Inspection of new elasticities (p = .05, w/ copulas)

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	-0.892	-0.600	-0.569	-17.330	16.680	0.084	0.440	0.477
lnrwpspr	elast12	1687	-0.646	-0.401	-0.393	-242.156	99.235	0.125	0.290	0.585
lnrwpspr	elast6	1687	-0.633	-0.458	-0.449	-37.811	20.630	0.105	0.337	0.558
lnrwpspr	elastlt12	1687	-0.012	0.000	0.000	-67.429	24.905	0.099	0.069	0.832
lnwpswdst	elast1	1687	0.541	0.498	0.505	-5.153	6.222	0.717	0.032	0.251
lnwpswdst	elast12	1687	0.694	0.697	0.702	-172.860	18.410	0.549	0.045	0.406
lnwpswdst	elast6	1687	0.714	0.628	0.625	-27.182	11.389	0.624	0.031	0.345
lnwpswdst	elastlt12	1687	-0.032	0.002	0.000	-43.726	1.583	0.120	0.063	0.817
lnllen	elast1	1686	0.410	0.339	0.358	-3.039	5.771	0.566	0.040	0.393
lnllen	elast12	1686	0.779	0.675	0.692	-83.615	26.091	0.464	0.056	0.480
lnllen	elast6	1686	0.681	0.592	0.594	-11.072	8.426	0.519	0.046	0.435
lnllen	elastlt12	1686	0.006	0.003	0.000	-23.618	6.190	0.127	0.063	0.810

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	-0.956	-0.563	-0.515	-15.197	14.159	0.076	0.444	0.480
lnrwpspr	elast12	721	-1.112	-0.509	-0.450	-29.909	99.235	0.110	0.340	0.551
lnrwpspr	elast6	721	-1.084	-0.596	-0.513	-18.198	17.396	0.092	0.373	0.535
lnrwpspr	elastlt12	721	0.020	0.000	0.000	-2.618	24.905	0.072	0.072	0.856
lnwpswdst	elast1	721	0.550	0.498	0.504	-5.153	6.222	0.716	0.037	0.247
lnwpswdst	elast12	721	1.110	0.740	0.652	-172.860	18.410	0.605	0.040	0.355
lnwpswdst	elast6	721	0.965	0.638	0.586	-27.182	11.389	0.666	0.024	0.311
lnwpswdst	elastlt12	721	-0.023	0.002	0.000	-43.726	1.583	0.148	0.051	0.800
lnllen	elast1	721	0.388	0.327	0.345	-2.954	4.103	0.552	0.053	0.395
lnllen	elast12	721	1.153	0.632	0.618	-3.461	26.091	0.484	0.057	0.459
lnllen	elast6	721	0.823	0.540	0.537	-2.983	8.426	0.516	0.040	0.444
lnllen	elastlt12	721	0.057	0.003	0.000	-0.463	6.190	0.154	0.050	0.796

Models in differences

varname	variable	N	mean	median	weightedmean	min	max	perc_positive	perc_negative	perc_ns
lnrwpspr	elast1	452	-0.569	-0.532	-0.533	-5.758	4.111	0.080	0.400	0.520
lnrwpspr	elast12	452	0.345	-0.196	-0.081	-30.668	40.596	0.144	0.146	0.710
lnrwpspr	elast6	452	-0.066	-0.257	-0.255	-15.490	20.630	0.119	0.219	0.662
lnrwpspr	elastlt12	452	0.070	0.029	0.032	-2.530	3.328	0.188	0.102	0.710
lnwpswdst	elast1	452	0.555	0.490	0.483	-2.120	4.367	0.783	0.013	0.204
lnwpswdst	elast12	452	-0.104	0.400	0.368	-37.193	10.895	0.257	0.100	0.644
lnwpswdst	elast6	452	0.181	0.376	0.387	-17.869	5.900	0.363	0.073	0.564
lnwpswdst	elastlt12	452	-0.049	0.000	-0.004	-3.220	0.833	0.146	0.150	0.704
lnllen	elast1	451	0.348	0.298	0.313	-1.161	1.874	0.541	0.020	0.439
lnllen	elast12	451	0.329	0.362	0.349	-12.600	12.136	0.195	0.098	0.707
lnllen	elast6	451	0.332	0.323	0.325	-6.390	6.190	0.279	0.080	0.641
lnllen	elastlt12	451	-0.001	0.004	0.003	-1.140	0.991	0.142	0.146	0.712

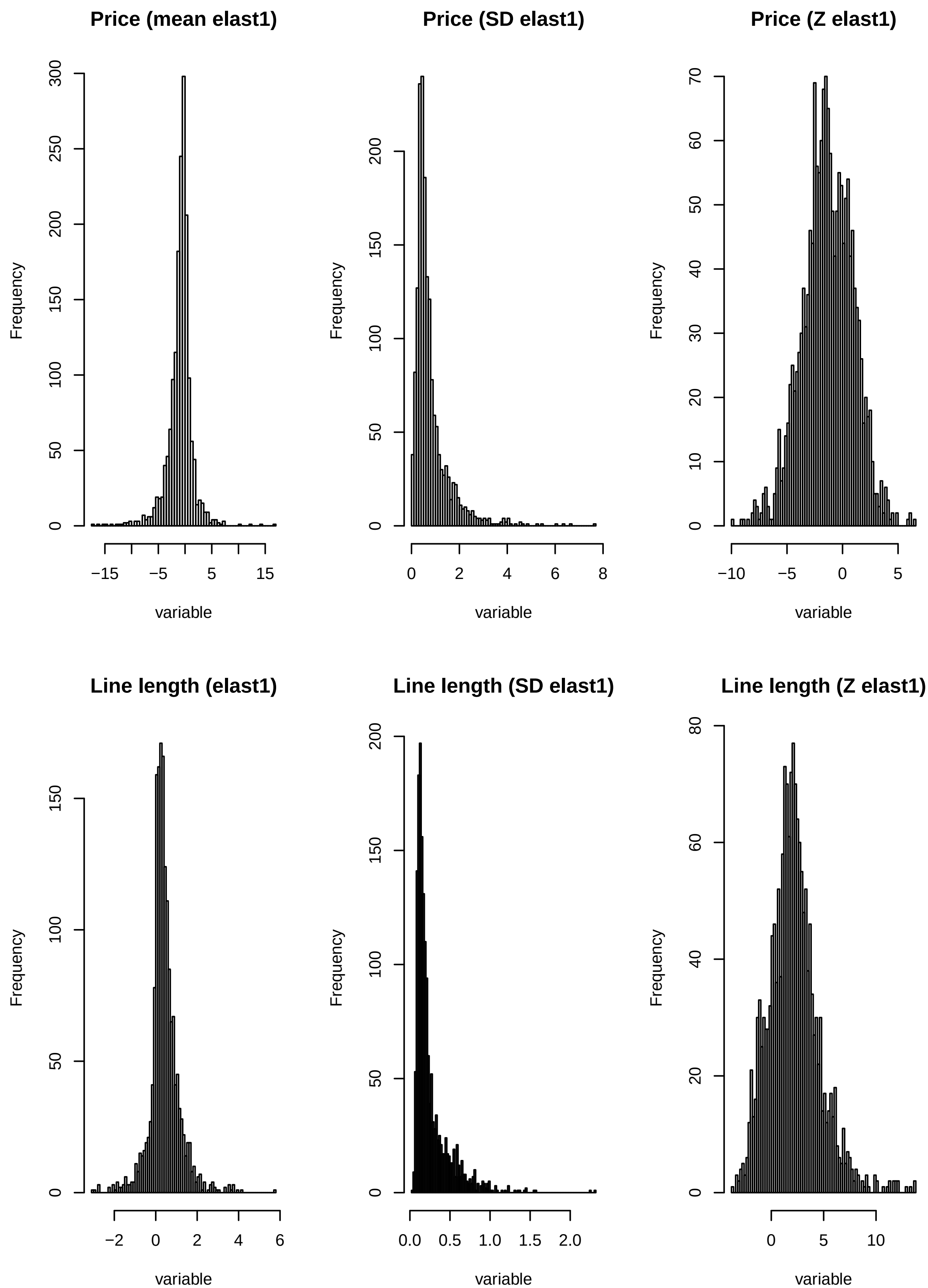
Models in EC

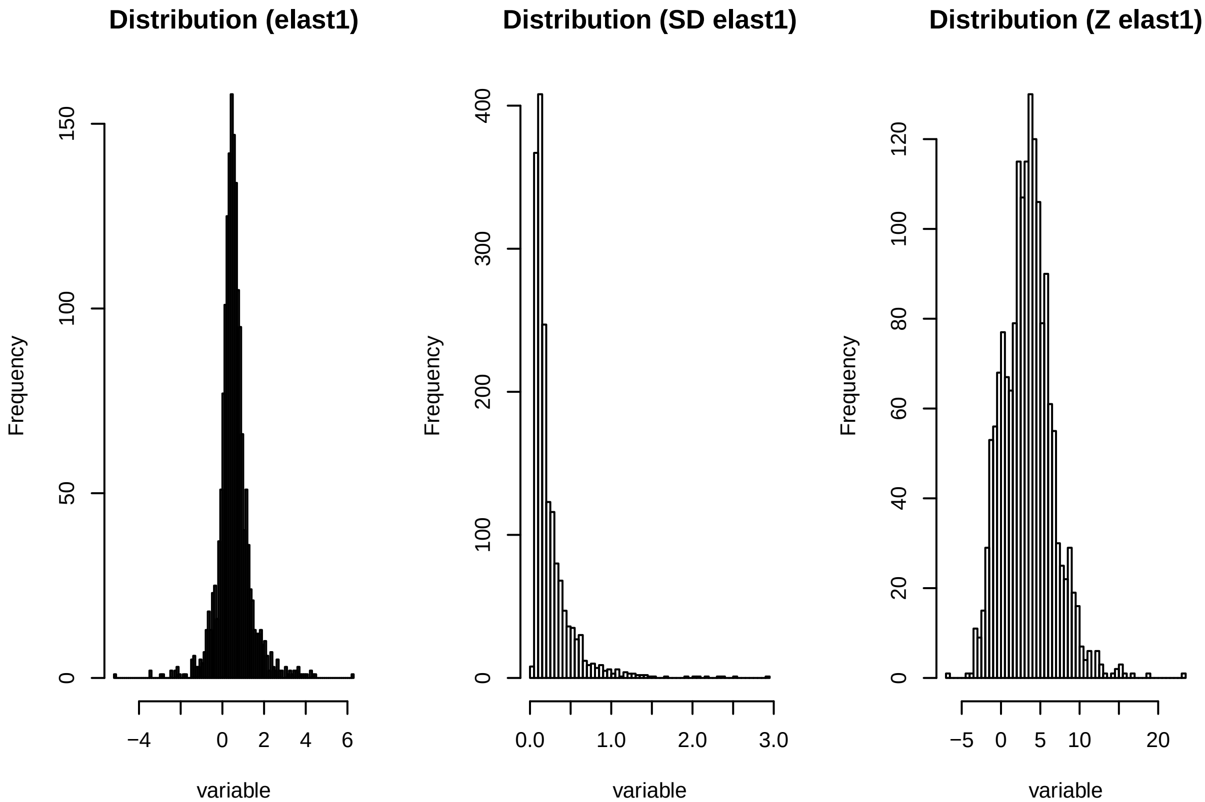
varname	variable	N	mean	median	weightedmean	min	max	perc_positive	perc_negative	perc_ns
lnrwpspr	elast1	514	-1.087	-0.796	-0.717	-17.330	16.680	0.097	0.469	0.434
lnrwpspr	elast12	514	-0.862	-0.382	-0.407	-242.156	26.464	0.130	0.346	0.523
lnrwpspr	elast6	514	-0.499	-0.462	-0.457	-37.811	12.840	0.111	0.389	0.500
lnrwpspr	elastlt12	514	-0.128	0.002	0.001	-67.429	4.611	0.058	0.035	0.907
lnwpswdst	elast1	514	0.516	0.507	0.532	-3.418	4.484	0.660	0.041	0.300
lnwpswdst	elast12	514	0.811	0.857	0.861	-64.837	10.260	0.728	0.004	0.268
lnwpswdst	elast6	514	0.831	0.771	0.792	-9.274	7.388	0.796	0.004	0.200
lnwpswdst	elastlt12	514	-0.029	0.002	0.001	-16.326	0.508	0.056	0.004	0.940
lnllen	elast1	514	0.494	0.391	0.432	-3.039	5.771	0.609	0.041	0.350
lnllen	elast12	514	0.650	0.894	0.890	-83.615	4.977	0.671	0.019	0.309
lnllen	elast6	514	0.788	0.795	0.806	-11.072	4.262	0.733	0.025	0.241
lnllen	elastlt12	514	-0.058	0.002	0.002	-23.618	0.249	0.076	0.008	0.916

Plots

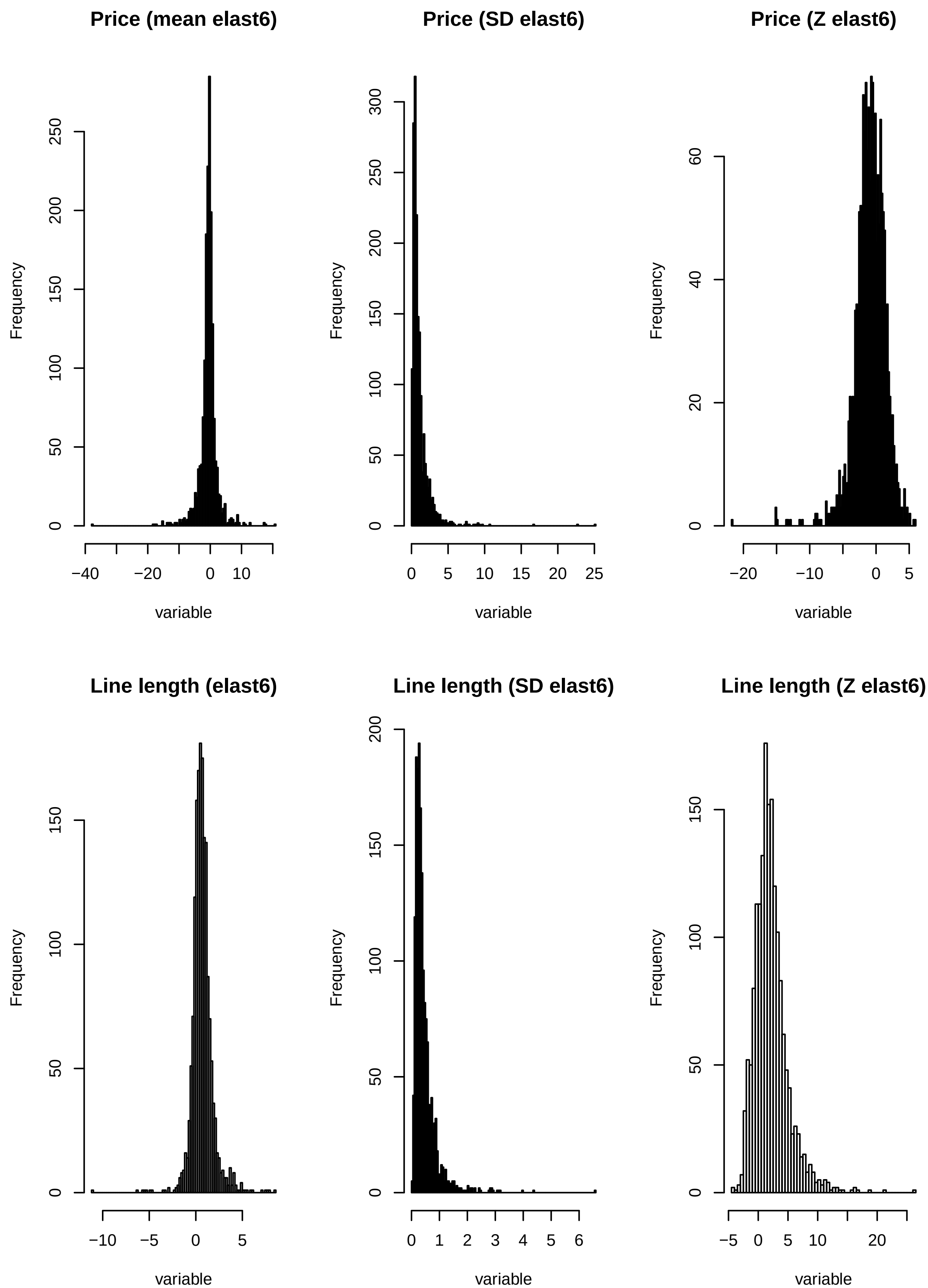
- Distribution of mean parameter
- Distribution of standard errors
- Distribution of z values

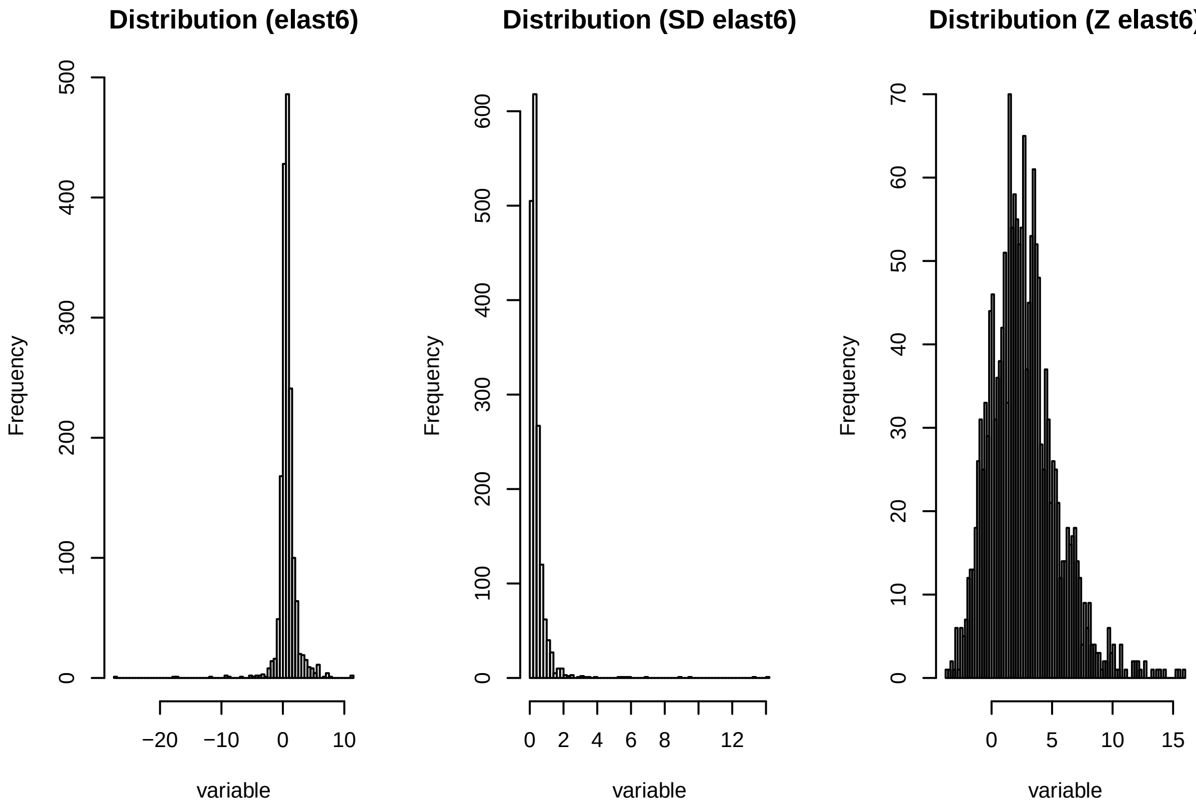
Short-term (elast1)



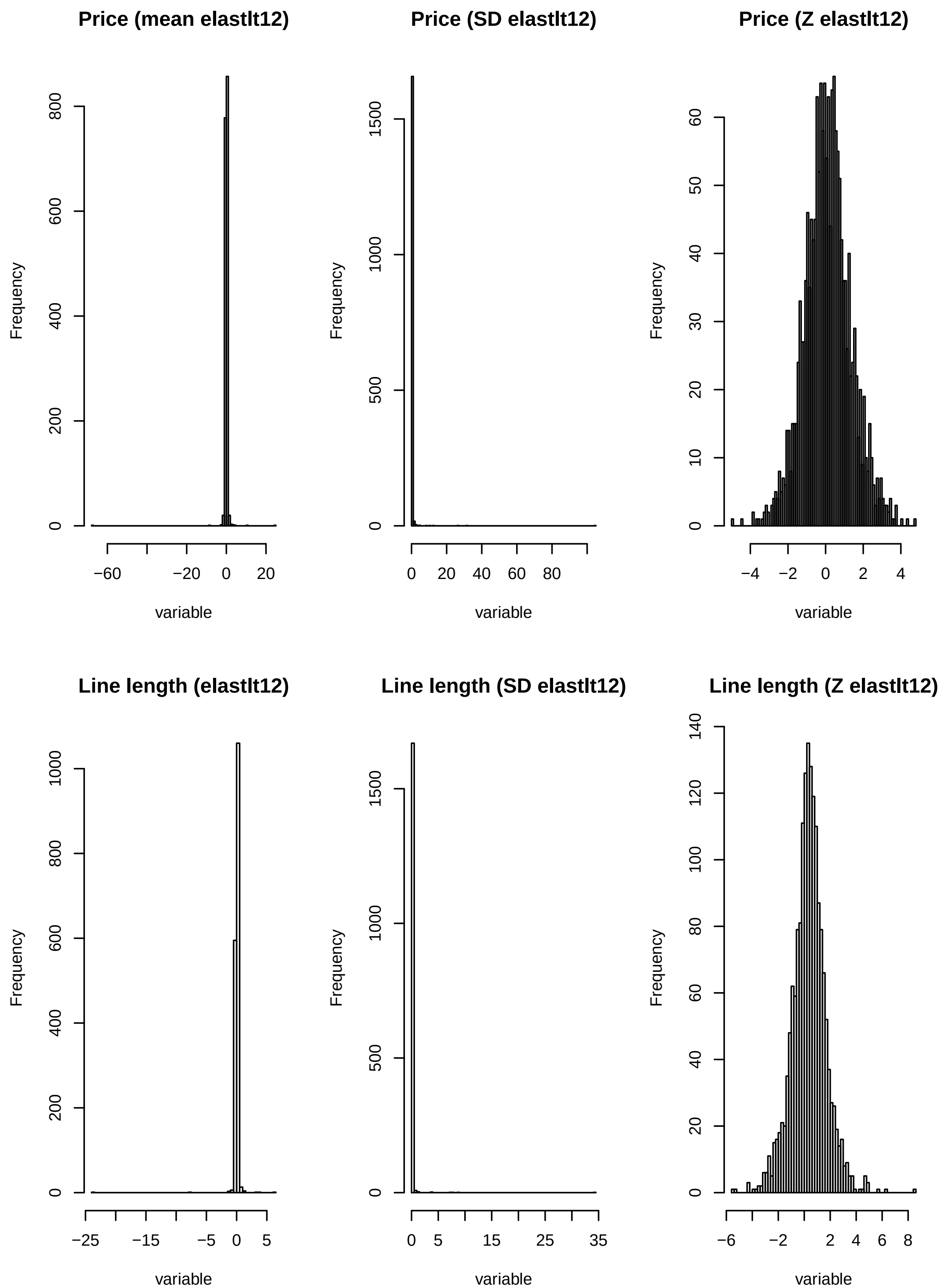

Distribution (elast1)
Frequency
variable
Distribution (SD elast1)
Frequency
variable
Distribution (Z elast1)
Frequency
variable

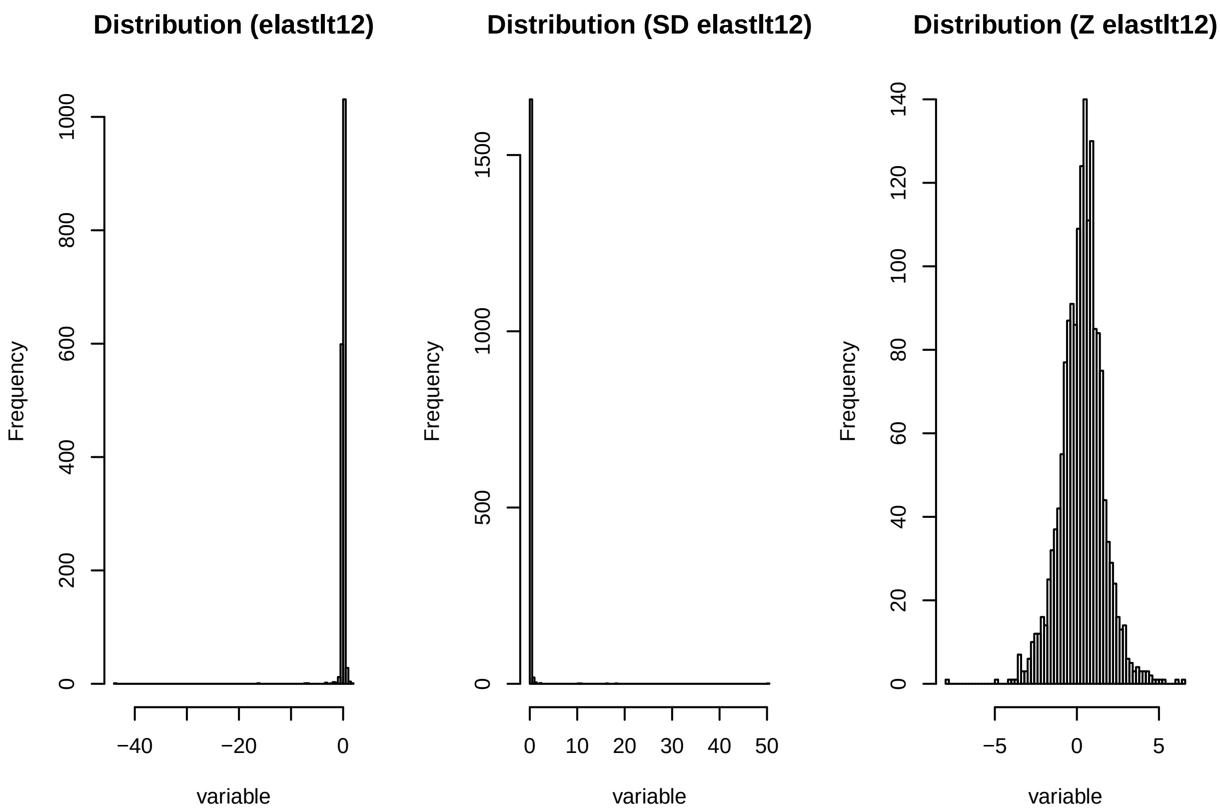
Dust-settling (6 months) (elast6)




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
70
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
100
120
140
−5
0
5
variable