The Dynamics of Demographic and Macroeconomic Variables in India

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"The difficulty lies not so much in developing new ideas as in escaping from old ones." – Keynes

INTRODUCTION

These words of Keynes are very much significant in the context of this paper. Several theoretical concepts like the Phillips curve had been ruling the charts for almost half of a century. But, the question is to what extent is this model relevant for a country like India, today. Growth theory had its beginning in the years following the World War II when war devastated economies had embarked on the programme of reconstruction and development. This had called for high savings (reduction in current consumption) so that resources could be employed for investment purposes. But, in an inflationary situation, the general tendency of prices is to go upwards which has been statistically captured by the persistent upward movement of some of the aggregate price indices, *viz.* Consumer Price Index (CPI) or GDP deflator. Studies have shown that inflation has a highly significant negative impact on growth. Apart from causing distress for the poorer sections of the populace, the rising and variable prices also hurt the long term growth prospects by knocking the macro environment off balance. As a result, price stability figures are positioned high among the policy priorities of the Government of India. To all intents and purposes, inflation control is now considered more important than the elimination of the output gap. It is therefore important for the policy makers to know the exact relation between economic growth and inflation.

BACKGROUND

Coming to the issue of growth-employment linkage, the growth process in India shows evidence of the inability of high growth rates of output to stimulate sufficient employment opportunities. This phenomenon has been observed in India post-liberalization, since 1991. This indeed is what emerges from a more detailed consideration of the patterns of growth and employment dynamics in India. This absurdity has indeed haunted India's economy for at least half a century and has threatened the developmental policy of ensuring employment opportunities for the populace as a whole (Ghosh and Chandrasekhar, 2007). The conventional Phillips curve in essence shows the inflation-unemployment tradeoff but the question is whether the negative relation holds good for the Indian economy. Growth is incomplete in an economy where there is not enough generation of employment. Phillips (1958) in his seminal contribution had affirmed that to control inflation in an economy, employment needs to be relinquished. Subsequently, we come to the population-growth linkage and how it affects employment. Instinctively, it can be argued

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that impacts can be both favourable as well as unfavourable. If a country has larger amount of inoperative resources, the population can supply laborers which when efficiently utilized will result in a rise in the rate of per-capita GDP growth through the generation of employment. On the other hand, an increase in population can also negatively affect the growth rate of GDP through poverty, lack of capital formation as employment generation in the formal sector has been miserable. Hence, an increase in population tends to press hard on economic resources as well as job opportunities. This paper will be looking into the fact that whether population growth affects GDP positively or negatively in the Indian context. It is also clear that there is enough simultaneity among the focus variables.

The present paper analyzes this crucial issue by building up an empirical model which highlights the liaison between economic growth, inflation rate, employment and population growth in a Simultaneous Equation System (SES) framework. The spotlight then shifts to the theoretical foundations of this analysis. Precisely, our objective is to bring out the presence of simultaneity among the focus variables in our proposed model. This is followed by the issues pertaining to the empirical model and the methodology applied. Next, the econometric exercise has been carried out which helps us to pencil in the comprehensive policy implications of this research. The paper comes to a close by resolving the fusillade of questions.

BRIEF REVIEW OF SELECT LITERATURE

Empirical evidence about the relationship between inflation and growth differs with some studies finding a negligible effect of inflation on growth (for instance Chari *et al.*, 2000), some finding a negative effect (Chopra, 2015) and others providing evidence of the existence of a positive effect (Dholakia, 1995). Theoretically, the effect of inflation on growth is largely due to the inefficient use of resources and distorted investment decisions owing to inflation (Mallik and Chowdhury, 2001). Consequently, the relationship between economic growth and inflation may even end up being bi-directional. This ambiguous liaison amid inflation and growth necessitates that though rising inflation may have associated growth costs, policy efforts to suppress inflation could even negatively affect the growth prospects. On the other hand, by tolerating inflation at higher rates could lead to higher growth. In their paper, Singh and Kaliranjan (2005) empirically analyzed the employment-growth nexus and came to a conclusion that there exists an uni-directional causality between employment and growth. Also, Khan (2007) shows that the level of employment growth has a determining effect on a given rate of economic growth from the rate of change in poverty. It is based on the findings of 16 country case studies, including, India based on data available from the UNDP and the ILO. Ahmed and Mortaza (2005) have substantiated the existence of a positive relationship between inflation and growth by examining the long term dynamics of this relationship for four South Asian countries *viz.* Bangladesh, Pakistan, Sri Lanka and India. This paper concentrates completely on the endogenous relationship as opposed to the exogenous theoretical arguments already existing in the literature. The unemplyment and inflation trade off boasts of a rich literature. Coming to the latest studies in the Indian milieu, Paul (2009) observed the existence of a short run negatively sloped Phillips curve based on the data pertaining to the industrial sector in India. In a different system, while investigating the relationship between inflationary expectations and monetary policy, Patra and Ray (2010) confirmed the existence of the normal Phillips curve. In another paper, Kapur (2013) came to a conclusion that both demand and supply factors drive inflation but demand side factors have a stronger impact on inflation seen in non-manufactured products. Interestingly, inflation in non-fuel commodities is seen as a more important driver of domestic inflation level rather than fuel inflation. Similar studies in this domain include, Mazumder (2011) and Singh et al. (2011). Both the studies essentially validate the