

ECONOMIC GROWTH AND INFORMATIONAL EFFICIENCY: THE US CASE

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Schumpeter [1] argued that the services provided by financial intermediaries are essential for technological innovation and economic development. Since then, some empirical works have tried to answer if the financial system is important to economic growth (see [2], [3]). In this paper, we analyze a related question: is an informational efficient stock market important to economic growth? As far as we know this is the first study analyzing such an economic relationship.

As it is well known, the efficient market hypothesis (EMH) has been the central proposition in finance in the last 30 years. This hypothesis establishes that in an efficient market, the prices always fully reflect all the available information. We introduce a measure of the informational efficiency based on the Symbolic Dynamics and the Shannon entropy. The intuition is simply, if after symbolization the dynamic of the returns is recovered, then it is possible to apply the Shannon entropy in order to measure the quantity of embodied information.

Using the econometric methodology suggested by [4] we found a positive relationship between real per capita GDP and informational efficiency in USA for the period 1950-2007. However, applying the causality test proposed by [5] we do not find any kind of causality between the two variables.

Keywords

Economic Growth, Informational Efficiency, Stock Markets, Shannon Entropy

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