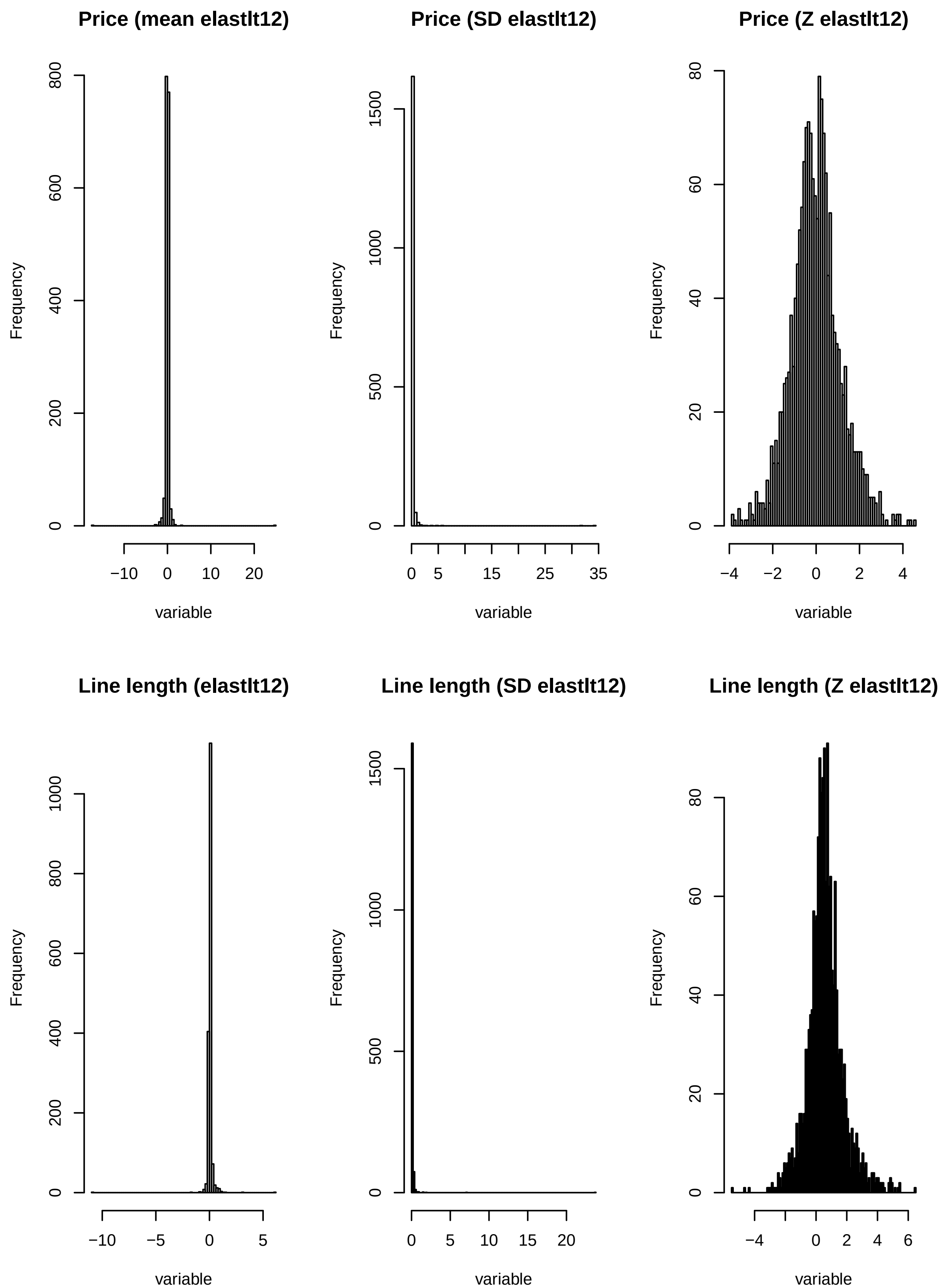

Distribution (elast1)
Frequency
0
50
100
150
200
−2
0
2
4
6
variable
Distribution (SD elast1)
Frequency
0
50
100
150
200
250
300
0.0
0.5
1.0
1.5
2.0
variable
Distribution (Z elast1)
Frequency
0
10
20
30
40
50
60
0
5
10
15
20
variable

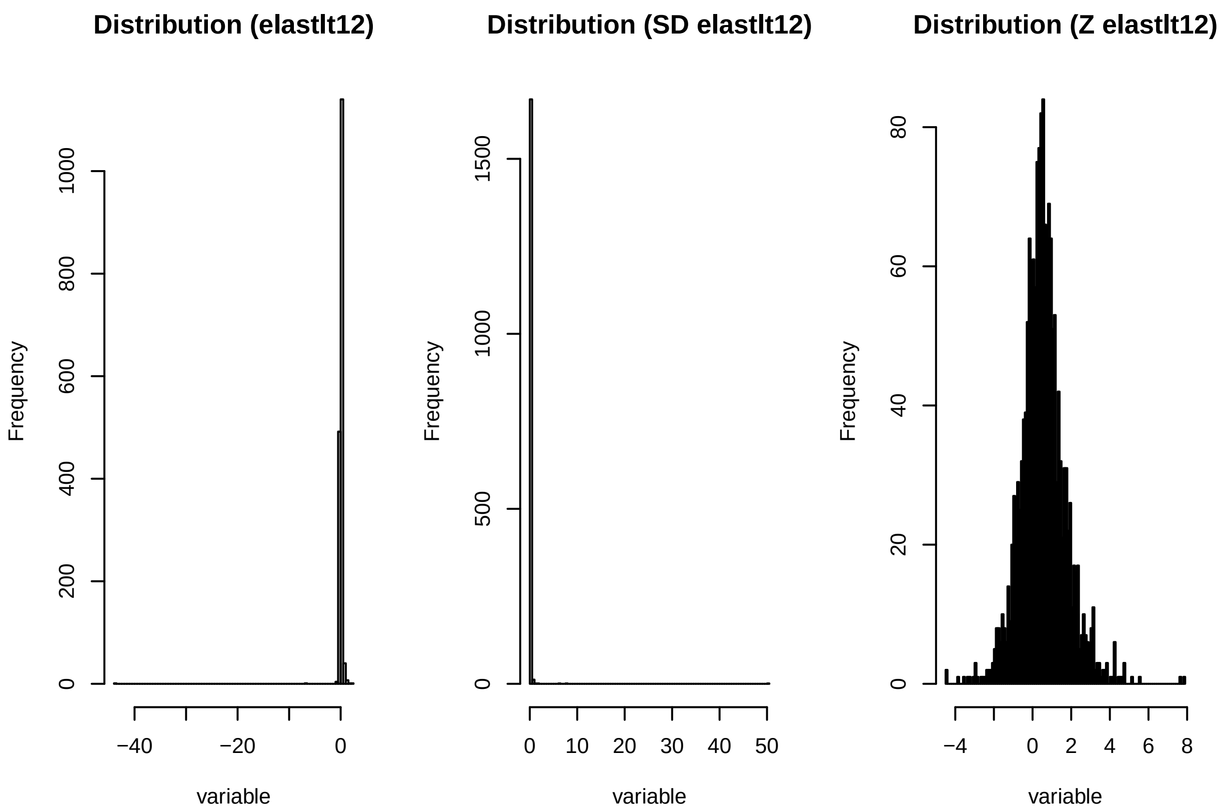
Dust-settling (6 months) (elast6)




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
20
40
60
0
5
10
15
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
80
−4
0
2
4
6
8
variable