ABSTRACT

There is little agreement among economists and policy makers on the relative importance of different economic forces in shaping the course of prices. A never ending and seemingly self-sustaining stream of econometric analysis, of inflationary rise in prices, pertaining to the post-war period, for a number of countries has been taking place. It is noteworthy that in India price behaviour has generally been analysed in a simple framework of the famous 'quantity theory of money'. However, there are few studies devoting some attention to structuralist factors such as Akhtar, M.A. "The Inflation Problem in Developing Economies - India and Phillipines" and L. Rao and A.V. Ranganadhachary "Indian Price Trends - A structuralist Explanation". But the overwhelming evidence seems to be in favour of the monetarist variables. The poor performance of monetarist model applied to annual data, inadequate attention paid to time lags with which explanatory variables influence the price level, total neglect of institutional and crucial structural factors, emphasize the need for trying alternative formulations to make-up the deficiencies in the model.

The best that an investigator interested in studying the behaviour of general price level can do by way of filling this lacuna is to identify the institutional and structural factors and search for their empirical counter parts to enrich
the statistical analysis of price trends, such an attempt is made by us.

The futility or fruitfulness of the study of inflation depends on the validity or invalidity of its various alleged consequences. Keeping this in mind an effort has been made by us to analyse the effects of inflation on factorial distribution of income and terms of trade between agriculture and industry.


To accomplish our endeavour required data have been taken from reports and periodicals published mainly by Reserve Bank of India, Central Statistical Organisation and various departments/offices of the Government of India. In our study we have used both statistical as well as theoretical approach.
But the former is given preference.

The nature of inflation during the seventies had been quite different compared to the earlier period. Prices of commodities contributing to inflation, during sixties did not register substantial increases during seventies and their place was taken by other commodities. Prices of fuel, power, light and lubricants augmented at a rapid rate prior to 1970-71. But in the later period their position was occupied by minerals. Before the year 1970-71, there had been phenomenal increases in the prices of agricultural commodities compared to that of manufactured goods but after 1975-76 it had been the other way round.

The rate of inflation has also been, higher during seventies in comparison to the earlier period. In this regard, it is pertinent to mention that 1974-75 was an exceptional year as it was during this period that inflation was recorded at the peak level of 25.2 percent*.

The difference in the rate of inflation measured in terms of three price indices, viz. wholesale price index, consumer price index and index of national income deflator, is not very significant. Broadly speaking, we can say that, the rate of inflation (compound growth rate) during the period 1970-71 to 1987-88 was approximately 9 per cent per annum.

One important feature of inflation during seventies has been, a rapid increase in the prices of manufactured products, minerals and fuel, power, light and lubricants. Though the

* It was highest since the inception of economic planning in the country.
price index of primary articles registered an annual compound growth rate of 8.3 per cent, which is higher than the 8.1 per cent annual compound growth rate of the price index of manufactured products, the increase has mainly been because of minerals, price index of which grew at an annual compound growth rate of 14.6 per cent. Price index of foodgrains increased at an annual compound growth rate of 6.9 per cent, which is lower than the annual compound growth rate of food articles and non-food articles price indices.

Our analysis of the percentage contribution of constituent groups of commodities to the rise in the general price index shows that, substantial part of the increase in the general price level is due to the rise in the prices of manufactured products followed closely by the prices of primary articles. Contribution of fuel, power, light and lubricants is marginal because of its low weight although their price index registered a phenomenal growth in comparison to primary articles and manufactured products.

Though the contribution of goodgrains prices to the changes in the prices of food articles is major and also stable than that of non-foodgrains prices during the period under examination, in recent years the contribution of non-foodgrains prices to the changes in the prices of food articles has consistently been larger than that of foodgrains.

We have analysed the structural changes in the Indian economy (with the aim of identifying important structural
factors responsible for inflation) under two broad heads -
domestic and international. Among the domestic factors that
have contributed to the price rise in India, are the basic
planning strategy, physical and financial controls and insti-
tutional reforms etc. The changes in the structure of
domestic production, both in agriculture and manufacturing
sectors, clearly reveal the built-in nature of inflationary
pressures. As far as international factors are concerned,
the low elasticity of India's exports coupled with the
erratic tendency of terms of trade (with long-term deteriora-
tion) made its export earnings inadequate and less depend-
able. The uncertainty as to the magnitude and timing of
capital has further aggravated to our difficulties in financing imports. Consequently, we have been compelled to resort
to costly and in certain cases unviable import substitution
which is one of the major factors to reckon with in explain-
ing price trends.

The regression analysis, used for estimating the precise
impact of various factors on general price level, is organi-
sed into three sections. Section I deals with Harberger's
inflation model and its modified version. In section II are
presented the results of the impact of some fiscal develop-
ment variables on general price level. Finally, section III
deals with equations which attempt to explain inflation in
terms of foreign trade variables. The major conclusions
emerging out of the regression analysis can be stated as
follows:
i) A modified Harberger's model, including government expenditure, real income and acceleration coefficient as explanatory variables, seems to fit the Indian data well.

ii) The money supply with one year lag has larger explanatory power than without lag.

iii) The introduction of the income with one year lag in the Harberger's model does not improve the explanatory power of the equation.

iv) The acceleration factor did not turn out to be a significant factor in explaining inflation.

v) Government expenditure measured in current prices has been found better in explaining movement in general price level than expenditure at constant prices. Further, expenditure with one year lag performed better than without lag.

vi) The regression equation which includes money supply with one year lag and the ratio of income originated in agriculture to that in manufacturing sector shows very high $R^2$ and both the regression coefficients are statistically significant. They also have, the expected sign.

vii) The regression equation which includes export and import unit value index as well as money supply as explanatory variables has very high $R^2$. Regression coefficients of all the variables are significant except the regression coefficient of import unit value index which appears to be because of the high correlation between export and import unit value indices. Export prices, compared to import prices have exerted greater influence on domestic price level.

viii) Deficit financing as an explanatory variable explains 37 per cent variations in domestic price level. Its coefficient has the expected sign and is also statistically significant.

ix) The equation which includes income, money supply and deficit in current account of the balance of payment has very high $R^2$. The regression coefficients of money supply and income have the appropriate sign but the regression coefficient of the deficit in current account of the balance of payment has unexpected sign. Perhaps the two dominant variables have swamped the effect of the foreign trade variable.
x) The ratio of the import and NNP at current prices as an explanatory variable did not perform well.

In developing economies, the behaviour of factor shares depends more on the institutional, social and political factors than on the economic factors like those observed in case of advanced economies. In such economies, development in all the economic, social and political fields took place inter-dependently and kept pace with one another; consequently considerable harmony and stability in various fields of activities could be achieved. The present day developing economies face the problem of duality with advanced political and labour organisations generally imported from or affiliated to the advanced 'ideological blocks' asked to co-exist with mass poverty and stagnation growth. The pattern of ownership of landholdings, educational opportunities, social set-up and control with outside world are the factors of fundamental importance in determining distribution of relative factor shares in developing economies. The greater the influence they can exert, the lower the role of economic factors like rise or fall in the level of prices will be.

So we find that changes in the distribution of national income arises because of a number of factors. But the two important factors responsible for the changes in the distribution of national income are: (i) changes in the price level (ii) changes in the level of productivity accompanied by changes in the level of employment of factors. Therefore,
even if we assume that other factors are not significant, we can not attribute the changes in the distribution of income entirely to the inflationary process. However, since the annual rate of growth of prices has far exceeded the annual rate of growth of output during the entire period of study, we could ascribe the determining role in the redistribution of income to inflationary process.

Shares of compensation of employees, rent and mixed income of self-employed in the net domestic product have declined from the year 1970-71 to 1984-85, while that of interest and profit and dividends have increased over the given period. Unlike this behaviour of factors income shares in net domestic product, the shares of the compensation of employees, profit and dividends as well as mixed income of self-employed in agriculture are almost constant from 1970-71 to 1984-85 and the degree of constancy is greater than any other sector of the economy. The behaviour of the shares of factors income in the secondary sector is quite similar to their behaviour in the net domestic product except that, in the secondary sector the share of profits and dividends is constant and the share of rent has marginally increased over the period under study. In the services sector like transport, communication and trade the shares of rent, profits and compensation of employees have declined and the share of the mixed income of self-employed has considerably increased, while that of interest has remained
almost constant over the period 1970-71 to 1984-85.

Our analysis of the average annual real earnings of workers reveals that workers in the unorganised sector—particularly agricultural workers were the worst affected by inflation in India. The very nature of employment of workers in the unorganised sector, both in agriculture and industry, prevents them from organising themselves to secure protection against inflation.

Though the real wages of workers in Indian industry have persistently increased during the period under study, the increase has not been smooth. Further, the share of workers wages in the value of production and value added by manufacture has steadily registered downward tendency.

The most important means of employment and income in India is not wages but self-employment mainly in agriculture. Though the income of the self-employed in agriculture is stable, this does not mean that they have not gained from inflation. But it is also a fact that all of them have not gained from inflation.

Our survey of the studies on inter-sectoral terms of trade reveal that, by and large, the terms of trade have remained favourable to agriculture since the mid 1960's when the minimum support price policy was adopted on a regular continuous basis but they have become unfavourable since 1974-75 mainly because the rise in foodgrains prices and other farm product could not keep pace with the prices of
products of intermediate and final use purchased by agriculture from the non-agricultural sector. So while the inflation during sixties turned terms of trade in favour of agriculture, the inflation during seventies performed the other way round. An important contributory factor for the movement of terms of trade against agriculture since 1974-75, is the agricultural price policy of the government.

Compared to industrial prices the agricultural prices have tended to show greater flexibilities both in the upswing and downswing of the business cycle. This disparity in the behaviour of agricultural and industrial prices may be attributed to a relatively lower price elasticity of demand for and supply of agricultural products vis-a-vis industrial products. Thus it seems that the sharp fluctuations of the terms of trade between agricultural and industrial sectors have been largely contributed by a relatively greater variability of agricultural prices. The wide fluctuations in the prices of foodgrains are mainly responsible for the uneven pattern in the prices of agricultural products.

Our analysis of income redistribution between agricultural and non-agricultural sectors reveal that, large amounts of income got transferred from agricultural to non-agricultural sector via the movement of the relative prices.

To sum up, we can say that besides monetary and fiscal factors, the existing institutions and structural changes influence the behaviour of prices in a developing economy like
India. Hence the anti-inflation war must be fought over a wider area of the economy and not merely at the spending point. Apart from demand management through monetary and fiscal measures, an effort should be made to manipulate institutional and structural factors to tackle the problem of inflation in a long-run perspective.

Our analysis of the effects of inflation on factorial income distribution reveals that inflation has redistributed income in favour of interest and profits. Share of the compensation of employees, in net domestic product as well as in the incomes of almost all the sectors of the economy has declined from the year 1970-71 to 1984-85. Workers in the unorganised sector particularly agricultural workers were the worst affected by inflation in India. Though the real wages of workers in Indian industry have persistently increased during the period under study, the increase has not been smooth. Further, the share of workers wages in the value of production and value added by manufacture has steadily registered downward tendency.

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