emand analysis with the Almost Ideal Demand System (AIDS)
Estimation Method: Linear Approximation (LA) with simplified Laspeyres Index (Ls)
Coefficients:
alpha

w_bread	w_meat	w_fish	w_milk_cheese	w_butter	w_oil	w_sugar
0.36643960	0.11798258	0.06468013	0.02121790	0.01756426	0.13146238	0.28065315

beta

w_bread	w_meat	w_fish	w_milk_cheese	w_butter	w_oil	w_sugar
-0.12733723	0.19288118	0.03845907	0.11197376	0.01202611	-0.05390524	-0.17409765

gamma

	p_bread	p_meat	p_fish	p_milk_cheese	p_butter	p_oil	p_sugar
w_bread	0.13687134	-0.041473900	-0.043148669	-0.03050909	0.0247707773	-0.022233592	-0.024276867
w_meat	-0.04147390	0.066542104	0.069238446	-0.04215575	-0.0240445662	0.001720964	-0.029827294
w_fish	-0.04314867	0.069238446	0.028526471	-0.02599873	-0.0175238995	-0.009930236	-0.001163385
w_milk_cheese	-0.03050909	-0.042155754	-0.025998728	-0.04280547	0.0169947043	0.013010982	0.111463354
w_butter	0.02477078	-0.024044566	-0.017523899	0.01699470	-0.0005011757	-0.014843781	0.015147941
w_oil	-0.02223359	0.001720964	-0.009930236	0.01301098	-0.0148437814	0.054361155	-0.022085493
w_sugar	-0.02427687	-0.029827294	-0.001163385	0.11146335	0.0151479412	-0.022085493	-0.049258256

> elas(estResult)

Demand Elasticities (formulas of Goddard / Chalfant for Laspeyres price index)
Expenditure Elasticities

q_w_bread	q_w_meat	q_w_fish	q_w_milk_cheese	q_w_butter	q_w_oil
0.4541938	1.6109270	1.4105437	1.8017599	1.2919886	0.1036166

q_w_sugar
-0.4967339

Marshallian (uncompensated) Price Elasticities

	p_bread	p_meat	p_fish	p_milk_cheese	p_butter	p_oil	p_sugar
q_w_bread	-0.2644577	-0.03939179	-0.1353000	-0.0685978	0.1206831	-0.04356822	-0.02356137
q_w_meat	-0.2979952	-0.94412426	0.1637321	-0.2031145	-0.0923971	-0.05245297	-0.18457508
q_w_fish	-0.5725811	0.63502314	-0.7328295	-0.3242974	-0.1979771	-0.14491500	-0.07296682
q_w_milk_cheese	-0.4371346	-0.50511551	-0.2590882	-1.3978273	0.1003749	0.01717073	0.67986002
q_w_butter	0.5217828	-0.65781900	-0.4520327	0.3793630	-1.0199296	-0.38807514	0.32472210
q_w_oil	-0.1252289	0.25587738	-0.0835905	0.3184661	-0.2230087	-0.01107568	-0.23505626
q_w_sugar	0.1995272	0.12303821	0.1261463	1.1287558	0.1700127	-0.04801001	-1.20273630

Hicksian (compensated) Price Elasticities

	p_bread	p_meat	p_fish	p_milk_cheese	p_butter	p_oil	p_sugar
q_w_bread	-0.15849378	0.10400575	-0.09275182	-0.005165121	0.13938994	-0.016254661	0.029269706
q_w_meat	0.07783596	-0.43552422	0.31464112	0.021867458	-0.02604797	0.044422326	0.002805325
q_w_fish	-0.24349965	1.08035839	-0.60069202	-0.127300875	-0.13988115	-0.060090028	0.091105325
q_w_milk_cheese	-0.01678189	0.06373407	-0.09030226	-1.146193555	0.17458382	0.125522027	0.889437791
q_w_butter	0.82320521	-0.24991385	-0.33100130	0.559802071	-0.96671658	-0.310379640	0.475004097
q_w_oil	-0.10105501	0.28859109	-0.07388387	0.332937197	-0.21874109	-0.004844558	-0.223003751

```
q_w_sugar          0.08363858 -0.03379006  0.07961311   1.059381977  0.14955376 -0.077881787 -1.260515578
> summary(estResult )

Demand analysis with the Almost Ideal Demand System (AIDS)
Estimation Method: Linear Approximation (LA) with simplified Laspeyres Index (Ls)
Estimated Coefficients:
            Estimate  Std. Error t value  Pr(>|t|)
alpha 1     0.36643960  0.02549737 14.3717 < 2.2e-16 ***
alpha 2     0.11798258  0.02737384  4.3100 5.311e-05 ***
alpha 3     0.06468013  0.01386605  4.6646 1.467e-05 ***
alpha 4     0.02121790  0.02516003  0.8433 0.4019648
alpha 5     0.01756426  0.01042599  1.6847 0.0965725 .
alpha 6     0.13146238  0.01530048  8.5920 1.654e-12 ***
alpha 7     0.28065315  0.03225115  8.7021 1.041e-12 ***
beta 1     -0.12733723  0.02718919 -4.6834 1.369e-05 ***
beta 2      0.19288118  0.02689673  7.1712 6.506e-10 ***
beta 3      0.03845907  0.01498358  2.5667 0.0124385 *
beta 4      0.11197376  0.02822246  3.9675 0.0001753 ***
beta 5      0.01202611  0.01195565  1.0059 0.3179813
beta 6     -0.05390524  0.01635272 -3.2964 0.0015492 **
beta 7     -0.17409765  0.03368673 -5.1681 2.192e-06 ***
gamma 1 1   0.13687134  0.03693271  3.7060 0.0004211 ***
gamma 1 2  -0.04147390  0.01969854 -2.1054 0.0388960 *
gamma 1 3  -0.04314867  0.01507113 -2.8630 0.0055530 **
gamma 1 4  -0.03050909  0.02348977 -1.2988 0.1983280
gamma 1 5   0.02477078  0.01152606  2.1491 0.0351358 *
gamma 1 6  -0.02223359  0.01555550 -1.4293 0.1574280
gamma 1 7  -0.02427687  0.03618125 -0.6710 0.5044737
gamma 2 1  -0.04147390  0.01969854 -2.1054 0.0388960 *
gamma 2 2   0.06654210  0.02291587  2.9038 0.0049484 **
gamma 2 3   0.06923845  0.01217524  5.6868 2.868e-07 ***
gamma 2 4  -0.04215575  0.01723959 -2.4453 0.0170299 *
gamma 2 5  -0.02404457  0.00807598 -2.9773 0.0040089 **
gamma 2 6   0.00172096  0.01189484  0.1447 0.8853841
gamma 2 7  -0.02982729  0.02452290 -1.2163 0.2280137
gamma 3 1  -0.04314867  0.01507113 -2.8630 0.0055530 **
gamma 3 2   0.06923845  0.01217524  5.6868 2.868e-07 ***
gamma 3 3   0.02852647  0.01469031  1.9419 0.0562382 .
gamma 3 4  -0.02599873  0.01587844 -1.6374 0.1061083
gamma 3 5  -0.01752390  0.01172974 -1.4940 0.1397421
gamma 3 6  -0.00993024  0.00863298 -1.1503 0.2540049
gamma 3 7  -0.00116339  0.01892678 -0.0615 0.9511644
gamma 4 1  -0.03050909  0.02348977 -1.2988 0.1983280
gamma 4 2  -0.04215575  0.01723959 -2.4453 0.0170299 *
gamma 4 3  -0.02599873  0.01587844 -1.6374 0.1061083
```

```
gamma 4 4 -0.04280547  0.02947103 -1.4525 0.1509064
gamma 4 5  0.01699470  0.01558526  1.0904 0.2793152
gamma 4 6  0.01301098  0.01311815  0.9918 0.3247456
gamma 4 7  0.11146335  0.02760379  4.0380 0.0001377 ***
gamma 5 1  0.02477078  0.01152606  2.1491 0.0351358 *
gamma 5 2 -0.02404457  0.00807598 -2.9773 0.0040089 **
gamma 5 3 -0.01752390  0.01172974 -1.4940 0.1397421
gamma 5 4  0.01699470  0.01558526  1.0904 0.2793152
gamma 5 5 -0.00050118  0.01333565 -0.0376 0.9701298
gamma 5 6 -0.01484378  0.00731865 -2.0282 0.0464008 *
gamma 5 7  0.01514794  0.01584290  0.9561 0.3423425
gamma 6 1 -0.02223359  0.01555550 -1.4293 0.1574280
gamma 6 2  0.00172096  0.01189484  0.1447 0.8853841
gamma 6 3 -0.00993024  0.00863298 -1.1503 0.2540049
gamma 6 4  0.01301098  0.01311815  0.9918 0.3247456
gamma 6 5 -0.01484378  0.00731865 -2.0282 0.0464008 *
gamma 6 6  0.05436116  0.01119507  4.8558 7.197e-06 ***
gamma 6 7 -0.02208549  0.01707614 -1.2934 0.2002019
gamma 7 1 -0.02427687  0.03618125 -0.6710 0.5044737
gamma 7 2 -0.02982729  0.02452290 -1.2163 0.2280137
gamma 7 3 -0.00116339  0.01892678 -0.0615 0.9511644
gamma 7 4  0.11146335  0.02760379  4.0380 0.0001377 ***
gamma 7 5  0.01514794  0.01584290  0.9561 0.3423425
gamma 7 6 -0.02208549  0.01707614 -1.2934 0.2002019
gamma 7 7 -0.04925826  0.04862346 -1.0131 0.3145730
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

R-squared Values of expenditure shares:

w_bread	w_meat	w_fish	w_milk_cheese	w_butter	w_oil	w_sugar
0.9256979	0.8687683	0.9089830	0.8891960	0.8891298	0.8713740	0.6767846

R-squared Values of quantities:

q_w_bread	q_w_meat	q_w_fish	q_w_milk_cheese	q_w_butter	q_w_oil
0.8832947	0.9705249	0.9764582	0.9300286	0.9046363	0.5089568

q_w_sugar
0.6974555

```
> lrtest(estResult,estResult)
Likelihood ratio test

Model 1: estResult (LA-AIDS, symmetry and homogeneity imposed)
Model 2: estResult (LA-AIDS, symmetry and homogeneity imposed)
  #Df LogLik Df Chisq Pr(>Chisq)
1  54 447.22
2  54 447.22  0     0          1
> checkConsist( estResult )
```

```
Checking theoretical consistency of an Linear Approximate Almost Ideal Demand System (LA-AIDS):
The adding-up condition is fulfilled
The homogeneity condition is fulfilled
The symmetry condition is fulfilled
Monotonicity is fulfilled at 17 out of 17 observations (100%)
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