Hendry’s Trial and Error of GARCH Specification

GARCH has two parts that you should estimate simultaneously. First part is called "the mean equation", which you can define your stationary time series as univariate and/or as a function of other independent variables. In this part, however, it is assumed that the squared disturbance/error term is not white noise and therefore should be modelled seperately. In the second part, which is called "the variance equation", you can specify the structure of your error term as a GARCH-X process. Since you are looking for the impact of "news" on the volatility, you should include your variables in the variance equation. Using EViews is really the easiest way of conducting an ARCH analysis:  
  
1-Open your EViews program and create a workfile that contains all your variables.  
2-Select "Quick/Estimate Equation" from the above menu.  
3-Select ARCH in "Estimation Settings" below in the Equation Estimation dialog box you have opened.  
4-Define your "mean equation" (e.g. AR(1)).  
5-Select an appropriate method (e.g. GARCH(1,1)) and put your exogenous variables into "Variance regressors" edit box.  
6-Estimate and make sure that there are no autocorrelations left in the residuals and the squared residuals.  
  
If you decide to go a little bit deeper, I suggest you to build an EGARCH(1,1) model with asymmetric order of 1, since positive and negative news might have different effects on the volatility.

1. Dummy In Mean Equation



Observation: Data Shows There Insignificant Therefore Proving COVID-19 Has No Significant Impact But Variables Of Dummy Only Inserted In Mean Equation Not Both Mean And Variance

1. Dummy In Mean And Variance Equation



Observation: Both Seems To Produce The Same Value As Before Implying That There Is Not Significant Impact In HANG SENG INDEX

Th

is Data Would Be Sufficient Enough To Prove The Thesis

1. Correlogram Of Standardized Residual



Observation: Diagnostic Test To Check Whether Any Serial Correlation Exists In The Model, In This Case All Values Are > 0.05, Therefore Absence In Serial Correlation Means My Model Is Working Correctly.

1. Correlogram Of Standardized Residual Squared



Observation: No Residual ARCH Here As Well, So Far So Good For The Model



?