

TAYLOR EFFECT: AN ANALYSIS BEYOND ECONOMICS SERIES

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- **ABSTRACT:** *In 1986, Taylor observed based on various financial series analyzed, that the empirical autocorrelation of a particular order of the series in absolute value is superior to the empirical autocorrelation of the same order of the square of this series. Based on this assumption, the objective of this work was to assess the presence of the Taylor Effect on noneconomic series, thus analyzing and applying the test for Taylor Effect in temporal data of dynamic biospeckle series. The biospeckle series are treated as velocity distribution of the analyzed phenomena and may assist in the identification and physiological changes processes in living materials, thus allowing the calculation of the cellular activity of the sample in question. The biospeckle series chosen for this work was the laser illumination of bovine semen, grouped and organized according to COSTA (2009). The correct choice for arguments based on temporal mathematical models, elaborated in a manner to present a greater number of empirical characteristics observed in the results of the studied phenomenon shows that, in the research, the Taylor Effect was confirmed in the first lags analyzed in the series, more precisely, in the first 10 lags, of the chosen series, in a total of 30 lags analyzed. The study used the Box & Jenkins methodology in the preparation and use of the biospeckle series in order to, subsequently, apply the Taylor Effect test.*
- **KEYWORDS:** *Taylor Effect; Economic series; Biospeckle.*

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