

Growth and Volatility: A Study of Relationship with Selected Macroeconomic Variables of India

Parimal Ghosh and Maniklal Adhikary

It is very important to understand the trade-off between growth and volatility of a particular economy as stabilisation policy is very much dependent on it. This paper attempts to examine the relationship between growth and volatility of GDP as well as of its components - consumption, investment, government expenditure and export. Second, we have examined the effect of GDP growth volatility on components of GDP. Using ARCH, GARCH, EGARCH mean models we have found that growth and volatility are negatively related for GDP and consumption while this relationship is positive for investment. Volatility of GDP growth rate negatively affects consumption.

I Introduction

Growth and its volatility are not connected in any well-specified and straight forward manner. We can find from various theoretical and empirical studies that growth and volatility cannot be confirmed to be related either positively or negatively. According to Friedman (1968) in business cycle model there is no relationship, positive relationship or negative relationship between growth and volatility as fluctuations from natural rate of growth is due to price level imperfections which are triggered by monetary shocks, they in no way affects natural rate of growth which depends on real factors like Skill, technology, etc. On the other hand, R.M. Solow (1957) asserts that the technology shocks can be considered responsible for the variation of output and changes in the long run growth rate. The argument of Black (1987) proceeds in favour of positive relationship between growth and volatility. Hence, Black points out that a positive risk return trade-off exists in the choice of aggregate technologies as countries invest in riskier technologies if expected rate of return is high enough to the associated greater risk. A positive relationship between growth and volatility has been found in the study of Kormendi and Meguire (1985) and Grier and Tullock (1989). Traced back to Keynes (1936) we observe a negative relationship between growth and volatility; as volatility increases, the risk of investment adversely affects the entrepreneurial expectation. Due to investment irreversibility Bernanke (1983) and Pindyck (1991) have found the negative relationship between growth

Parimal Ghosh, Research Scholar, Department of Economics, The University of Burdwan, Golapbag, Burdwan 713104, West Bengal, Email: ghoshparimal5@gmail.com

Maniklal Adhikary, Professor of Economics, Department of Economics, The University of Burdwan, Golapbag, Burdwan 713104, West Bengal, Email: drmaniklaladhikary@gmail.com