Table 4:

**SUR and OLS/Probit Regression Results when Hedging Variable is assigned by Category of Risk**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Independent variables | Dependent variables in the OLS/Probit regression | | | | | |  |  | | Dependent variables in the SUR regression | | | | | Predicted Influence |
| a | DUM\_FXb | a | DUM\_IRb | a | DUM\_CPa |  |  | DUM\_FX | |  | DUM\_IR |  | DUM\_CP |
| Const | 2,272\* | -13,777\* |  |  |  |  |  | 2,707\* | -3,941\* | |  |  |  |  |  |
|  | (6,64)\* | (-3,61)\* |  |  |  |  |  | (7,97)\* | (-3,73)\* | |  |  |  |  |  |
|  |  | -0,014\* |  |  |  |  |  |  | -0,018\* | |  |  |  |  | + |
|  |  | (-0,43)\* |  |  |  |  |  |  | (-2,19)\* | |  |  |  |  |  |
| FS/TS | -0,083\* |  |  |  |  |  |  | 0,036\* |  | |  |  |  |  | na |
|  | (-0,12)\* |  |  |  |  |  |  | (0,06)\* |  | |  |  |  |  |  |
| DUM\_FX | -0,634\* |  |  |  |  |  |  | -1,208\* |  | |  |  |  |  | - |
|  | (-1,49) \* |  |  |  |  |  |  | (-2,85)\* |  | |  |  |  |  |  |
| Const |  |  | 0,343\* | -17,636\* |  |  |  |  |  | | 0,350\* | -3,750\* |  |  |  |
|  |  |  | (7,50)\* | (-4,20)\* |  |  |  |  |  | | (7,67)\* | (-3,37)\* |  |  |  |
|  |  |  |  | 0,073\* |  |  |  |  |  | |  | 0,011\* |  |  | + |
|  |  |  |  | (0,38)\* |  |  |  |  |  | |  | (0,23)\* |  |  |  |
| LIQ |  |  | -0,081\* |  |  |  |  |  |  | | -0,076\* |  |  |  | - |
|  |  |  | (-0,31)\* |  |  |  |  |  |  | | (-0,29)\* |  |  |  |  |
| DUM\_IR |  |  | -0,016\* |  |  |  |  |  |  | | -0,027\* |  |  |  | - |
|  |  |  | (-0,29)\* |  |  |  |  |  |  | | (-0,48)\* |  |  |  |  |
| Const |  |  |  |  | 0,267\* | -0,789\* |  |  |  | |  |  | 0,260\* | -0,816\* |  |
|  |  |  |  |  | (15,81)\* | (0,75)\* |  |  |  | |  |  | (15,13)\* | (-0,79)\* |  |
|  |  |  |  |  |  | 0,192\* |  |  |  | |  |  |  | 0,341\* | + |
|  |  |  |  |  |  | (2,27)\* |  |  |  | |  |  |  | (4,13)\* |  |
| TI/TS |  |  |  |  | -0,010\* |  |  |  |  | |  |  | -0,010\* |  | na |
|  |  |  |  |  | (-0,68)\* |  |  |  |  | |  |  | (-0,63)\* |  |  |
| DUM\_CP |  |  |  |  | 0,078\* |  |  |  |  | |  |  | 0,151\* |  | - |
|  |  |  |  |  | (1,95)\* |  |  |  |  | |  |  | (3,82)\* |  |  |

(continue)

Table 4 (continuation):

**SUR and OLS/Probit Regression Results when Hedging Variable is assigned by Category of Risk**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Independent variables | Dependent variables in the OLS/Probit regression | | | | | |  |  | | Dependent variables in the SUR regression | | | | | Predicted Influence |
| a | DUM\_FXb | a | DUM\_IRb | a | DUM\_CPa |  |  | DUM\_FX | |  | DUM\_IR |  | DUM\_CP |
| *Control variables:* | |  |  |  |  |  |  |  |  | |  |  |  |  |  |
| ASSET | | 0,062\* |  | 0,154\* | \* | 000,008\* |  |  | 0,015\* | | \* | 0,038\* | \* | 0,008\* | na\* |
|  |  | (2,61)\* |  | (6,06)\* |  | (1,44)\* |  |  | (2,67)\* | |  | (6,70)\* |  | (1,43)\* |  |
| CAPEX |  | 0,919\* |  | 2,481\* |  | 00---0,424\* |  |  | 0,290\* | |  | 0,623\* |  | -0,416\* | + |
|  |  | (0,52)\* |  | (1,31)\* |  | (-0,92)\* |  |  | (0,63)\* | |  | (1,30)\* |  | (-0,92)\* |  |
| DIV |  | -10,229\* |  | 4,006\* |  | 001,315\* |  |  | -2,805\* | |  | 1,187\* |  | 1,283\* | - |
|  |  | (-2,34)\* |  | (0,95)\* |  | (1,14)\* |  |  | (-2,46)\* | |  | (0,99)\* |  | (1,14)\* |  |
| GDP |  | 1,364\* |  | 1,405\* |  | 000,077\* |  |  | 0,449\* | |  | 0,337\* |  | 0,075\* | + |
|  |  | (3,67)\* |  | (3,52)\* |  | (0,75)\* |  |  | (4,39)\* | |  | (3,13)\* |  | (0,75)\* |  |
| INS |  | -1,455\* |  | -2,964\* |  | 00-0,017\* |  |  | -0,389\* | |  | -0,736\* |  | -0,016\* | + |
|  |  | (-2,31)\* |  | (-3,71)\* |  | (-0,09)\* |  |  | (-2,21)\* | |  | (-3,97)\* |  | (-0,09)\* |  |
| LEV |  | 0,100\* |  | 4,446\* |  | 000,071\* |  |  | 0,024\* | |  | 1,101\* |  | 0,071\* | + |
|  |  | (0,19)\* |  | (6,87)\* |  | (0,50)\* |  |  | (0,17)\* | |  | (7,43)\* |  | (0,51)\* |  |
| PE |  | -0,006\* |  | 0,001\* |  | -9,3e-03\* |  |  | -0,002\* | |  | -1,6e-03\* |  | -9,1e-03\* | + |
|  |  | (-1,43)\* |  | (0,30)\* |  | (-0,87)\* |  |  | (-1,61)\* | |  | (-0,14)\* |  | (-0,87)\* |  |
| TAX |  | -0,742\* |  | -4,591\* |  | 00-0,620\* |  |  | -0,208\* | |  | -0,886\* |  | -0,600\* | + |
|  |  | (-0,51)\* |  | (-1,70)\* |  | (-1,58)\* |  |  | (-0,54)\* | |  | (-2,17)\* |  | (-1,57)\* |  |
| R2 | 0,010 | 0,134\* | 0,001 | 0,325\* | 0,014 | 0,048\* |  | --- | | | --- | | --- | |  |

**Note.**The statistics reported are obtained through Gretl (version 1.9.1). In the predicted influence column – na – means that there is no prediction. *t*-values are in parentheses. , and represent the magnitude of exchange rate exposure, the magnitude of interest rate exposure and the magnitude of commodity price exposure, respectively; ASSET = proxy for firm size, measured by the natural logarithm of total assets; CAPEX = proxy for firm investment, measured by the ratio of capital expenditures to total assets; DIV = dividend yield proxy for firm liquidity, measured by the gross dividend per share divided by the closing stock price; *DUM\_FX*, *DUM\_IR* and *DUM\_CP* are dummies which are assigned a value of 1 if a firm uses either external or internal foreign exchange hedging instruments, interest rate hedging instruments and commodity hedging instruments, respectively; FS/TS = proxy for firm foreign real operations, measured by the ratio of foreign sales to total sales; GDP = proxy for the availability of derivatives in capital markets, measured by the natural logarithm of gross national product per capita; INS = proxy for the managerial risk aversion, measured by the percentage of ordinary shares held by insiders; LEV = financial leverage proxy for the probability of financial distress, measured by the ratio of total debt to total assets; LIQ = proxy for the expected costs of financial distress, measured by the ratio of cash-flow to total assets; PE = proxy for growth opportunities, measured by the price earnings ratio; TAX = proxy for the convexity of firm tax schedule, measured by net operating losses to total assets; TI/TS = proxy for the need to hedge commodity price, measured by the ratio of total inventory to total sales. All accounting variables, with the exception of foreign firm sales, originate from the *Infinancials* database. Data on firm foreign sales and on hedging activities was manually collected from firm’s annual reports. Data on inside ownership was collected from *Bloomberg* database and data on GDP originates from *World Economic Outlook* database *(International Monetary Fund)*.

a Estimation performed using OLS. b Estimation performed using Probit.

\* Indicates values that the coefficients are significant at 10% or lower levels.