Table 4. NLSUR parameter estimates for the General (PB_G), Composite (PB_C), Separable Quadratic (SQ), Generalised Translog (GT) and Standard Translog (ST) cost functions

REGRESSORS [a]	PB_G MODEL	PB_C MODEL	SQ MODEL	GT MODEL	ST MODEL
Constant	1.004***	0.995***	1.003***	-0.021	0.982***
Y	0.717***	0.638***	0.683***	0.622***	0.638***
DRGW	0.391***	0.479***	0.553***	0.367***	0.441***
$\ln P_{MS}$	0.658***	0.658***	0.661***	0.660***	0.658***
$\ln P_D$	0.100***	0.101***	0.095***	0.098***	0.100***
$\ln P_K$	0.046***	0.046***	0.043***	0.044***	0.046***
TREND	0.003	0.002	0.004	0.011	0.008
Y^2	-0.321	-0.113	-0.136**	-0.241	0.187*
$DRGW^2$	0.322	0.031	0.002	-0.141	-0.560
Y DRGW	0.526	0.613***	0.587***	0.272	0.214
$Y \ln P_{MS}$	-0.013	-0.011	0	-0.016*	-0.010
$Y \ln P_D$	0.019***	0.018***	0	0.021***	0.017***
$Y \ln P_K$	0.012**	0.011**	0	0.012**	0.010*
$DRGW \ln P_{MS}$	-0.025**	-0.024*	0	-0.035**	-0.034**
$DRGW \ln P_D$	0.037***	0.037***	0	0.048***	0.048***
$DRGW \ln P_K$	0.012	0.012	0	0.015	0.015
$\ln P_{Ms} P_{AS}$	0.010	0.007	-0.004	0.005	0.006
$\ln P_{Ms} P_D$	-0.046***	-0.046***	-0.043***	-0.044***	-0.044***
$\ln P_{Ms} P_K$	-0.029***	-0.028***	-0.023***	-0.027***	-0.027***
$\ln P_{As} P_D$	-0.010	-0.009	0.001	-0.004	-0.006
$\ln P_{As} P_K$	0.004	0.002	0.007	0.006	0.003
$\ln P_D P_K$	-0.012**	-0.012***	-0.017***	-0.014***	-0.013***
Box-Cox θ	-0.446*	-0.260	-0.260	0	0
Box-Cox π	1.219***	1	1	0.563***	0
Box-Cox τ	0.015	0	0	1	1
McElroy system R^2 [b]	0.863	0.859	0.832	0.849	0.858
Cost function R^2	0.921	0.918	0.916	0.918	0.916
S_{MS} *equation* R^2	0.514	0.507	0.446	0.528	0.512
S_D *equation* R^2	0.769	0.771	0.581	0.766	0.782
S_K *equation* R^2	0.571	0.592	0.073	0.518	0.570

[a] The dependent variable is Operating Hospital Costs (*OHC*).
[b] The goodness-of-fit measure for the NLSUR systems is McElroy's (1977) R^2.
*** significant at 1 % level, ** significant at 5 % level, * significant at 10 % level (two-tailed test).

2.5. Results: the elasticities of substitution

Given the main aim of this study, we computed Allen, Morishima, and Shadow (Chambers, 1988) elasticities of substitution for all the estimated models. Ideally, one wants to measure for each couple of inputs the percentage change in the input ratio x_r/x_l due to a percentage change in the input price ratio P_l/P_r. *Allen* elasticities can be considered as *one price-one factor* elasticities, since they measure how the use of an input varies due to changes in the price of another input. They can be computed as $\sigma^A_{rl} = \varepsilon_{rl}/S_l$, where S_l is the l^{th} cost share and ε_{rl} is the derived input-demand elasticity of input x_r with respect to price P_l ($d\ln x_r/d\ln P_l$). While they have been criticized to a great extent in that they clearly are inappropriate measures of elasticities of substitution, Allen elasticities are still widely used in applied analysis.

Morishima elasticities represent *two factor-one price elasticities* and are closer proxies to the desirable measure. They are computed as $\sigma^M_{rl} = \varepsilon_{rl} - \varepsilon_{ll}$ and measure how the *r*,*l* input ratio responds to a change in P_l. There is a useful link between Morishima and Allen elasticities: