

## ESTIMATING BARRO MISERY INDEX IN DEMOCRATIC STATES WITH APPLICATION IN ALBANIA: 2005 – 2014

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### Abstract

In the present study we develop a statistical analysis of the Barro misery index and its components in contemporary democratic states with application in Republic of Albania during the period January 2005- December 2014. BMI is calculated by the formula:  $BMI = \pi + u - GDP + i$ , where BMI denotes quarterly Barro misery index,  $\pi$  denotes quarterly inflation rate,  $u$  denotes quarterly unemployment rate,  $GDP$  denotes quarterly real GDP growth rate,  $i$  denotes nominal long-term interest rate. Kolmogorov's Central Limit Theorem is a fundamental theorem of Modern Probability Theory "Fair game" and "Effective market in week sense" are important concepts of Macroeconomics. Some results of the study include: Kolmogorov's Central Limit Theorem is not valid for quarterly inflation rates in Albania during the period January 2005-December 2014 at the confidence 99.9%. The inflation process in Albania during the specified period, related to the quarterly inflation rate, is an unfair game at the confidence 98.8%. The inflation process in Albania during the specified period, related to the quarterly inflation rate, is not effective at the confidence 97.5%. Kolmogorov's Central Limit Theorem is not valid for quarterly unemployment rates in Albania during the specified period at the confidence 99.9%. The unemployment process in Albania during the specified period, related to the quarterly unemployment rate, is an unfair game at the confidence 99.9%. The unemployment process in Albania during the specified period, related to the quarterly unemployment rate, is not effective at the confidence 99.9%. The official data of the quarterly GDP growth rate for Albania during the specified period contradict Kolmogorov's Central Limit Theorem at the confidence 77.1%. The GDP growth rate process for Albania during the specified period is a fair game at the confidence 86.4%. The GDP growth rate process for Albania during the specified period is not effective at the confidence 99.9%. The official data of the quarterly Barro misery index for Albania during the specified period contradict Kolmogorov's Central Limit Theorem at the confidence 96.1%. The Barro misery index for Albania during the specified period is a fair game at the confidence 84.8%. The Barro misery index process for Albania during the specified period is not effective at the confidence 63.7%.

**Keywords:** *Barro misery index, okun misery index, inflation, unemployment, GDP growth rate, Albania*