

Econometric analysis - math problem example

[Science](#), [Physics](#)



Econometric Analysis

Its analysis has two principal purposes - to promote empirical content within particular economic theories and to subject such theories to potentially falsifying tests. Taking the first, with the French data as example, it can be said that economic theory holds that consumption should be directly proportion to income while it should be inversely so to interest and unemployment rates. The available data should reflect this and thus provide empirical evidence of the theory's validity. The tests that the data will be subjected to will assist in this quest for empiric authenticity. Such tests should not only provide broad evidence of empiricism but should also assist in determining how much current variance there may be from theoretical reckoning and should thus provide reliable pointers as to why such variance is evident. It is, of course, incumbent upon theorists to interpret why there is variance, if evident after analysis, and this is done at the end of the paper.

To find empiric elements within the variables the first strategy adopted is to assume that a certain relation exists among the variables such that LCF (natural logarithm of real per capita consumption) is taken to be an endogenous variable series that is functionally dependent upon the other variable time series' - LYF (Natural logarithm of real per capita income), RF (real interest rate) and UF (unemployment rate). The following equation expresses a 'Population Linear Function' that is linear both in variables and parameters. The equation is as follows:

$$LCF_t = + LYF_t + RF_t + UF_t + u_t$$

The unknown parameters that are assumed to be linear, just as the variables LCF, LYF, RF and UF but this is still an assumption. This, together with the fact that the data has been acquired eccentrically, without due consideration for true series function, does not automatically relate parameters, also called estimators, statistically to their true corresponding values. Therefore, it is necessary to find certain other properties within the variables to enable this. This, however is not evident. Again, thus, some more assumptions have to be made such that, based on these second set of assumptions, certain statistical properties between the estimators and their true corresponding values can be assigned.