Inspection of new elasticities (p = .10, 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	-0.862	-0.589	-0.549	-17.954	17.765	0.087	0.449	0.464
lnrwpspr	elast12	1687	-0.690	-0.417	-0.402	-49.942	99.235	0.138	0.306	0.555
lnrwpspr	elast6	1687	-0.676	-0.435	-0.452	-23.478	18.210	0.113	0.342	0.545
lnrwpspr	elastlt12	1687	-0.002	0.000	0.000	-10.873	24.905	0.098	0.065	0.837
lnwpswdst	elast1	1687	0.557	0.501	0.505	-5.225	6.222	0.734	0.030	0.235
lnwpswdst	elast12	1687	0.643	0.696	0.667	-172.860	15.833	0.565	0.052	0.383
lnwpswdst	elast6	1687	0.678	0.628	0.606	-27.182	11.389	0.632	0.034	0.334
lnwpswdst	elastlt12	1687	-0.027	0.001	0.000	-43.726	1.331	0.113	0.064	0.823
lnllen	elast1	1686	0.414	0.338	0.359	-5.829	5.771	0.589	0.037	0.374
lnllen	elast12	1686	0.820	0.690	0.692	-31.176	26.091	0.495	0.055	0.450
lnllen	elast6	1686	0.703	0.607	0.602	-5.659	8.838	0.540	0.046	0.414
lnllen	elastlt12	1686	0.013	0.002	0.000	-7.549	6.190	0.123	0.060	0.816

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	-0.918	-0.568	-0.497	-15.661	17.765	0.091	0.463	0.446
lnrwpspr	elast12	857	-1.118	-0.484	-0.432	-36.667	99.235	0.117	0.334	0.550
lnrwpspr	elast6	857	-0.987	-0.543	-0.493	-18.198	17.067	0.090	0.366	0.544
lnrwpspr	elastlt12	857	-0.014	0.000	0.000	-7.319	24.905	0.070	0.056	0.874
lnwpswdst	elast1	857	0.564	0.512	0.505	-5.225	6.222	0.736	0.039	0.225
lnwpswdst	elast12	857	0.906	0.681	0.614	-172.860	15.833	0.608	0.050	0.342
lnwpswdst	elast6	857	0.834	0.608	0.566	-27.182	11.389	0.658	0.029	0.313
lnwpswdst	elastlt12	857	-0.018	0.001	0.000	-43.726	1.331	0.121	0.051	0.827
lnllen	elast1	856	0.401	0.329	0.351	-2.954	4.142	0.600	0.042	0.357
lnllen	elast12	856	1.105	0.691	0.656	-3.406	26.091	0.528	0.051	0.421
lnllen	elast6	856	0.839	0.620	0.580	-2.159	8.838	0.567	0.041	0.393
lnllen	elastlt12	856	0.042	0.003	0.000	-0.339	6.190	0.130	0.047	0.824

Models in differences

varname	variable	N	mean	median	weightedmean	min	max	perc_positive	perc_negative	perc_ns
lnrwpspr	elast1	410	-0.643	-0.568	-0.570	-6.436	4.159	0.076	0.420	0.505
lnrwpspr	elast12	410	0.065	-0.179	-0.142	-48.339	36.179	0.168	0.176	0.656
lnrwpspr	elast6	410	-0.229	-0.312	-0.292	-23.478	18.210	0.127	0.227	0.646
lnrwpspr	elastlt12	410	0.051	0.029	0.029	-4.522	2.995	0.202	0.117	0.680
lnwpswdst	elast1	410	0.556	0.482	0.482	-1.810	4.460	0.795	0.012	0.193
lnwpswdst	elast12	410	-0.004	0.405	0.394	-36.531	12.519	0.271	0.102	0.627
lnwpswdst	elast6	410	0.232	0.395	0.402	-18.029	6.745	0.380	0.071	0.549
lnwpswdst	elastlt12	410	-0.040	-0.003	-0.002	-3.116	0.962	0.159	0.154	0.688
lnllen	elast1	410	0.348	0.295	0.305	-1.069	1.874	0.537	0.015	0.449
lnllen	elast12	410	0.276	0.342	0.326	-13.276	12.136	0.207	0.105	0.688
lnllen	elast6	410	0.312	0.308	0.313	-5.659	6.190	0.293	0.088	0.620
lnllen	elastlt12	410	-0.007	0.002	0.001	-1.279	0.991	0.141	0.146	0.712

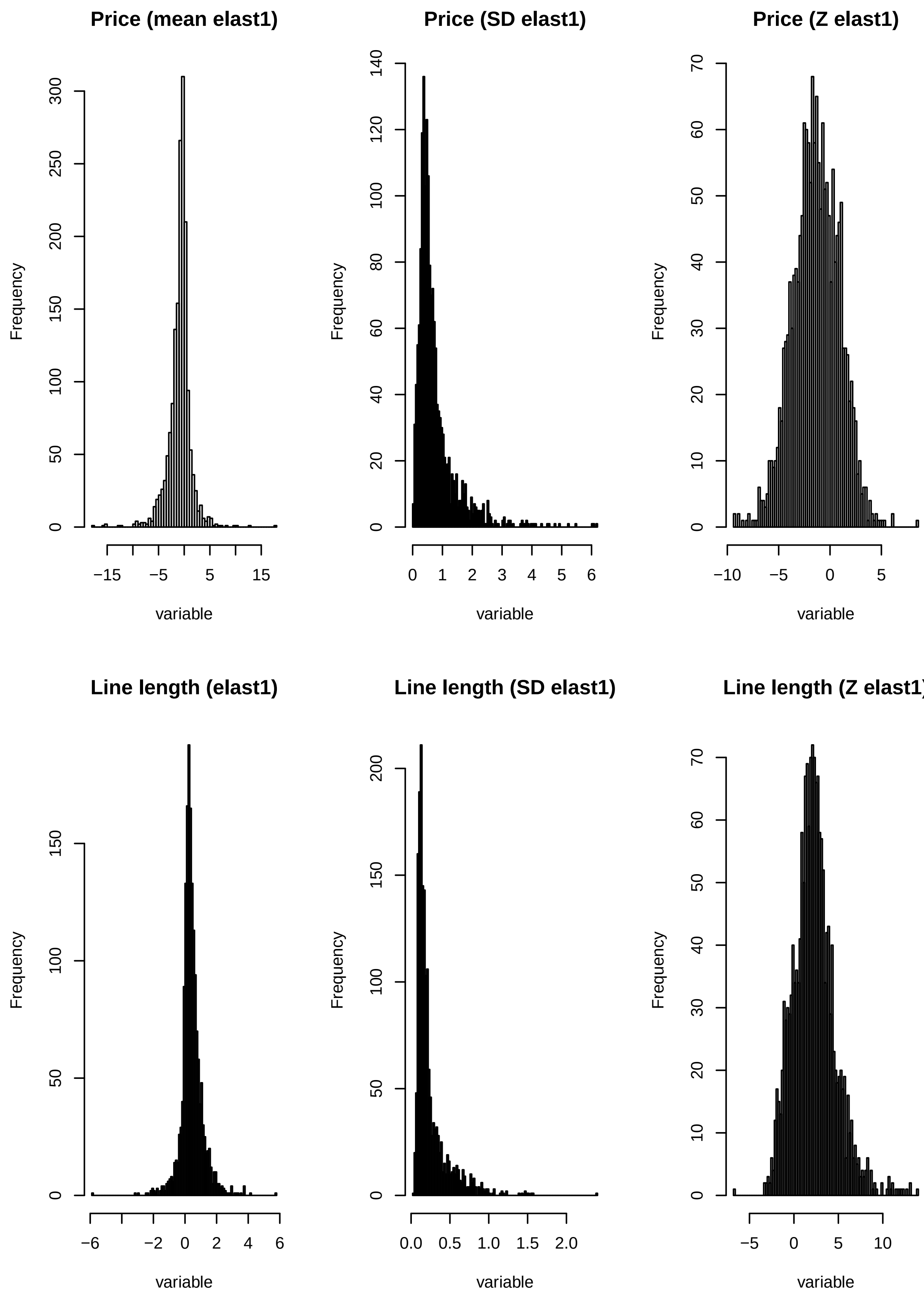
Models in EC

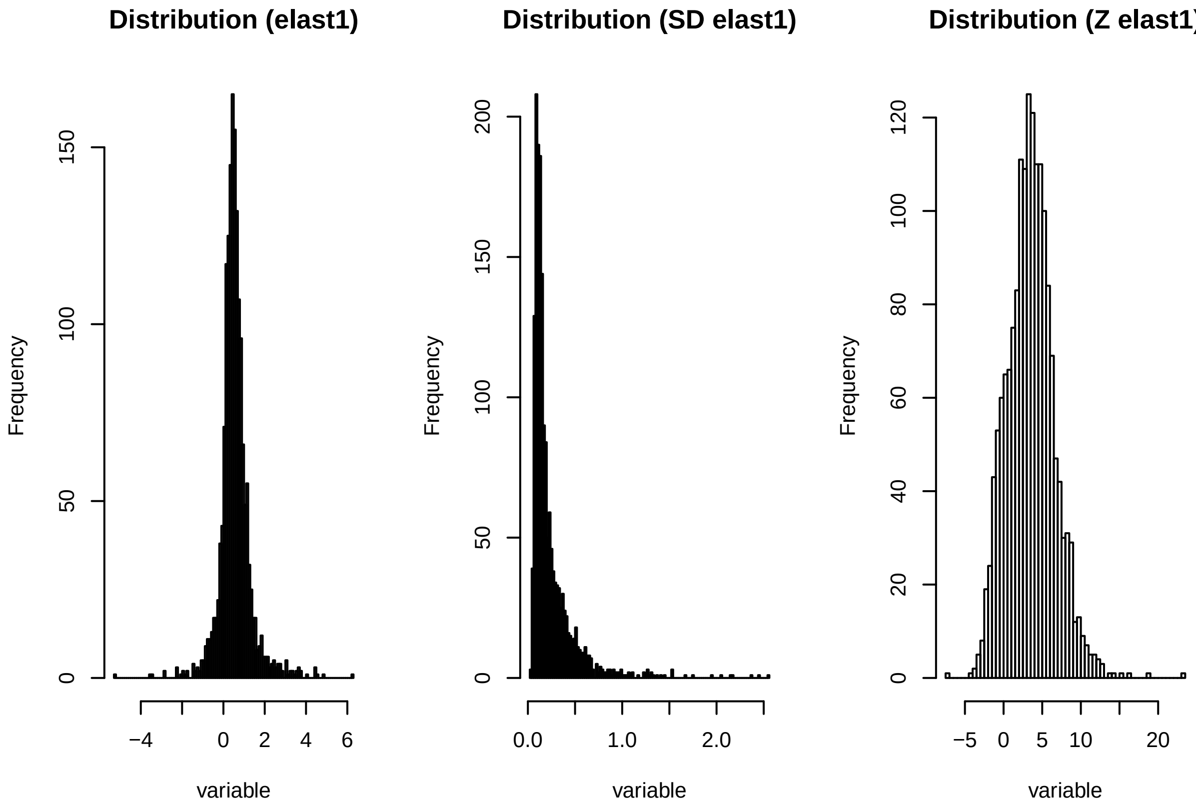
varname	variable	N	mean	median	weightedmean	min	max	perc_positive	perc_negative	perc_ns
lnrwpspr	elast1	420	-0.962	-0.693	-0.682	-17.954	10.225	0.090	0.450	0.460
lnrwpspr	elast12	420	-0.555	-0.431	-0.432	-49.942	15.695	0.152	0.379	0.469
lnrwpspr	elast6	420	-0.476	-0.452	-0.460	-13.177	6.419	0.145	0.405	0.450
lnrwpspr	elastlt12	420	-0.028	0.001	0.001	-10.873	1.834	0.052	0.033	0.914
lnwpswdst	elast1	420	0.547	0.522	0.536	-3.418	4.484	0.671	0.031	0.298
lnwpswdst	elast12	420	0.739	0.869	0.851	-64.837	5.065	0.764	0.007	0.229
lnwpswdst	elast6	420	0.796	0.790	0.791	-9.274	4.188	0.824	0.007	0.169
lnwpswdst	elastlt12	420	-0.035	0.002	0.001	-16.326	0.262	0.052	0.002	0.945
lnllen	elast1	420	0.504	0.435	0.444	-5.829	5.771	0.617	0.048	0.336
lnllen	elast12	420	0.772	0.844	0.885	-31.176	7.048	0.707	0.014	0.279
lnllen	elast6	420	0.808	0.788	0.807	-5.508	4.262	0.726	0.017	0.257
lnllen	elastlt12	420	-0.025	0.002	0.001	-7.549	0.758	0.093	0.005	0.902

Plots

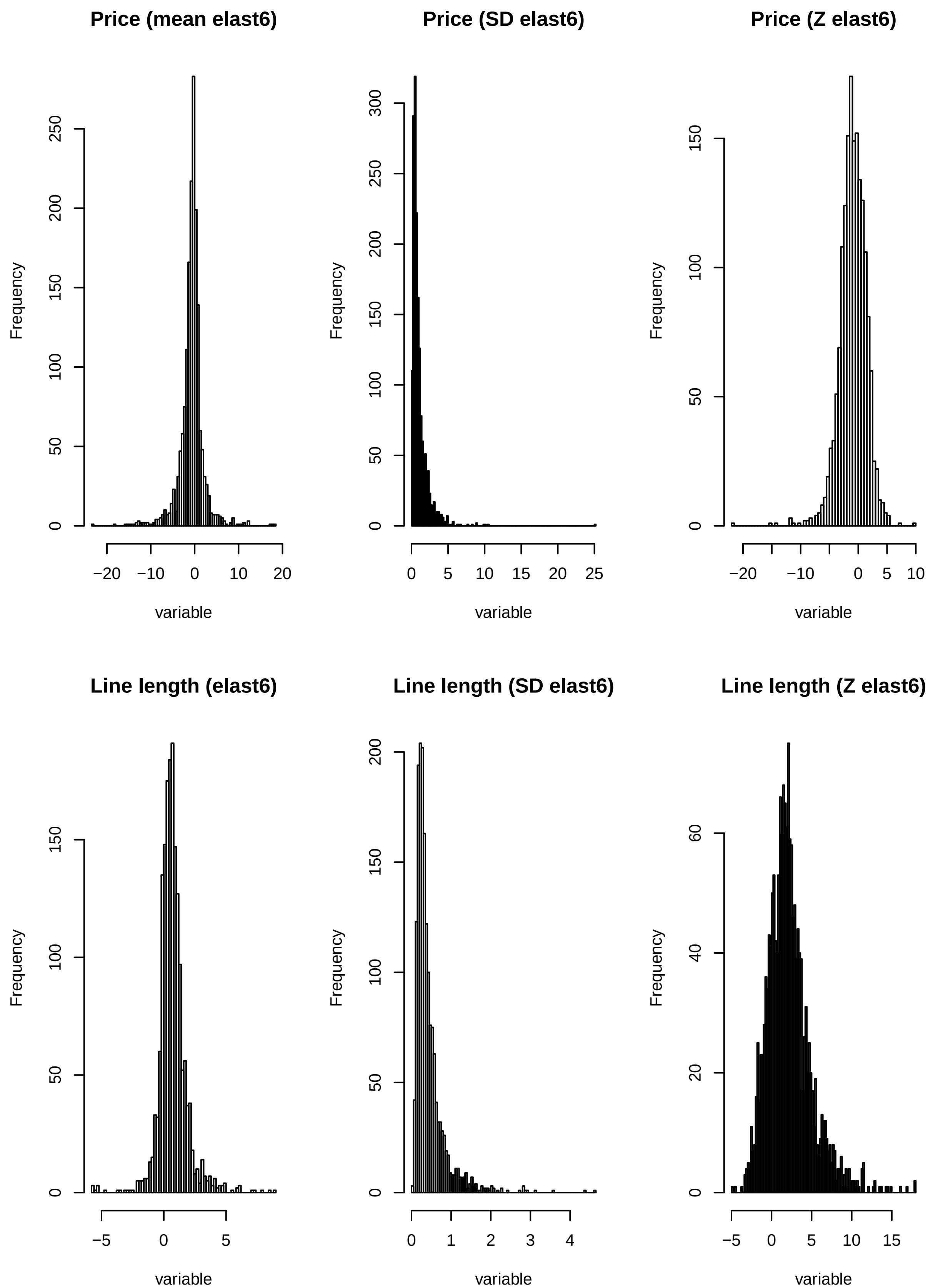
- Distribution of mean parameter
- Distribution of standard errors
- Distribution of z values

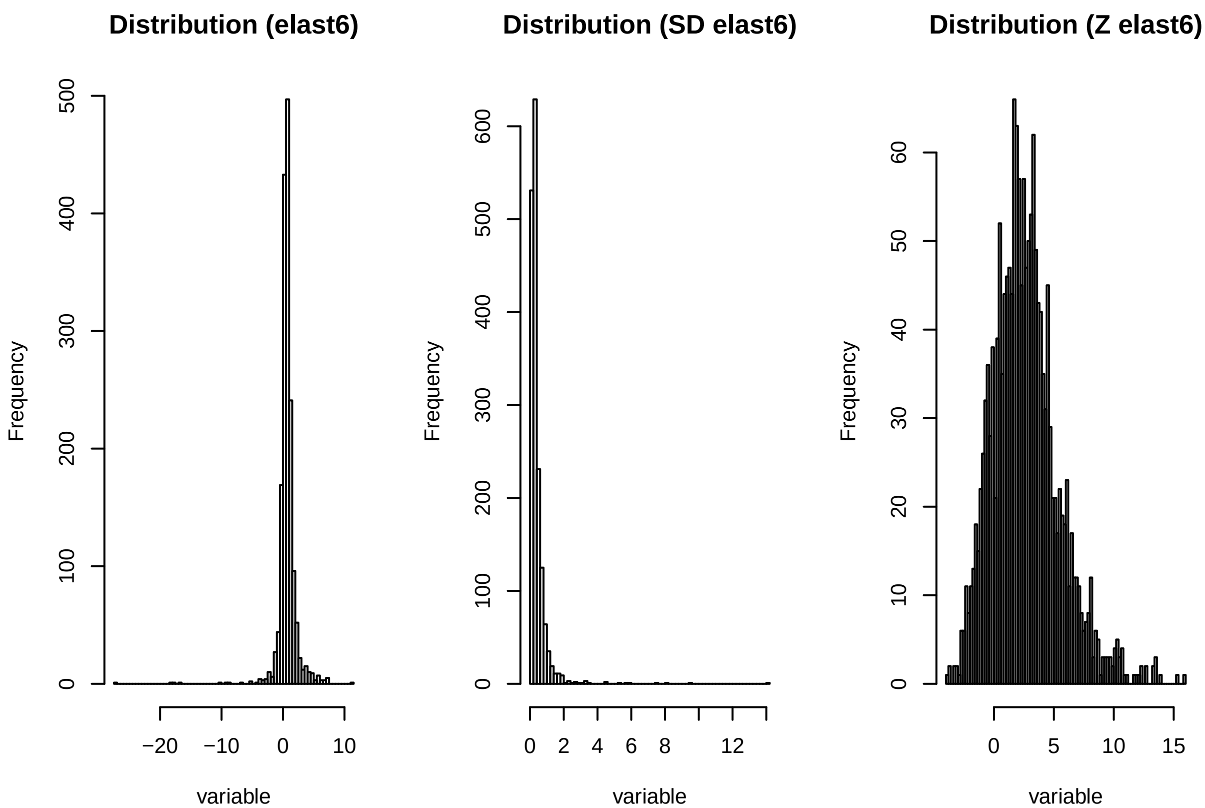
Short-term (elast1)



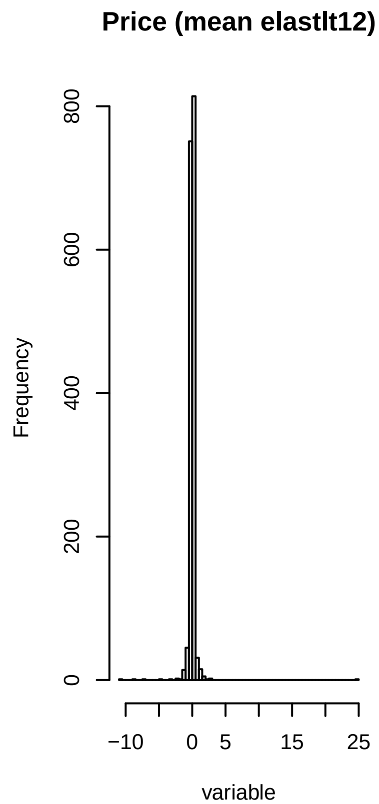

Distribution (elast1)
Frequency
0
50
100
150
−4
0
2
4
6
variable
Distribution (SD elast1)
Frequency
0
50
100
150
200
0.0
1.0
2.0
variable
Distribution (Z elast1)
Frequency
0
20
40
60
80
100
120
−5
0
5
10
20
variable

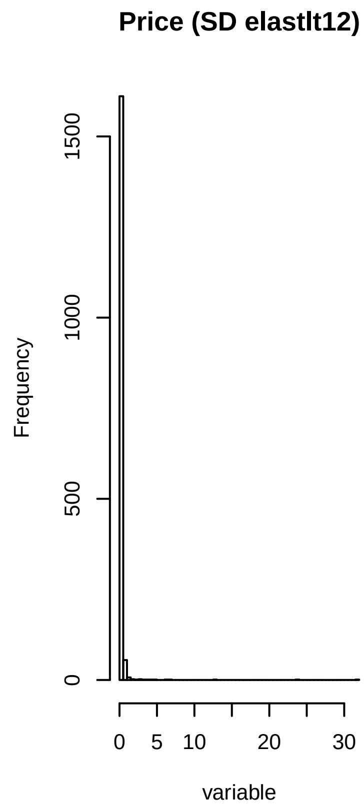
Dust-settling (6 months) (elast6)

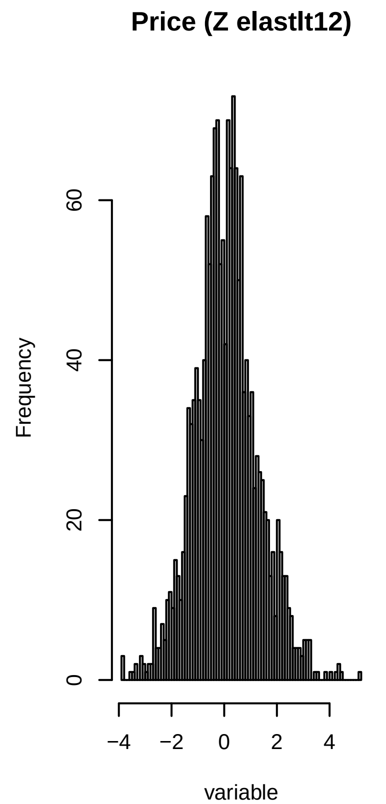


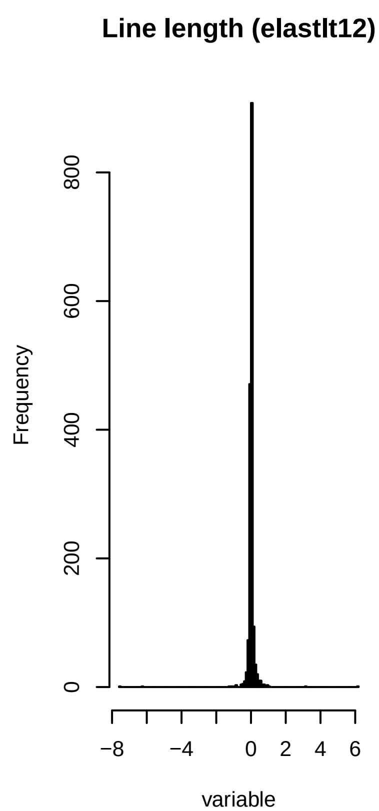

Distribution (elast6)
Frequency
variable
Distribution (SD elast6)
Frequency
variable
Distribution (Z elast6)
Frequency
variable

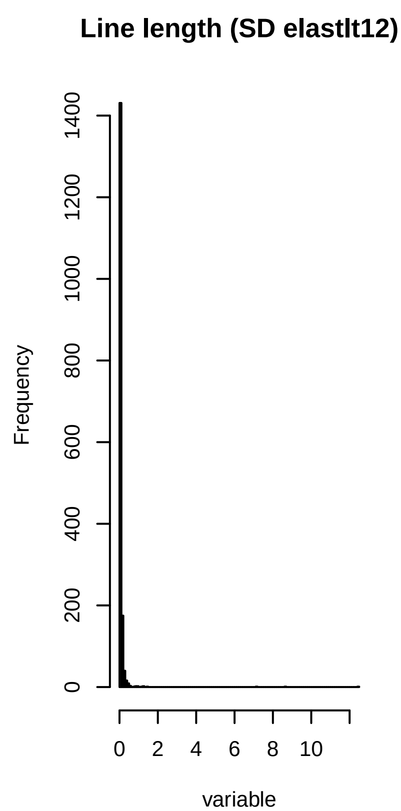
Long-term (12 months) (elast12lt)

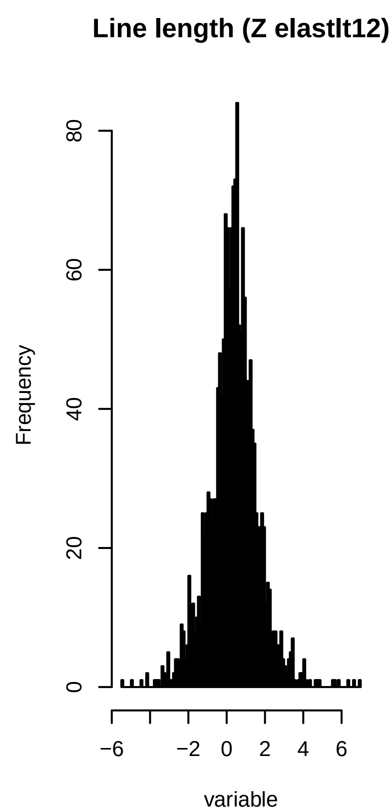


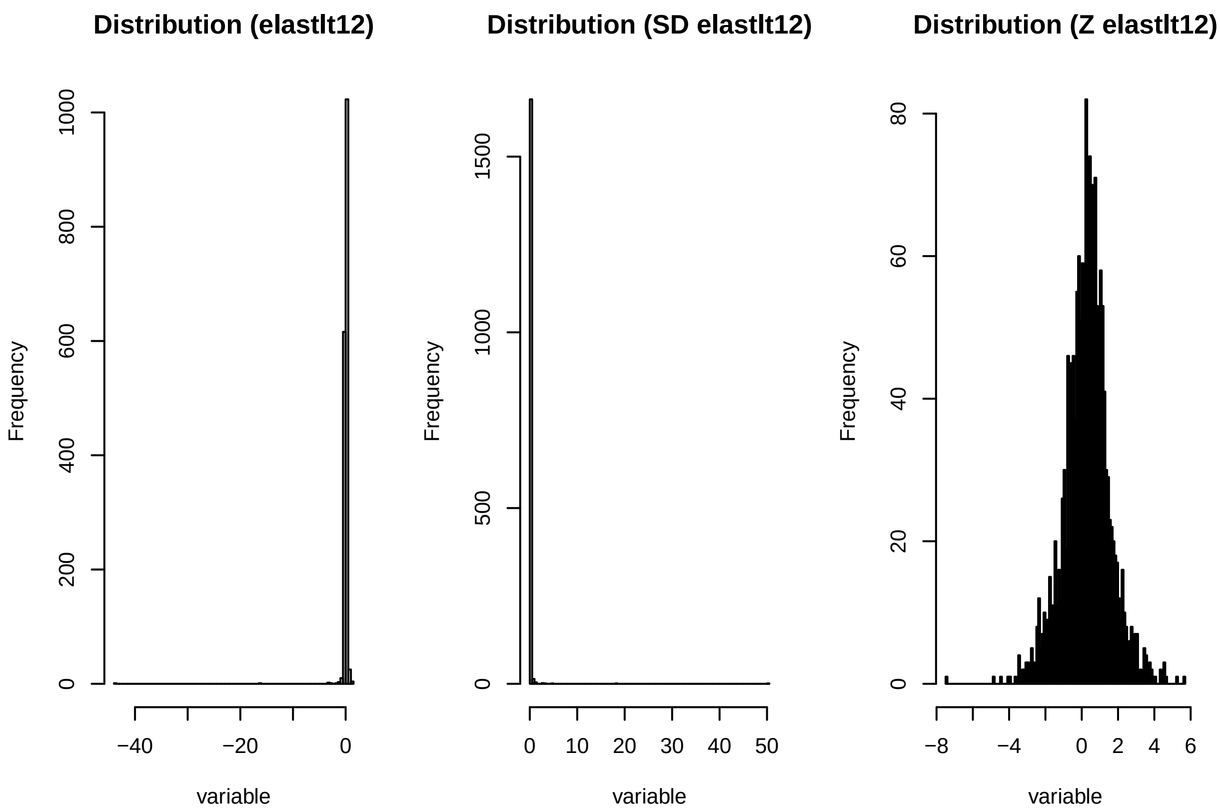











Distribution (elastlt12)
Frequency
0
200
400
600
800
1000
−40
−20
0
variable
Distribution (SD elastlt12)
Frequency
0
500
1000
1500
0
10
20
30
40
50
variable
Distribution (Z elastlt12)
Frequency
0
20
40
60
80
−8
−4
0
2
4
6
variable