```
>> pk_cost_calcs
ces =
   1
estimate =
   1
************************
**********************
CES Demand
                Coef
                         Std_err
                                   t_value
   lΡ
               -0.28923
                          0.089277
                                   -3.2397
   lsjh
                 0.8612
                          0.017063
                                    50.472
                                    41.236
                0.69004
                          0.016734
   lshq
   marketing1
                 13.384
                            2.4564
                                    5.4485
                0.29812
                           0.11377
                                    2,6204
   SW
                 1.3725
                                    6.3423
   \mathsf{sm}
                           0.21641
   time
              0.00078623
                        0.00042232
                                    1.8617
   month2
               -0.05428
                          0.011411
                                   -4.7569
  month3
                0.13603
                          0.011362
                                    11.973
  month4
               -0.13613
                          0.011465
                                   -11.873
  month5
               -0.13686
                          0.011638
                                   -11.759
  month6
                                   -10.163
               -0.11915
                          0.011723
                                   -3.5849
  month7
                          0.012227
              -0.043834
   month8
               0.033626
                          0.011908
                                    2.8237
  month9
               0.097741
                          0.011458
                                    8.5306
              -0.088064
                                   -7.6383
   month10
                          0.011529
                                   -17.705
   month11
               -0.20153
                          0.011383
                          0.011448
                0.13025
                                    11.378
   month12
ces =
   1
estimate =
   1
**********************
CES Demand
***** Repetition 1 *****
                                   First-order
                        Norm of
              f(x)
                                             CG-iterations
Iteration
                        step
                                   optimality
```

17.6

314.585

a

1	314.585	10	17.6	2
	314.303	10	1/.0	۷
2	275.676	2.5	8.76	0
3	270.207	2.30307	5.59	2
4	267.287	3.32096	9.09	2
5	262.104	1.27895	1.75	2
6	261.952	1.18918	1.61	2
7	261.583	0.297296	0.455	2
8	261.534	0.208637	0.0645	2
9	261.533	0.0218018	0.00309	2
10	261.533	0.00186604	0.000828	2

Optimization stopped because the relative objective function value is changing by less than options. TolFun = 1.000000e-06.

Optimization Metric relative change objective = 1.25e-08

Options
TolFun = 1e-06 (selected)

Estimate of: Random Coefficient Logit Demand

	Coef	Std_err	t_value
lP	-1.3641	0.45918	-2.9706
marketing	80.986	20.253	3.9987
SW	1.6684	0.72817	2.2912
SM	5.8589	1.3898	4.2155
month2	-0.22281	0.085969	-2.5918
month3	0.5119	0.18425	2.7783
month4	-0.50411	0.14641	-3.4431
month5	-0.48017	0.14566	-3.2964
month6	-0.4141	0.14158	-2.9247
month7	-0.10508	0.12193	-0.8618
month8	0.19389	0.082114	2.3612
month9	0.39166	0.1108	3.5348
month10	-0.32779	0.14301	-2.292
month11	-0.78617	0.15347	-5.1228
month12	0.49237	0.20283	2.4275
constant	-10.034	0.97131	-10.331
rc_paracetamol	3.6582	1.257	2.9104
rc_fizzy	4.3664	3.4888	1.2515
rc_branded	1.9295	2.4165	0.79845
rc_constant	4.6793	1.3131	3 . 5635

Share of outside good

Mean: 0.481 Min: 0.362 Max: 0.608
****** Optimal IV estimation ******

	Norm of	First-order	
f(x)	step	optimality	CG-iterations
15.1447		16.7	
15.1447	3.80211	16.7	2
3.54643	0.950527	4.31	0
0.272083	1.19474	2.18	2
0.0190717	0.229564	0.254	2
0.000530774	0.119498	0.0636	2
1.82983e-05	0.012609	0.0126	2
1.16471e-06	0.00261426	0.00312	2
9.05884e-10	0.000619509	7 . 02e-05	2
1.62446e-11	2.30123e-05	7.42e-06	2
	15.1447 15.1447 3.54643 0.272083 0.0190717 0.000530774 1.82983e-05 1.16471e-06 9.05884e-10	f(x) step 15.1447 15.1447 3.80211 3.54643 0.950527 0.272083 1.19474 0.0190717 0.229564 0.000530774 0.119498 1.82983e-05 0.012609 1.16471e-06 9.05884e-10 0.000619509	f(x) step optimality 15.1447 16.7 15.1447 3.80211 16.7 3.54643 0.950527 4.31 0.272083 1.19474 2.18 0.0190717 0.229564 0.254 0.000530774 0.119498 0.0636 1.82983e-05 0.012609 0.0126 1.16471e-06 0.00261426 0.00312 9.05884e-10 0.000619509 7.02e-05

Optimization stopped because the relative objective function value is changing by less than options. TolFun = 1.000000e-06.

Optimization Metric
relative change objective = 8.90e-10

Options
TolFun = 1e-06 (selected)

Estimate of: Random Coefficient Logit Demand

	Coef	Std_err	t_value
lP	-1.6159	0.22841	-7.0747
marketing	92.304	11.189	8.2498
SW	1.5752	0.63742	2.4712
SM	5.3747	1.3729	3.9148
month2	-0.21081	0.072405	-2.9116
month3	0.46152	0.08789	5.2511
month4	-0 . 4736	0.10078	-4.6994
month5	-0.44691	0.098767	-4.5249
month6	-0.38537	0.09481	-4.0646
month7	-0.1038	0.08263	-1.2562
month8	0.17833	0.070173	2.5413
month9	0.35157	0.080228	4.3821
month10	-0.31696	0.088052	-3 . 5997
month11	-0.72829	0.11635	-6.2593
month12	0.45341	0.09485	4.7803
constant	-9 . 9905	0.24614	-40.588
rc_paracetamol	2.9069	0.969	2.9999
rc_fizzy	4.3965	0.50403	8.7226
rc_branded	3.4634	0.55988	6.186
rc_constant	3.5044	0.63223	5.543

Share of outside good

Mean: 0.481 Min: 0.362 Max: 0.608

Equation solved.

fsolve completed because the vector of function values is near zero as measured by the default value of the function tolerance, and the problem appears regular as measured by the gradient.

<stopping criteria details>

Merger results

	Costs	Price1	Price2	PriceCh
AstraZeneca	0.65257	1.4467	1.7783	0.23543
Bayer	0.94972	1.5433	1.5436	0.00015253
GSK	0.76631	1.4937	1.9966	0.33651
McNeil	0.63788	1.5615	1.5729	0.0063316
Meda	0.73352	1.2757	1.2789	0.0023414
Nvcomed	0.85807	1.6111	1.6199	0.0054775

Average Price increase 0.0897

Coef Std_err t_value

lP	-1.6159	0.22841	-7.0747
marketing	92.304	11.189	8.2498
SW	1.5752	0.63742	2.4712
sm	5.3747	1.3729	3.9148
month2	-0.21081	0.072405	-2.9116
month3	0.46152	0.08789	5.2511
month4	-0.4736	0.10078	-4.6994
month5	-0.44691	0.098767	-4 . 5249
month6	-0 . 38537	0.09481	-4.0646
month7	-0.1038	0.08263	-1.2562
month8	0.17833	0.070173	2.5413
month9	0.35157	0.080228	4.3821
month10	-0.31696	0.088052	-3.5997
month11	-0.72829	0.11635	-6.2593
month12	0.45341	0.09485	4.7803
constant	-9 . 9905	0.24614	-40 . 588
rc_paracetamol	2.9069	0.969	2.9999
rc_fizzy	4.3965	0.50403	8.7226
rc_branded	3.4634	0.55988	6.186
rc_constant	3.5044	0.63223	5.543