*Supplementary Appendix S1: Test for Multicollinearity*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variables** | **GLSS 6** | | **GLSS 7** | |
|  | **VIF** | **1/VIF** | **VIF** | **1/VIF** |
| Years of education | 1.25 | 0.8027 | 1.27 | 0.7858 |
| **Sex of household head** |  |  |  |  |
| Male | 1.14 | 0.8790 | 1.17 | 0.8563 |
| **Health insurance status** |  |  |  |  |
| Covered by Insurance | 1.19 | 0.8381 | 1.15 | 0.8700 |
| **Illness reporting** |  |  |  |  |
| Not reported | 1.04 | 0.9600 | 1.05 | 0.9519 |
| **Household cooking fuel** |  |  |  |  |
| Charcoal | 1.85 | 0.5394 | 1.83 | 0.5452 |
| LPG | 2.45 | 0.4085 | 2.52 | 0.3974 |
| **Household Location** |  |  |  |  |
| Urban | 1.75 | 0.5723 | 1.63 | 0.6144 |
| Household size | 1.55 | 0.6449 | 1.59 | 0.6291 |
| **Region of Residence** |  |  |  |  |
| Volta | 1.67 | 0.5979 | 1.84 | 0.5438 |
| Ashanti | 1.86 | 0.5375 | 1.97 | 0.5068 |
| Greater Accra | 2.03 | 0.4915 | 2.07 | 0.4824 |
| Central | 1.68 | 0.5936 | 1.78 | 0.5613 |
| Eastern | 1.83 | 0.5467 | 1.87 | 0.5361 |
| Northern | 1.38 | 0.7235 | 1.41 | 0.7073 |
| Upper East | 1.37 | 0.7281 | 1.52 | 0.6583 |
| Upper West | 1.40 | 0.7119 | 1.47 | 0.6817 |
| Brong Ahafo | 1.69 | 0.5911 | 1.72 | 0.5831 |
| **Household Expenditure** | 1.69 | 0.5920 | 1.94 | 0.5163 |
| **Mean VIF** | 1.58 | 0.6329 | 1.63 | 0.6135 |

Source: Authors’ Estimation from GLSS 6 and GLSS 7

*Supplementary Appendix S2: OLS Estimation results*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | GLSS 6 | | GLSS 7 | |
| Variables | Coefficients | Standard Error | Coefficients | Standard Error |
| **Household Head Characteristics** |  |  |  |  |
| Log of Age | 0.1723\*\* | 0.0557 (3.10) | -0.1552\*\* | 0.0644 (-2.41) |
| **Sex** |  |  |  |  |
| Female (Ref. Point) |  |  |  |  |
| Male | -0.0617 | 0.0406 (-1.52) | -0.0126 | 0.0451 (-0.28) |
| Log of Years of Education | -0.1688\*\*\* | 0.0368 (-4.58) | -0.1223\*\*\* | 0.042 (-2.83) |
| **Illness Reporting** |  |  |  |  |
| Illness reported (Ref. Category) |  |  |  |  |
| Not Reported | -0.4471\*\*\* | 0.0519 (-8.62) | -0.4698\*\*\* | 0.0689 (-6.82) |
| **Health Insurance Status** |  |  |  |  |
| Not covered (Ref. Point) |  |  |  |  |
| Covered | -0.0710\* | 0.0369 (-1.93) | -0.0019 | 0.0454 (-0.04) |
| **Household Main Cooking Fuel** |  |  |  |  |
| Wood (Ref. Category) |  |  |  |  |
| Charcoal | -0.5440\*\*\* | 0.0813 (-6.32) | -0.0832\* | 0.0519 (-1.60) |
| LPG | -1.1509\*\*\* | 0.1029 (-10.12) | -0.3206\*\*\* | 0.0680 (-4.72) |
| **Socio-economic Characteristics** |  |  |  |  |
| Log of Total Household Expenditure | 0.9187\*\*\* | 0.0297 (30.90) | 0.5804\*\*\* | 0.0347 (16.71) |
| **Demographic characteristics** |  |  |  |  |
| Log of Household size | -0.6277\*\*\* | 0.0320 (-19.61) | -0.3119\*\*\* | 0.0355 (-8.77) |
| **Household Location** |  |  |  |  |
| Rural (Ref. Point) |  |  |  |  |
| Urban | -0.0075\*\*\* | 0.0423 (-6.29) | -0.0075 | 0.0481 (-0.16) |
| **Region of Residence** |  |  |  |  |
| Western (Ref. Category) |  |  |  |  |
| Ashanti | 0.3254\*\*\* | 0.0655 (4.97) | 0.2620\*\*\* | 0.0711 (3.69) |
| Greater Accra | 0.1707\*\* | 0.0705 (2.42) | 0.3035\*\*\* | 0.0825 (3.68) |
| Central | 0.1334\*\* | 0.0684 (1.95) | 0.3919\*\*\* | 0.0784 (5.00) |
| Eastern | -0.0669 | 0.0655 (-1.02) | 0.6414\*\*\* | 0.0745 (8.61) |
| Volta | 0.2596\*\*\* | 0.0688 (3.77) | 0.8449\*\*\* | 0.0769 (10.99) |
| Northern | 0.2759\*\*\* | 0.0811 (3.40) | 0.5868\*\*\* | 0.0968 (6.06) |
| Upper East | -0.0723 | 0.0793 (-0.91) | 0.4876\*\*\* | 0.0904 (5.40) |
| Upper West | -0.3938\*\*\* | 0.0764 (-5.15) | 0.2382\*\* | 0.0863 (2.76) |
| Brong Ahafo | 0.1147\* | 0.0698 (1.64) | 0.0289 | 0.0723 (0.40) |
| Constant | -5.2442\*\*\* | 0.3107 (-16.88) | -2.7160\*\*\* | 0.3709 (-7.32) |
| Observations | 10792 |  | 8769 |  |
| R-squared | 0.1200 |  | 0.0624 |  |
| Prob > F | 0.0000 |  | 0.0000 |  |
| Root MSE | 1.6774 |  | 1.7673 |  |

\*\*\*Significant at 1%; \*\*Significant at 5%; \*Significant at 10%, t-values in parenthesis

Source: Authors’ Estimation from GLSS 6 and GLSS 7

*Supplementary Appendix S3: Breusch-Pagan / Cook-Weisberg test for heteroskedasticity*

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| --- | --- | --- |
|  | GLSS 6 | GLSS 7 |
| .hettest |  | |
| Breusch-Pagan / Cook-Weisberg test for heteroskedasticity |  | |
| Ho: Constant variance |  | |
| Variables: fitted values of Per Capita Healthcare Expenditure |  | |
| chi2(1) | 154.02 | 143.00 |
| Prob > chi2 | 0.0000 | 0.0000 |

Source: Authors’ estimation using data from GLSS 6 and GLSS 7

*Supplementary Appendix S4: Ramsey RESET test using powers of the fitted values of log of Per Capita Healthcare Expenditure*

|  |  |
| --- | --- |
| GLSS 6 | GLSS 7 |
| .ovtest | .ovtest |
| Ho: model has no omitted variables | Ho: model has no omitted variables |
| F(3, 10769) = 19.90 | F(3, 8746) = 7.75 |
| Prob > F = 0.1130 | Prob > F = 0.2321 |

Source: Authors’ estimation using data from GLSS 6 and GLSS 7