Theoretical Aspects Concerning the Inflation Analysis

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Abstract:
Definition of inflation was the victim of a "war" theory of money growth and general price increase. What was once described as a monetary issue is now presented as a price effect. This change of position sense supporters anti-inflation complicated by the simple fact that inflation based on prices may have, as I mentioned with several causes, making it difficult to identify solutions to eliminate this phenomenon. When inflation was a question of money with one location, namely the central bank and a single solution - reducing the rate of monetary expansion.

Key words: inflation, price increase, money supply

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In the 19th century the inflation was directly connected with the currency devaluation and not with the prices increase. According to a Federal Reserve release from the year 1919, “The inflation is a process of additional multiplication of currency ungrounded by a corresponding increase of the goods production”.

After approximately 60 years, the quoting taken over from the Federal Reserve press release ceased of being valid so that in 1978, the term of inflation has as causes: the evolution of the exchange rate, the considerable increase of the labor force cost, the weather condition but not the excessive increase of money.

Consequently, the inflation definition has been the victim of a theoretical « war » between the increase of the monetary mass and the increase of the general level of prices. What was once described as a monetary cause is presented nowadays as an effect of the prices. This change of sense complicated the position of the anti-inflation supporters, simply because the inflation based on the level of...
prices can have, as we have already pointed out, more causes which make the identification of the solutions meant to eliminate of this phenomenon more difficult. When the inflation was the cause of money with a single location, namely the central bank, there was a single solution – the reduction of the increase rate of the monetary mass.

The classical economists, contemporary of Adam Smith, where very careful with the exact definition of the economic terms since they were building up a language being at the ground of the construction of an emergent science.

Among their first contributions, there was also the distinction between the real and nominal prices, so that the real price (the value) of a product was defined as the effort required by its production, while in nominal terms (money) it was characterized only by the cost in money (fixed in terms of gold or other precious metals). In other words, the value of the goods is given by the laws of the nature – the effort of the labor force- and the nominal price differs depending on the availability of the precious metals and sovereign law, which define the money of a nation.

Although the classical economists believed that the fluctuation of the nominal price of the goods can have disturbing temporary influences on the economy (such as generating the versatile redistribution of resources between the parties of a contract with a nominal fix price), at the end of the day these modifications served only for changing the scale through which the real price was measured. The idea that the changes occurring in the quantity of money is affecting the nominal price of the goods only, has been supported by many of the early classical economists, among which the most known was David Hume.

The theory has been developed more rigorously at the beginning of the 20th century, by the economist Irving Fisher, becoming known as the “quantitative theory of money”.

The first generation of economists, the successors of Adam Smith in the 19th century, have been very interested in paper money and their modality to relate to the causes of the modifications of one goods costs was based on three distinct sources:

- The value modification which took into account the real source of one goods costs;
- The modification of the money price (nominal), basically caused by the fluctuation of the metal content of the money;
- The depreciation of the currency relatively to the metal which constituted the national currency.

The term of inflation has been initially described by taking into consideration the source concerning the currency depreciation but, by the end of the 19th century, the distinction between the currencies and money became more and more unclear. So that by the beginning of the 20th century, the economists had the tendency to relate to the term of inflation of the currency by using any environment of money circulation attributed to a commercial demand. But on this change of relating to the term of inflation a question mark raised also. While the
quantity of currency related to the mass of precious metal was easy to establish, the things became more complicated when somebody tried to establish the quantity in circulation which exceed the commercial demand.

During the first decades of the 20th century, the economists seem to reach a definition through which the excess existing within the circulation environment of the money could be explained through the effect on the prices level only. Thus, the notions of the currency and prices inflations became connected in an incomprehensible mode.

This change of rhetoric may have an insignificant impact on the theoreticians of the quantitative economics as it seems unlikely that they were in the position to remark a significant distinction between the two ideas. From their point of view, the increase of the currency quantity related to the commercial demand can have only one effect – the prices increase, while an increase of the prices level can have only one origin – an increase of the money quantity corresponding to their demand.

Nevertheless, a number of economists tried to maintain the distinction between an increase of the prices level based on the additional “printing” of currency corresponding to the commercial exchanges and an increase, as result of the commercial exchanges diminishing for a certain money offer.

The connection of the inflation with the prices level proved to be another significant point of crossroads for the humanity. The apparition of the General Theory of Keynes, in 1936, has been considered as the moment of the assault of the quantitative theory on the monetarist theory, which dominated the macro economy for 40 years.

Making recourse to the conviction that the resources regularly and persistently non-engaged – an idea sustained at the moment of the Great Depression at the worldwide level-, the Keynesian theory contested the necessity of the connection between the quantity of money and the general level of the prices. Moreover, it sustained that the overall evolution of the prices may be due to other causes than money.

Apart the separation of the level of prices from the monetary mass, the Keynesian revolution seems to separate the term of inflation from the money situation and to re-define it as a description of the prices. In this way, the inflation became synonymous with any increase of price and that is why nowadays the distinction between the prices increases and the inflation is seldom done.

Referring to the inflation as a consequence of too much money, the economists have been forced to fight the optional issue: “how much is much?” The quantitative theory provided a clear answer to this question: “too much money” represents an increase of the monetary mass accompanied by an increase of the general level of the prices. When the Keynesian economic theory disputed the direct connection between money and the prices level, the inflation lost the association with money and became in the first place, associated with the prices situation.
Without being connected with the money offer, any increase of prices seems to be claimed by the term of inflation. In this respect, whenever this term is used for describing the level of prices, the anti-inflationist steps might be characterized as being against any price increase, including the wage increase as well. According to the monetarists, this is unacceptable while an anti-inflationist strategy is concerned with a certain type of price increase – that increase resulting through an excessive creation of currency. From this point of view, targeting a sustainable level of inflation became a more rational goal of the central banks.

The period of the great inflation of the years 1970-1980 has been considered, along with the Great Depression of the years 1929-1932, the most grave failure of the monetary policies of the 19th century. During the respective period, the inflation exceeded the level of 10% in all the countries members of OECD, a notable exception being Germany.

Although the economic history has permanently faced periods of inflation and even of hyperinflation, the Great Inflation is considered by the economists as being an unique episode. In comparison with the period of the Great Inflation, the other periods have been associated with the two world wars or with other internal events which led to major changes within the economy and policy of a country and which, finally, as response to the government needs, resulted in the massive financing of the budgetary deficits by means of monetary emission (seignorage).

The negative consequences of the inflationist phenomenon of the years 1970-1980 contributed to a major extent to the change of the perception on the inflation from the point of view of both the monetary policies makers and the individual level of the day-to-day living.

The opinion polls referring to the economic conditions evidence the citizens’ will as to live within a stable environment from the point of view of the prices evolution. We can discuss about the prices stability when, as average, the prices neither increase (inflation) nor decease (deflation) but keep on remaining stable over the time.

The economic theory and literature is abundant in information concerning the significance and benefits of the prices stability, as well as to the causes at the basis of the prices increase or decrease.

All the arguments submitted by the specialized literature suggest that a central bank which maintains the prices stability has a major contribution to the achievement of the economic goals concerning the economic growth and stability, the standard of life and the degree of the labor force occupation. That is why, during the decades following the Great Inflation, a remarkable convergence has been recorded as to the need to declare the prices stability as the main target of the monetary policy. The prices stability became the central point as it is considered an achievable goal on medium term and, meantime, a pre-condition for the good functioning of a market economy.

The European Union Treaty attributed to the European Central Bank (ECB) the mandate to maintain the stability at the European level, a target defined in quantitative terms as being an annual average increase of the harmonized index
of the consumption prices IAPC, below 2%. The Council of the ECB governors undertook as target to maintain the inflation but close to 2%. This target takes into account an adequate positive margin in order to avoid the deflation risk but sufficient to solve the eventual implications generated by the differential existing between the member states of the euro zone so that no state can survive within the euro zone when showing too low inflation rates or even deflation. In addition, this target take into considerations also the possibility of a slight over-estimation of the real inflation through IAPC.

Despite this recognition shown to the need of stability of the prices, the notion is periodically submitted to debates, which finally led to a lack of consensus on what should be understood by the price stability. This lack of consensus occurred between the academic environment and the central banks.

All these concerns regarding the inflation influenced also the methodology of calculating the price indices. The issue of the inflation measurement errors has been addressed for the first time in the year 1961, in the USA, by the Commission of the Chicago University, led by George Stigler. The main recommendation of this Commission referred to the necessity to adopt a rigorous probabilistic method to set up the sample of stores and products as well as a higher strictness as to setting up the products specifications.

In December 1996, in the USA as well, the Report of the Boskin Commission has been issued and made public, with a recognized impact at international level, both by the academic world, the statistical practice and among the central banks. The Boskin Commission emphasized a series of possible errors of measurement for the index of the consumption prices, such as: the substitution of products in the frame of the indices, the stores change, difficulties in the adequate measurement of the quality modifications and the necessity to bring in new products. The analysis achieved by the Boskin Commission on the USA data, indicated the fact that the effect of these statistical lack of accuracy may be a major one, leading to an over-estimation of the measured inflation at the level of the year, with values estimated between 0.8-1.6 percentage points.

Besides these problems of measurement there is a general question mark concerning the covering sphere of the price indices utilized for evaluating the prices stability. It may be possible that there are situations in which a general price index is used – such as the GDP deflator – including the prices of all the final goods and services produced within an economy and which can be considerably more relevant for the decisions regarding investment and saving.

The price index can be characterized as a factor through which the relative modification of this aggregated value is measured as a result of the prices modifications. As a result, all the significant formulas for the measurement of the price indices can be expressed as a weighted average of the relative prices which weights are represented by the contribution of each product (item) in the total value. We remind here the most known formulas for the measurement of the price indices, expressed as weighted average of the relative prices: Laspeyres index, Paasche index and Walsh indices, respectively Torngvist. Expressed as a
geometrical average of the Laspeyres and Paasche indices, the Fisher index can be considered also as a function of the weights of the expenses directly derived from the total value.

The relations existing between the most important four price indices are defined through their association with the centralized aggregates defined by the System of the National Accounts (SNC). The system of the national accounts is periodically submitted to revisions, the last version being the one issued in 2008.

So that, the chapter I explains the concepts utilized for defining the institutional sectors and the transaction types mentioned by SNC, in order to underline more exactly the association between the most significant types of indices and aggregated values measured through these concepts. The most adequate frame for presenting the price indices existing in the statistical system is the table resources utilisations.

The tables of the resources and utilisations are meant to serve the statistical and analytical purposes. The main statistical requirements which can be covered are the following:

- Identification of the gaps and incoherencies which affect the basic data;
- Weighing and calculating the indices which measure the price and volume;
- Getting the estimates in a residual manner (in order to obtain a variable, we start with estimating all the other variables, the un-known one resulting as a difference), mainly for the production and consumption of the specific products;
- Verifying and improving the coherence, liability and exhaustively of the data contained by the tables of resources and utilisations and the derived figures (as, for instance, those of the production accounts).

Meantime, the first chapter is analyzing some basic concepts regarding the prices statistics – the different formulas used to the indices calculation, the significance of the “consumption basket”, the difference between the price index and the price modification etc.

The price indices have a long history and a large variety of utilization, starting from the adjustment of the level of wage, pensions and payments included within a long term contract, the deflation of the aggregates of the national accounts, up to the macroeconomic policies making.

The simplest and earliest example of index has been the one proposed by William Fleetwood in 1707, who intended to measure the average modifications of the prices paid by the students of the Oxford University, over a period of two and a half centuries. Another example from the 18th century has been the index calculated by the legislative body of Massachusetts in 1780, which considered indexing the pay to the soldiers fighting the revolutionary’s war against England.

The 19th century is considered the most interesting moment in the history of the indices theory. In 1823, Joseph Lowe published a study concerning the agriculture, trade and financial services. In the frame of this study, the author
developed the concept of price index as a modification of the monetary value of a set, or classification of goods and services. This method is still utilized nowadays. Diewert (1993) argues that Lowe may be considered the father of the price indices. Later on in the 19th century, other significant contributions have been achieved, brought to the indices theory, including those of Laspeyres (1871) and Paasche (1874), whose names are associated with the most spread types of price indices. Marshall (1887) supported the utilization of the chained indices, where the indices are measuring the evolution of prices from one year to another, lined together in order to estimate the evolution of the indices over long periods of time.

In 1922, Irving Fisher published his work, considered a monumental one by those preoccupied by the indices theory: *The Making of Index Numbers*. This work underlined Fisher’s interest on inflation and his support for the money quantitative theory. Fisher investigated the properties of hundreds of types of possible formulas for measuring the price indices, his preferred being the geometrical mean of the Laspeyres and Paasche indices, known presently as Fisher index. In 1924, Konüs published a work which presented the foundation of the economic theory of the life cost index (COLI), which is elaborated in order to measure the modifications of cost in order to maintain the same living standard (utility or welfare). In fact, the consumer does not buy the same set of products and services during different periods, adjusting his expenses depending on the prices changes and other factors occurring in the economy. Counter-party to the setting up of COLI is the index of the fix cost of goods. Another important approach from within the numbers theory has been the one issued by Divisia, in 1926, which is based on the assumption that the prices and the quantities are changing in time, in a continuous and instantaneous mode. As an economic, monetary and social phenomenon, the inflation took position in the center of the attention of the researchers belonging to different historical periods and schools, which get integrated within the Romanian monetary-financial thinking. The causes, intensity, forms of acting and, mainly, the effects generated by the inflation cannot be identified, in their totality, with the same circumstances and manifestations which this phenomenon met within other zones and countries of the world.

References