## **HA07 Data Description**

**Your file** ha07\_data\_NN contains the following time series:  $LGBUSI_t$ ,  $LGDPI_t$ , and  $LGPRBUSI_t$ .

In HA07 these time series are denoted as  $Y_t = LGBUSI_t$ ,  $X_t = LGDPI_t$ , and  $Z_t = LGPRBUSI_t$ 

Now detailed exlanations follow.

Time series presenting in original file are total personal disposable income  $DPI_t$  in billions of US dollars, by year, 1953-2003, total personal business expenditure of US residents  $BUSI_t$  (also in billions of US dollars), index  $PRELBUSI_t$  shows relative prices for personal business services as a percentage of the 2000 level  $PRELBUSI_t = \frac{PBUSI_t}{PTPE_t} \cdot 100$ , where  $PTPE_t$  (Prices of Total

Personal Expenditures) is an index of the prices of the entire basket of goods and services. All quantities in the models are considered in logarithms  $LGBUSI_t = LOG(BUSI_t)$ ,  $LGDPI_t = LOG(DPI_t)$ ,  $LGPRBUSI_t = LOG(PRELBUSI_t)$ .

For the simplicity, in all tasks we will refer to  $Y_t = LGBUSI_t$ ,  $X_t = LGDPI_t$ ,  $Z_t = LGPRBUSI_t$ . In your analysis, ignore the problems associated with autocorrelation and non-stationarity of the time series.