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Macroeconomic Theories of Inflation

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Abstract -- **The study of causes of inflation has probably given rise to one of the most significant macroeconomic debates in the field of economics. In practice; however, it is not always easy to decompose the observed inflation into its monetary, demand-pull, cost-push and structural components. The process is dynamic, and the shocks to prices are mixed. Furthermore, inflation itself may also cause future inflation.**
This paper, mainly attempts to review and analyze the competing and complementary theories of inflation. The theoretical survey in this research work yielded a six-blocked schematization of origins of inflation; monetary shocks, Demand side, supply-side (or real) shocks, structural and political factors (or the role of institutions). It appeared that inflation is the net result of sophisticated dynamic interactions of these six groups of explanatory factors. That is to say, inflation is always and everywhere a macroeconomic and institutional phenomenon.

Key Words- Inflation, Macroeconomic Theory

I. INTRODUCTION

The study of causes of inflation has probably given rise to one of the most significant macroeconomic debates in the field of economics. The debates differ in their hypotheses, mainly due to a range of conventional views about the appropriate measure to control inflation and also due to disparity between developed and developing countries.

In general, the cause of inflation in developed countries is broadly identified as growth of money supply. In developing countries, in contrast, inflation is not a purely monetary phenomenon. Beside, factors typically related to fiscal imbalances such as higher money growth and exchange rate depreciation arising from a balance of payments crisis dominate the inflation process in developing countries, as discussed by Sergent & Wallace [1] and Montiel [2]. This paper, mainly attempts to review and analyze the competing and complementary theories of inflation**.**

II. THE QUANTITY THEORY OF MONEY

The quantity theory of money is one of the oldest surviving economic doctrines. Simply stated, it asserts that changes in the general level of general prices are determined primarily by changes in the quantity of money in circulation. The quantity theory of money formed the central core of 19th century classical monetary analysis, provided the dominant conceptual framework for interpret in contemporary financial events and formed the intellectual foundation of orthodox policy prescription designed to preserve the gold standard. David Hume (1711-76) provided the first dynamic process analysis of how the impact of a monetary change spread from one sector of the economy to another, altering relative price and quantity in the process. He provided considerable refinement, elaboration and extension to the quantity theory of money

David Ricardo (1772-1823), the most influential of the classical economists, thought such disequilibrium effects ephemeral and unimportant in long-run equilibrium analysis. As leader of the Balloonists, Ricardo charged that inflation in Britain was solely the result of the Bank of England's irresponsible over issue of money, when in 1797, under the stress of the Napoleonic Wars; Britain left the gold standard for an inconvertible paper standard. Ricardo discouraged discussions on possible beneficial output and employment effects of monetary injection [3].

Irving Fisher (1876-1947) spelled out his famous equation of exchange *viz.* MV=PT. This and other equations, such as the Cambridge cash balance equation, which corresponds with the emerging use of mathematics in neo-economic analysis, define precisely the conditions under which the proportional postulate is valid. Fisher and other neo-classical economists, such as Arthur Cecil Pigou (1877-1959) of Cambridge, demonstrated that monetary control could be achieved in a fractional reserve-banking regime *via* control of an exogenously determined stock of high power money.

III. MONETARY THEORY OF INFLATION

Monetarism [4] refers to the followers of M. Friedman (1912-2006) who hold that "only money matters", and as such monetary policy is a more potent instrument than fiscal policy in economic stabilization. According to the monetarists, the money supply is the "dominate, though not exclusive" determinant of both the level of output and prices in the short run, and of the level of prices in the long run. The long- run level of output is not influenced by the money supply [5].

The monetarists emphasized the role of money. Modern quantity theory led by Milton Friedman holds that "inflation is always and everywhere a monetary phenomenon that arises from a more rapid expansion in the quantity of money than in total output. Its earliest explanation was to be found in the simple quantity theory of money. The monetarists employed the familiar identity of exchange equation of Fisher.

IV. DEMAND PULL THEORY

John Maynard Keynes (1883-1946) and his followers emphasized the increase in aggregate demand as the source of demand-pull inflation. The aggregate demand comprises consumption, investment and government expenditure.

When the value of aggregate demand exceeds the value of aggregate supply at the full employment level, the inflationary gap arises. The larger the gap between aggregate demand and aggregate supply, the more rapid is the inflation.

Keynesian (Keynes and his followers)do not deny this fact that even before reaching full employment production factors and various appearing constraint can cause increase in public price. This inflation constraint that appears quickly during prosperity is originally resulting from non-proportioned section, branches and or various economic resources that are accounted from natural properties of discipline based on market. Therefore, in one period of prosperity it is completely natural.

According to demand-pull inflation theory of Keynes, policy that causes decrease in each component of total demand is effective in reduction of pressure demand and inflation. One of the reductions in government expenditure is tax increase and to control volume of money alone or together, can be effective in reducing effective demand and inflation control. In difficult conditions, e.g. hyperinflation during war that control of volume of money or decrease in general expenditure may not be practical increase in tax can get along with direct action for control on demand [6].

V. Cost Push Theory

Cost-push inflation is caused by wage increases enforced by unions and profit increases by employers. The type of inflation has not been a new phenomenon and was found even during the medieval period. But it was reviewed in the 1950s and again in the 1970s as the principal cause of inflation. It also came to be known as "New Inflation".

The basic cause of Cost-Push inflation is the rise in money wages more rapidly than the productivity of labor. The labor unions press employers to grant wage increases considerably, thereby raising the cost of production of commodities. Employers in turn, raise prices of their products. Higher wages enable workers to buy as much as before, in spite of higher prices. On the other hand, the increase in prices induces unions to demand still higher wages. In this way, the wage-cost spiral countries, thereby, leading to cost-push or wage-push inflation.

Cost-push inflation may be further aggravated by upward adjustment of wages to compensate for rise in cost of living. A few sectors of the economy may be affected by increase in money wages and prices of their products may be rising. In many cases, their products are used as inputs for the production of commodities in other sectors. As a result, cost of production of other sectors will rise and thereby push up the prices of their products. Thus wage-push inflation in a few sectors of the economy may soon lead to inflationary rise in prices in the entire economy. Further, an increase in the price of imported raw materials may lead to cost-push inflation.

Another cause of Cost-Push inflation is profit-push inflation. Oligopolist and monopolist firms raise the price of their products to offset the rise in labor and cost of production to earn higher profits. There being imperfect competition in the case of such firms, they are able to administered price of their products. Profit-push inflation is, therefore called administered-price inflation or price-push inflation [7].

VI. Structural Inflation Theory

About 40 years ago, the concept of structural inflation entered in economic discussion and research. It is related to the effect of structural factors on inflation. Structural analysis attempts to recognize how economic phenomena and finding the root of the permanent disease and destruction such as inflation that evaluates lawful relationship between the phenomena.

In the economic structural factor causes, supply increase related to demand-push, even if abundant unemployment production factor is impossible or slow. Therefore, reasoning of less developed countries, till the time not successful to change in the form of lagging behind structure or not to make attempt for immediate self-economic growth or should compromise with the inflation that is very severe sometimes.

This inflation, giving the structural improvement, results as a cost in fact that is given for immediate economic growth. Structuralism, even the group that does not fine necessary for changing the present policy foundation for eradicating inflation, with the control of inflation through government intervention in the market structure and also, by adopting decisive plans for justly division of inflation pressure there is no opposition and in fact stress is done on these arrangement. But, common anti inflation measures especially contraction monetary and budget policy from their point of view, is nothing but only a prescription for stopping the economic growth of non-developing countries, that also through experts that or rationing developed investment countries and world organization under their supremacy (rule) and or by understanding less developed economy features are disabled (crippled).

Rapid and faster growth of the service sector that is related to population growth and immigration is another inflationary factor, which is more emphasized by the structuralism. Remaining structure of distribution network, exclusive quasi and structure some of the developed industry, obstacle structure and heavy cost of works and ten's of other small and big factors additionally to all these structuralism from the aspect of inflationary social policy structure is unaware. It should be noticed that level competition and various society crust for large possession share from National income is one of the main factors of the hidden inflation in the developed investment countries. Structuralism type from this competition in hyperinflation of less developed countries is effective.

Competition specially intensifies in condition of fast economic growth and increase social movement. New social group open its way to political grounds and economic activity and with resorting to inflation, attempt is made to strengthen the power and change distribution of income. From this viewpoint, inflation is manifestation change of economic and society is chosen from the fast dynamic growth of economy [8].

VII. Rational Expectations Revolution

Macroeconomics in the 1970s is dominated by a revolutionary idea of Rational Expectations economists, such as Lucas [9], McCallum [10], Sargent and Hansen [11]. Starting with the monetarist assumptions of continuous market clearing and imperfect information, the RE school, or the first generation of the new classical macroeconomics, argued that people do not consistently make the same forecasting errors as suggested in the adaptive expectations idea. Economic agents form their macroeconomic expectations "rationally" based on all past and current relevant information available, and not only on past information as in the case of backward- looking, or adaptive, price expectations. According to the traditional monetarist approach from the 1960s, the errors in price expectations were related to each other.

The RE approach to the business cycle and prices generated a vertical PC both for the short and the long run. If the monetary authority announces a monetary stimulus in advance, people expect that prices are being rosen. In this case, this fully anticipated monetary policy cannot have any real effects even in the short-run as argued by monetarists. Thus, the Central Bank can affect the real output and employment only if it can find a way to create a "price surprise". Otherwise, the "forward-looking" expectation adjustments of economic agents will ensure that their pre-announced policy fails. Similarly, if a policymaker announces a disinflation policy in advance, this policy cannot reduce prices if people do not believe that the government will really carry it out. That is, in the new classical framework, price expectations are closely related to the necessity of policy credibility and reputation for successfully disinflating the economy.

According to monetarist and new classical economists, the growth in the money supply stems typically from the ongoing public sector deficits that are primarily financed by the Central Bank. In the "unpleasant monetarist framework" presented by Sargent and Wallace, the government budget constraint is essential to understand the time path of inflation. Alternative financing methods for current government deficits only determine the timing of unavoidable inflation in the future, under the assumption that fiscal policy dominates monetary policy [12].

VIII. New Neoclassical Synthesis (NNS)

As popularized Paul Samuelson, the Neoclassical Synthesis was advertized as an engine of analysis which offered a Keynesian view of determination of national income and Neoclassical principle to guide macroeconomic analysis [13]. The so-called New Neoclassical Synthesis has become a focus of research in the area of monetary policy and is developing into a framework that might establish itself as a standard-model in macroeconomics literature. Since the early 1990s, the sharp difference between the emphasis of new Keynesian and new classical economists on the major origins of business cycles and price movements has been increasingly softening, and a NNS is now on the agenda of macroeconomics [14].

According to Goodfriend, the new generation of quantitative models of economic fluctuations has two central elements:

1) Systematic application of intertemporal optimization behavior of firms and households, and rational expectations,

2) Incorporation of imperfect competition and costly short-run price adjustment into dynamic macroeconomics [15].

In the NNS, monetary, or demand, factors are a key determinant of business cycles, because of the incorporated new Keynesian assumption of price stickiness in the short run. At the same time, however, the NNS assigns a potentially large function to supply shocks in explaining real economic activity, as suggested in the new classical real business cycle theory. The highly complex model of the new neoclassical synthesis allow that Keynesian and real business cycle mechanisms to operate through somewhat different channels. The so-called new IS-LM-PC version of the NNS makes the price level an endogenous variable. In this model, IS refers to Investment and Saving .i.e. equilibrium equation of goods and services market, LM refers to demand for and supply of money .i.e. equilibrium equation of money market and PC refers to Philips Curve. The NNS also views expectations as critical to the inflation process, but accepts expectations as amenable to manage by a monetary policy rule.

The distinguishing characteristic of the New IS-LM model is that its key behavioral relations can be derived from underlying decision-making of households and firms and that these relations consequently involve expectations about the future in a central manner. The IS curve relates expected output growth to the real interest rate, which is a central implication of the modern theory of consumption. The aggregate supply and Phillips curve component of the model relates inflation today to expect future inflation and output gap. This relationship can be derived from a monopoly pricing decision that is constrained by stochastic opportunities for price adjustment together with a consistent definition of the price level [16].

IX. New Political Macroeconomics of Inflation

The major important theories as mentioned above mainly focus on macroeconomic determinants of inflation and simply ignore the role of non- economic factors such as institutions, political process and culture in the process of inflation. Political forces, not the social planner, choose economic policy in the real world. Economic policy is the result of a decision process that balances conflicting interests so that a collective choice may emerge.

The new political economy, literature provides fresh perspectives on the relations between timing of elections, performance of policy maker, political instability, policy credibility and reputation, and the inflation process itself. The case for Central Bank independence is usually framed in terms of the inflation bias (deviation) present in the conduct of monetary policies. However, the theoretical and empirical work suggests that monetary constitutions should be designed to ensure a high degree of Central Bank autonomy.

They also overlook the possibility that sustained government deficits, as a potential cause for inflation, may be partially or fully indigenized by considering the effects of the political process and possible lobbying activities on government budgets, and thus, on inflation [17].

X. Conclusion

In practice, however, it is not always easy to decompose the observed inflation into its monetary, demand-pull, cost-push and structural components. The process is dynamic, and the shocks to prices are mixed. Furthermore, inflation itself may also cause future inflation.

Any attempt to survey the extremely broad literature on theories of inflation in a few pages may be confronted with incompleteness and superficiality. However, this type of an effort can be regarded as a necessary first step if one intends to organize, understand, model and explain the dynamics of inflation carefully.

The theoretical survey in this research work yielded a six-blocked schematization of origins of inflation; monetary shocks, Demand side, supply-side (or real) shocks, structural and political factors (or the role of institutions). It appeared that inflation is the net result of sophisticated dynamic interactions of these six groups of explanatory factors. That is to say, inflation is always and everywhere a macroeconomic and institutional phenomenon.

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