The demand & supply functions (in structural form) have been defined as below:

The demand function, within the scope of this project, does not have any exogenous variables. The supply function has “cumulative bookings” acting as an exogenous factor, since in a limited supply scenario,

Lastly, the principle of simultaneity in Supply & Demand function dictates the price to be endogenous in nature. Since there is an exogenous variable affecting supply, we will try to estimate the demand function by shifting supply curves.

To get the demand function, we need the true estimate of price. The reduced function for price is:

=> where; is fed back to the demand function.