Table 3. Descriptive Statistics

	Mean	St. Dev.	Min	Median	Max
Operating Hospital Cost (10^3 €)					
Labor + Drugs + Capital cost	88,990	42,985	29,262	86,495	309,694
Production data					
Total number of patients (*Y*)	22,072	13,237	639	19,728	68,715
Average DRG weight (*DRGW*)	1.12	0.20	0.64	1.06	1.93
Total in-patients days	142,171	83,617	18,400	131,396	576,810
Total number of beds (*K*)	521	294	62	485	1,848
Input prices					
Medical Staff (€ per *MS* worker)	46,181	2,133	41,665	46,319	55,572
Administrative Staff (€ per *AS* worker)	26,544	1,841	22,053	26,310	31,170
Drugs (€ per in-patients day)	63	31	21	57	200
Capital (€ per bed)	8,051	3,715	3,016	7,170	22,859
Input cost-shares					
Medical Staff (S_{MS})	0.67	0.04	0.57	0.67	0.75
Administrative Staff (S_{AS})	0.20	0.03	0.14	0.20	0.30
Drugs (S_D)	0.09	0.03	0.03	0.09	0.20
Capital (S_K)	0.04	0.01	0.02	0.04	0.09

2.3. Functional form and estimation procedure

The bulk of empirical works on hospital costs adopted the well-known Translog specification. Given the complexity of hospital services production process, we do not impose *a priori* restrictions on the functional form and estimate a more general model, namely the *Generalised Composite* cost function, which has been first introduced by Pulley and Braunstein (1992, PB_G). The PB_G model reads as follows:

$$(1)\quad OHC^{(\phi)} = \left\{ \exp\left[\left(\begin{array}{l} \alpha_0 + \alpha_Y Y^{(\pi)} + \alpha_{DRGW} DRGW^{(\pi)} + \frac{1}{2}\alpha_{YY} Y^{(\pi)} Y^{(\pi)} + \frac{1}{2}\alpha_{DRGWDRGW} DRGW^{(\pi)} DRGW^{(\pi)} \\ + \alpha_{YDRGW} Y^{(\pi)} DRGW^{(\pi)} + \sum_r \delta_{Yr} Y^{(\pi)} \ln P_r + \sum_r \delta_{DRGWr} DRGW^{(\pi)} \ln P_r \end{array} \right)^{(\tau)} \right] \cdot \exp\left[\sum_r \beta_r \ln P_r + \frac{1}{2}\sum_r \sum_l \beta_{rl} \ln P_r \ln P_l \right] \right\}^{(\phi)}$$

where the superscripts in parentheses π, ϕ and τ represent Box-Cox transformations (for example $Y^{(\pi)} = (Y^{\pi} - 1)/\pi$ for $\pi \neq 0$ and $Y^{(\pi)} \to \ln Y$ for $\pi \to 0$). *OHC* is the long-run production cost of hospital services, *Y* is the output, *DRGW* is the average degree of complexity of the service provided, and P_r indicates factor prices (with r = *MS*, *AS*, *D* and *K*). By applying the *Shephard's Lemma*, the associated input cost-share equations are:

$$(2)\quad S_r = \left[\begin{array}{l} \alpha_0 + \alpha_Y Y^{(\pi)} + \alpha_{DRGW} DRGW^{(\pi)} + \frac{1}{2}\alpha_{YY} Y^{(\pi)} Y^{(\pi)} + \frac{1}{2}\alpha_{DRGWDRGW} DRGW^{(\pi)} DRGW^{(\pi)} \\ + \alpha_{YDRGW} Y^{(\pi)} DRGW^{(\pi)} + \sum_r \delta_{Yr} Y^{(\pi)} \ln P_r + \sum_r \delta_{DRGWr} DRGW^{(\pi)} \ln P_r \end{array} \right]^{\tau-1} \cdot \left(\delta_{Yr} Y^{(\pi)} + \delta_{DRGWr} DRGW^{(\pi)} \right) + \beta_r + \sum_l \beta_{rl} \ln P_l$$