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# A Brief Review on the Theory of Inflation

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**ABSTRACT:** The inflation word these days are like a very frightening specter. It is a monetary event that occurred in all countries, including our country, Indonesia, which is very experienced in dealing with inflation, ranging from the mild to the most severe, amounting to 635% in 1966. A brief definition of inflation is the tendency of prices to increase continuously. An increase of just one or two types of goods and does not drag the price of other goods cannot be called inflation. Seasonal price increases, for example before Eid, Christmas and the new year days or the days that occur only once that have no further influence, cannot be called inflation. Such a price increase is not considered an "economic disease" that requires special treatment to overcome. If the prices of most goods are regulated by the Government, then the prices subsidized by the Government and recorded by the Central Bureau of Statistics, are the official prices of the Government. But maybe in reality there is a price trend to continue to rise. This situation is reflected in market prices or unofficial prices to continue to rise. Inflation that is covered or suppressed inflation often also arises when the Government continues to subsidize fuel prices for example, especially if the price of rice also contains subsidies. Real inflation will arise when the Government is no longer able to subsidize important goods as mentioned above.

**KEYWORDS**: inflation, monetary, government, economic theories, price

## I. INTRODUCTION

Regardless of the type of inflation, it is clear that inflation will disrupt the lives of many people, because prices continue to rise thus shaking up society's economic life [1]. Examples of severe inflation experienced by Indonesia since 1963 reached 128% rising until 594% in 1965 and the highest is 635% in 1966. At that time, the New Order emerged which succeeded in suppressing inflation until 112% in 1967, 85, 1 % in 1968, dramatically dropped again to 9,8% in 1969 and 8,9% in 1970, since then inflation has been able to be kept under control. It's just that at the end of Pelita I in 1974, because of the huge investment from Pertamina, there was a high demand for money which caused inflation until reached 33,3%. High inflation occurred again in 1979 as a result of the devaluation of the rupiah on 15 November 1978, which resulted in inflation reached 21,8%.

From the various inflation numbers described above, there are several types of inflation that we should know. Apart from the various types of inflation that we will describe below, inflation is still feared by people because it disrupts society's lives [2].

First classification: inflation is divided into mild inflation, moderate inflation, severe inflation and hyperinflation

Second classification: based on the initial causes of inflation which is divided into demand pull inflation and cost push inflation.

Third classification: based on the principle of inflation as distinguished by domestic inflation and imported inflation.

a. The first classification is based on whether the inflation is "severe" or not. Here we distinguish several types of inflation:

1) Mild inflation (under 10% a year).
2) Moderate inflation (between 10% - 30% a year).
3) Severe inflation (between 30% - 100% a year).
4) Hyperinflation (above 100% a year).

The determination of the inflation severity is very relative and depends on our "taste" to name it [3]. We cannot actually determine the severity of inflation just from the point of view of the inflation rate, without considering who bears the burden or who benefits from the inflation. If the inflation rate were 20% and all of them came from rising prices of goods purchased by low-income groups, then we should call it severe inflation.

b. The second classification is on the basis of the initial cause of inflation [4]. On this basis we distinguish 2 types of inflation:
1) Inflation arising from public demand for various goods is too strong. This kind of inflation is called demand inflation.
2) Inflation arising from an increase in production cost. This is called cost inflation. The figure below highlights the difference between those two types of inflation

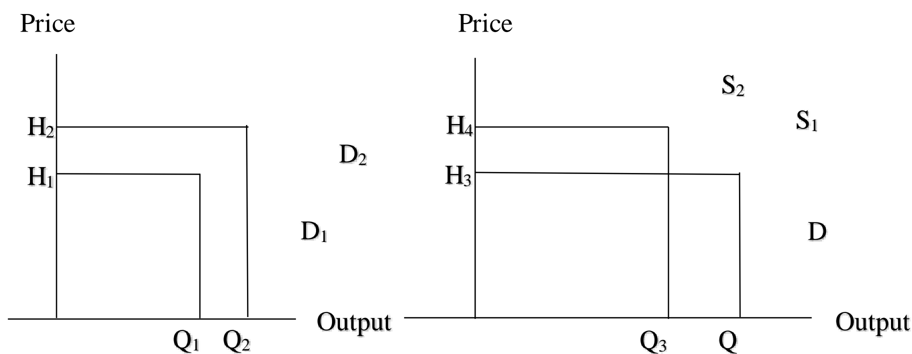


**FIGURE 1** **FIGURE 2**

FIGURE 1 illustrates inflation demand. As aggregate demand increases in the society (for example, due to an increase in government spending funded by printing money, or an increase in foreign demand for export goods, or an increase in private investment spending due to cheap credit), the aggregate demand curve shift from D1 to D 2. A a result, the general price level rises from H1 to H2.

In FIGURE 2, we see that if production costs rise (for example, due to rising prices of production facilities imported from abroad, or because of rising of fuel prices) the aggregate supply curve shifts from S1 to S2.

As a result of those two types of inflation, in terms of rising price output, there is no difference, but in terms of output volume (real GDP) there is a difference. In the case of demand inflation, there is usually a tendency for output (real GDP) to go up together with general price increases [4]. The size of the increase in output depends on the elasticity of the aggregate supply curve; usually the closer to the maximum output, then the less the curve. Conversely, in the case of cost inflation, prices are usually accompanied by a decrease in sales turnover ("business downturn") [5].

The other difference between the two inflation processes lies in the order of the price increase. In demand-inflation the increase of the price of final goods (output) precedes the increase of input goods prices and factor prices (wages and so on). In contrast, in cost-inflation we see an increase in the prices of input goods and the prices of production factors precede the increase of the prices of final goods (output).

Both types of inflation are rarely found in pure form in practice. In general, the inflation that occurs in various countries in the world is a combination of those two types of inflation, and often both of them strengthen one another [6].

c. The third classification is based on the origin of inflation. We distinguish as follows:
1) Inflation coming from inside of the country (Domestic inflation).
2) Inflation coming from abroad (imported inflation).

Inflation originating from domestic arises due to the budget deficit that is financed by the printing of new money of failed crop and so on. Inflation originating from abroad is inflation that arises due to rising prices (namely inflation) of abroad or in the countries of our trading customers.

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The increase of prices of the goods we import results in:

a) directly increases the cost of living index because some of the goods included in it come from import;

b) indirectly raises the price index through rising production cost (and then, selling prices) using raw materials or machinery that must be imported (cost-inflation);

c) indirectly leads to an increase in domestic prices because there is a possibility (but this is not the case) of the increase in price of imported goods cause an increase in government spending. trying to offset the increase in import price (demand-inflation).

"Transmission" of inflation from abroad into the country can also be through an increase in the price of export goods, and the channels are only slightly different from the transmission through an increase in the price of goods [7].

a) if the price of exported goods (such as coffee, tea) rises, the cost of living index will also rise because those goods will be immediately included in the list of goods included in the price index;

b) if the price of exported goods (such as wood, rubber, tin, etc.) rises, the production costs of goods that use those goods in the production process (housing, shoes, cans, etc.) will rise, and then the selling price will also rise (cost-inflation).

3) An increase in the price of exported goods means an increase in the income of exporters and also the producers of those exported goods will increase [8].

This increase in income will then be spent on buying goods (both from domestic or abroad goods). If the number of goods available in the market does not increase, as a result the prices of other goods will also increase (demand inflation) [9].

Transmission of inflation from abroad into the domestic is clearly easier to occur in countries that economies are open, namely the country that the international trade sectors are important (such as Indonesia, Korea, Taiwan, Singapore Malaysia and so on). But how far the transmission occurs also depends on government policy taken. With certain monetary and taxation policies, the government can neutralize the inflationary trends that originate from abroad.

## II. WHY DOES INFLATION ARISE?

We have given the definition of "inflation" as merely an economic phenomenon, namely as a tendency for prices to rise. To a certain extent we can still analyze the reasons for the emergence of special inflation in economic terms; and determining causes of "economic objective" are perhaps not the most difficult task. In practice, to find out the causes of inflation (especially chronic or long-running inflation) to formulate and then to implement policies to overcome them, is a difficult and complicated problem. Usually we have to go beyond the limits of economics and enter the fields of sociology and political science. The problem of inflation in a broader sense is not merely an economic problem, but a socio-economic-political problem. Economics helps us to identify the "objective" factors of inflation, for example because the government prints too much money [10]. If we question why the government continues to print money, even though they know that the action is causing inflation, then the answer often lies in the socio-political field, for example because the government needs money for security operations or because of political battles between political groups in the country or because the government is powerless in facing the political demands of certain groups of society who want a "share" of the state budget that is more than what can be provided from sources of state revenue, or because of pressure from certain groups of society to get cheap credit so the amount of credit to be provided exceeds the amount that can guarantee the price. To be able to stop the excessive circulation of money, it is necessary to reach a political settlement first [11].

## III. INFLATION THEORY

Generally, there are 3 groups of theories regarding inflation, each theory highlights certain aspects of the inflation process, and each theory is not a complete inflation theory that covers all important aspects of the price increase process. To apply it we must determine which aspects are important in the inflation process in a country, and thus which theory (or combination of which theories) is more suitable [12].

1) Quantity Theory is the oldest theory of inflation, but this theory (which has recently been perfected by the University of Chicago economists group) is still very useful in explaining the inflation process in modern era, especially in developing countries that, this theory highlights the role of the inflation process of (a) the amount of money in circulation, and (b) the psychology (hope) of the public regarding the rise in prices (expectations). The essence of this theory is as follows:

a) Inflation can only occur if there is an increase in the volume of money in circulation (whether in the form of an increase in currency or an increase in demand deposits, it does not matter). Without an increase in the money supply, events such as crop failure will only raise price temporarily. Increasing the amount of money is like "fuel" for inflationary fire, if the amount of money is not added, inflation will stop by itself, whatever the initial causes of the price increase;

b) The rate of inflation is determined by the increase of the amount of money circulation and by the psychology (expectation) of the public regarding future price increases. There are 3 possible conditions. The first situation is if people do not (or have not) expected prices to rise in further months. In this case, most of the increase in the amount of money circulation will be received by the public to increase its liquidity (namely enlarge the Cash post in the balance sheet of the society members). This means that a large portion of the increase in the amount of money is not spent on purchasing goods. Furthermore, this means that there will be no significant increase in demand for goods, so there will be no increase in the price of goods (or prices may rise very little). Under those circumstances, the increase of the amount of money circulated is 10% followed by increases of prices such as 1%. This situation is usually encountered when inflation is just the beginning and society is still not aware that inflation is ongoing. The second situation is that society (based on experience in previous months) begins to realize that there is inflation [13].

People are starting to expect that the increase of the price of increasing the amount of money in circulation will no longer be accepted by the public to increase their cash post, but will be used to buy goods (enlarge the assets of the items in the list). This is done because society tries to avoid losses arising if they hold cash. The increase in price (inflation) is nothing but a "tax" on cash balances held by the public, because money is increasingly worthless. And people try to avoid this "tax" by turning their cash balances into goods. Individual people can make adjustments in their balance sheets like this, by spending their cash to buy goods. In terms of society as a whole, this means that there is an increase of goods demand. The next consequence is the increase of those goods price. If society expect prices to rise in the future at the rate of inflation in the past months, then the increase in the amount of money in circulation will fully translate into an increase of goods demand. In this case an increase in the amount of money will be followed by an increase of good, for example there will be an increase amounted 10% followed by an increase of goods price amounted 10% too [14]. This situation is usually found when inflation has been running for a long time, and people have enough time to adjust their attitudes to the new situation. The third situation occurs at a more severe stage of inflation, namely the hyperinflation stage. In this situation, people have lost confidence in currency value. The reluctance to hold cash and the desire to spend it to buy goods as soon as the cash is received at hand becomes increasingly widespread among the public. People tend to expect things to get worse: The inflation rate for further months is expected to be even greater than the rate of inflation in previous months [15]. This situation is marked by the increasingly rapid circulation of money (increasing velocity of circulation). For example, in this situation an increase in the amount of money in circulation amounted 20% will result in an increase in prices greater than 20%. This kind of inflation had occurred in Indonesia during 1961 - 1966 period. Hyperinflation destroyed not only the monetary economic joints but also the socio-political joints of society. The new structure of society will emerge to replace the old structure [16].

2) Keynes's theory of inflation is based on his macro theory. This theory highlights other aspects of inflation. According to this theory, inflation occurs because a society wants to live beyond its economic capacity. The process of inflation according to this view, is nothing but the process of fighting over the portion of fortune among social groups who want a greater share than can be provided by the community. This process of struggle finally translates into a situation where the community's demand for goods always exceeds the amount of available goods (the emergence of what is called the inflationary gap). This inflationary gap arises because those groups of society have succeeded in translating their aspirations into effective demand for goods. In other words, they succeeded in getting funds to change their aspirations into a plan to purchase goods that were supported by funds. This group of society might be the government itself, which seeks to obtain a greater share of the community's output by running its spending financed by printing new money. This group may also be private entrepreneurs who want to make new investments and obtain funding from credit from banks. This group can also be in the form of labor stratification that is trying to get a salary increase for its members beyond the increase of labor productivity. If the sum of the effective demands of all of those classes of society at the prevailing prices exceeds the maximum amount of goods that can be produced by the community, then an inflationary gap arises. Because total demand exceeds the amount of goods available, then prices will arise. An increase in prices means that some of the plans for purchasing goods from those groups cannot be fulfilled. In the next period, those groups will try to get more funds (from printing new money or credit from a bigger bank or from a bigger salary increase. Of course, not all of those groups have succeeded in getting the desired additional funds. Groups that can get more funds can get a share of more output. Those who cannot get funds will get a smaller share of output. Groups that categorizes "lost" in this process of struggle are those groups that the income is fixed or the income does not rise as fast as inflation (those groups include retirees, civil servants, farmers who must sell their produce at the price charged price stabilization, company employees who do not

have trade union or who do not have effective channel to fight for their improvement) [17]. The inflation process will continue as long as the number of effective requests from all classes of society exceeds the amount of output that society can produce. Inflation will stop if the total effective demand does not exceed at prevailing prices of the amount of output available.

FIGURE 3 shows the circumstances in which the inflationary gap persists. Here we assume that all classes of society can obtain sufficient funds to finance at the current price, their purchasing plans. With the inflationary gap (for example, the government enlarges its expenditure by printing new money), the effective demand curve shifts from $D_1$ to $D_2$. Inflationary gap of $Q_1$ $Q_2$ arises and the price rises from $P_1$ to $P_2$. This price increase resulted in plans to buy groups of society (including the government itself) not fulfilled. Because the amount of goods available cannot be greater than $QQ_1$, what is happen only the reallocation of goods available from other groups in society to the government sector. If in the next period, those other groups of society could obtain funds to finance their old purchase plans with new higher prices, and the government would still try to obtain the amount of goods as planned in the previous period with new higher prices (and new money needs to be printed again), then the inflationary gap amounted $Q_1$ $Q_2$ will arise again.

Prices will rise again from $P_2$ to $P_3$. If each group of society continues to try to obtain the same amount of goods and they succeed in obtaining funds to finance the plans at the prevailing price level, then the inflationary gap will still arise in further periods. In this case, price will continue to rise. Inflation will stop only if one of the community groups no longer (or can no longer) get funds to finance the plan of goods purchase at the prevailing price, so the effective public demand as a whole does not exceed the amount of goods available (inflationary gap is lost ). Note that those who "win" in this race are the ones who are the easiest to get additional fund to finance their purchase plans. Those who cannot easily obtain funds to finance their goods purchase plans at new (higher) prices are forced to accept a smaller share of available goods than their share before the inflation process occurs. In general, those incomes (funds) do not rise as fast as prices rise that will miss the train and must receive a smaller share of goods.

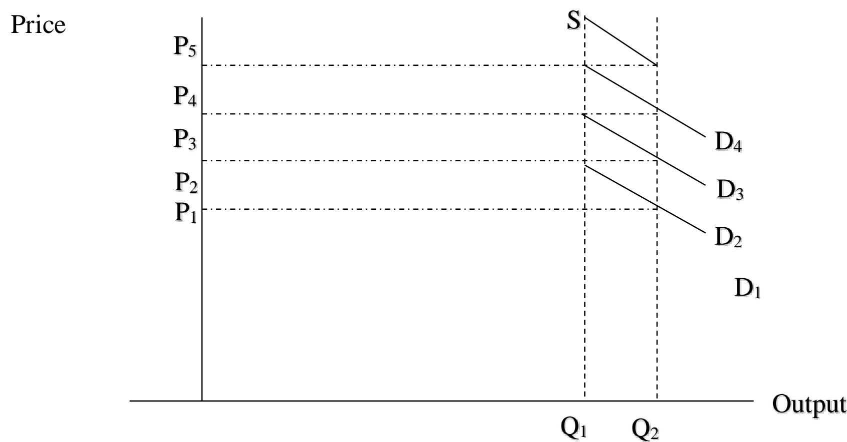


**FIGURE 3**

FIGURE 4 showed the inflation process which finally stopped because the inflationary gap got smaller and finally disappeared in the 5th period. The price has stabilized at $P_5$. Behind this process, some groups of society received a smaller share of output. Inflation is always followed by income redistribution.

Price

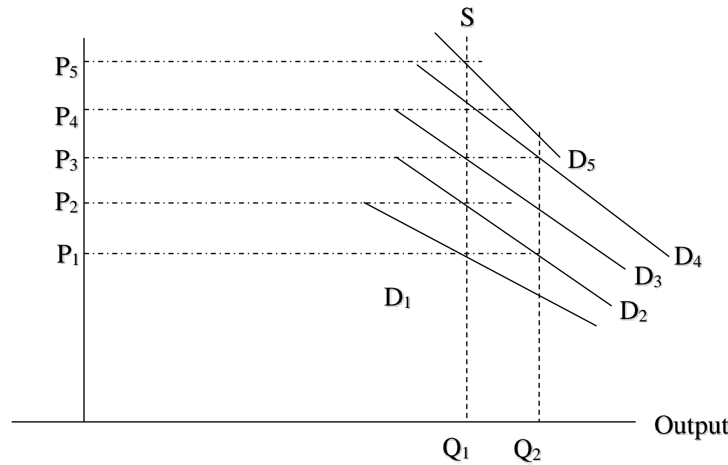


**FIGURE 4**

3) Structuralism theory is a theory of inflation based on experience in Latin American countries. This theory puts pressure on the inflexibility of the economic structure of developing countries because inflation is associated with structural factors of the economy (which by definition, those factors can only change gradually and in the long run), this theory can be called "long-term" inflation theory. In other words, long-term factors can cause inflation (which lasts a long time)? According to this theory, there are 2 main rigidities in the economy of developing countries that can cause inflation [18].

a) The first rigidity is in the form of "inelasticity" of export revenues, namely exports which grow slowly compared to the growth of other sectors. This slowness is caused by:

1) Prices on the world market of the country's export goods are increasingly unprofitable. (Compared to the price of goods to be paid), or often referred as the terms of trade which are getting worse. It is often assumed that the prices of natural products, which are exports from developing countries, are rising more slowly than the prices of industrial goods, which are imports by developing countries.

2) Supply or production of export goods that is not responsive to increasing price (supply of export goods that are not elastic). This slow growth in export revenue means a slow growth in the ability to import the goods needed (for consumption or for investment).

As a result, the country (which strives in accordance with its development plans to achieve certain growth targets) is forced to adopt a development policy that emphasizes promoting domestic production of goods that were previously imported (import-substitution strategy), although often this domestic production have higher production costs (and often of lower quality) than similar imported goods. This higher production cost results in higher prices. And if the import substitution process is increasingly widespread, the increase in production costs will also expand to various goods (which were previously imported), so the prices of goods will increase. Thus inflation occurs.

b) The second rigidity relates to the "inelasticity" of the supply or production of foodstuffs in the country. It is said that domestic food production does not grow as fast as population growth and per capita income, so the price of foodstuffs in the country tends to increase beyond the price of other goods [19].

The next consequence is the emergence of demands from employees (in the industrial sector) to obtain salary / salary increase. An increase in wage means an increase in production cost, which also means an increase in the price of those goods. The increase in the price of goods subsequently results in demands for more wage increases. An increase in wages is then followed by increases in prices and the settings. This process will stop by itself if the price of food does not continue to rise but because of those structural factors, the price of food will continue to rise, so the process of pushing each other pushes or the process will continue to increase, so the process of pushing each other or the process of "spiral" between price and wage continues to get a new "bait" and not stop [20]. The inflation process arising from two rigidities in practice clearly does not stand alone. Generally, the two processes are interrelated and often reinforce one another. For example, it is not usual for domestic food production to keep pace with rising domestic demand causing pressure to import food ingredients and subsequently making the balance of payments problem worse, further pushing for an excessive process of import substitution and rising prices. Regarding this structuralism theory, 3 things need to be emphasized:

1) This theory explains the long-term inflation process in developing countries.

2) Behind this structuralism "inflation story", there is an assumption (which is not explicitly stated) that the amount of money in circulation is increasing and passively follows and accommodates those prices. In other words, the inflation process can only take place only if the money supply continues to increase. Without an increase in the amount of money, the process will stop by itself! Here, and also in Keynes's inflation theory, it turns out that the Quantity Theory remains valid, even if only behind the scenes.

3) Not infrequently the "structural" factors that are said to be the most basic causes of the inflation process are not 100% "structural". It is often found that the tension is caused by the government's own price / monetary policy. For example, the inability of the production of foodstuffs in the country to grow is most likely caused by the suppression of foodstuffs price in the country so the enthusiasm of farmers' production decreases. It is also often found that the inability of the production of export goods to grow is caused by the foreign exchange rate being pushed too low with the intention to reduce inflation. Often this inelasticity is caused by extortion, so the prices of export materials that producers actually receive are low and not enough to stimulate production. Do we call those extortion factors "structural" or not, it's just a matter of definition.

## IV. CONCLUSION

The forms of socio-political factors that underlie inflation can vary and are determined by the socio-political system in each country. Economists usually prefer to focus on economic-objective factors because they think that this is their competence field, those factors apply generally to all countries with different socio-political order. Economic theories about inflation focus more on general propositions that are expected to apply in general. This does not mean that economists should not need to investigate deeper the socio-political factors of inflation. If it wants to be useful, in the sense of being able to determine the right policies to tackle the problem of inflation in a country, then it must be able to reach the "root" of the problem, which is not necessarily economic-objective. But economic theories about inflation are useful as a starting point for any analysis of inflation.

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