ON A TYPOLOGY OF INFLATION[2]

Emil DINGA[3]

Abstract

The paper tries to identify and briefly examine all the possible types of inflation starting from the wrong term generally used for the concept of inflation, namely: inflation rate (i.e. the rate of general price rate) instead of inflation (i.e. the general price rate). There is here an undeniable example about what can make a wrong denomination of an economic concept for the economic theory (and, of course for the economic methodology). In the context, some qualitative analyses and graphical viewings are delivered, in order to put into evidence the features of certain relevant types of inflation. Finally, the paper cannot find the denominations for six new types of inflation, inviting the readers to make proposals for them.

Keywords: inflation, inflation rate, monetary power, inflation typology.

JEL Classification: C00, E10, E31

1. Marginal Monetary Power and Inflation

In order to define the concept of inflation we need to introduce a more general economic concept, which to express the absolute variation of the purchasing power of the monetary unit[4], between two moments in time. Let us name this concept marginal monetary power (mmp). If we note with q_t the amount of goods and services that can be purchased[5] with one monetary unit at moment „t", then we can write: $\mathrm{mmp_t} = \mathrm{q_t} - \mathrm{q_{t-1}}$[6]. If $\mathrm{mmp_t} < 0$, then we have $\mathrm{q_t} < \mathrm{q_{t-1}}$, which signifies the decrease of the purchasing power of the monetary unit, and for $\mathrm{mmp_t} > 0$ we have $\mathrm{q_t} > \mathrm{q_{t-1}}$, which signifies the increase of the purchasing power of the monetary unit. What we usually call *inflation* is the case in which $\mathrm{mmp_t} < 0$. The case $\mathrm{mmp_t} > 0$ describes what we call *deflation*. Let us try to make a connection between the phenomenon of variation of the purchasing power of the monetary unit and the phenomenon of prices. Let us note with $\mathrm{M_t}$ the monetary mass available within the economy for the purchase of goods and services[7]. We will suppose that this monetary mass remains unchanged[8], meaning that $\mathrm{M_t} = \mathrm{M_{t-1}}$. Let us note with $\mathrm{p_t}$ the average (unit) price to purchase the goods and services from that particular economy[9]. We can then write: $M_t=p_t*q_t$. Therefore, $\mathrm{mmp_t} = \frac{\mathrm{M_t}}{\mathrm{p_t}} - \frac{\mathrm{M_{t-1}}}{\mathrm{p_{t-1}}} = \mathrm{M_t} \cdot \left(\frac{1}{\mathrm{p_t}} - \frac{1}{\mathrm{p_{t-1}}}\right)$. If $\mathrm{mmp_t} < 0$, then $\frac{1}{\mathrm{p_t}} < \frac{1}{\mathrm{p_{t-1}}}$ (as $M_t>0$), hence

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[2] *An excerpt from the Chapter 8 of the author's book Rebuilding Economics. A Logical, Epistemological, and Methodological Approach, Lambert Academic Press, Saarbrucken, Germany, 2012.*

[3] *"Victor Slăvescu" Centre of Financial and Monetary Research, Bucharest, Romania, email: emildinga2004@gmail.com*

[4] *We are referring here at the purchasing power of the monetary unit, not to the purchasing power of the monetary income.*

[5] *This is, of course, a generic, abstract possibility. For instance, some aspects are not relevant, such as: lack of the goods and services that should be purchased, or lack of will of the monetary unit's owner to exchange it for goods and services etc.*

[6] *The name of marginal purchasing power is justified by the fact that the full algebraic expression of mmp is:* $mmp_t = \frac{dq}{dt} = \frac{q_t - q_{t-1}}{t-(t-1)} = q_t - q_{t-1}$, *because we will discuss the discrete case (as it is interpreted in the statistical records).*

[7] *Obviously, this is what we are calling private consumption in the Keynesian equation of the static macroeconomic balance. We neglect here the governmental consumption.*

[8] *The interested reader may easily make this demonstration for the case in which M varies, but he/she must take care to specify whether this variation is higher or lower than the variation of q.*

[9] *Actually, not the totality of the consumption goods, rather only those consumption goods which form a basket of goods considered to be representative for the evaluation of the standard of living and quality of life at a particular moment and in a specific country. Of course, here there are several problems of methodological compatibility in time (usually solved by the reconstruction of the statistical series when the structure of the consumption basket changes) and of methodological compatibility in space (usually solved by the concomitant calculation of the harmonized index of the consumption prices).*

$p_t > p_{t-1}$. It is immediately visible that for $mmp_t > 0$ we need to have $p_t < p_{t-1}$. If M_t=1, then $mmp_t = \left(\frac{1}{p_t} - \frac{1}{p_{t-1}}\right)$. Therefore, we managed to establish a direct connection between the marginal variation of the purchasing power of the monetary unit and the variation of the average price. This connection is usually used to actually calculate this absolute variation of the purchasing power of the monetary unit, namely $mmp_t = \frac{p_{t-1} - p_t}{p_t \cdot p_{t-1}}$. At the level of the average price in year „t" the variation of the purchasing power of the monetary unit will be: $mmp_t \cdot p_t = \frac{p_{t-1} - p_t}{p_{t-1}}$.

As shown above, the current use of the concept of inflation refers to the case in which $mmp_t \cdot p_t < 0$, namely, the case in which $p_t > p_{t-1}$. The concept of inflation refers therefore to the relative positive variation of the price for the consumption goods and services from the presumed consumption basket. Therefore, if we note with p_t the average price for the consumption basket at moment „t" and with i_t the inflation at moment „t"[10], then, according to the definition we may write:

$$i_t = \frac{p_t - p_{t-1}}{p_{t-1}} = \frac{dp_t}{p_{t-1}}.$$

Generally, giving up the temporal index, we may write: $i = \frac{dp}{p}$. The advantage of this manner of writing the relation which calculates inflation (actually not the inflation, rather the marginal monetary power at the level of the current average price) is that we can use the differential calculation for qualitative and quantitative analyses of inflation and to identify all the "family members" termed as marginal purchasing power at the level of the current average price. This is what we will try to do in the next paragraph.

2. A General Typology of Inflation

As it can be noticed, the syntagm "inflation rate" (used enthusiastically by so many economic analysts, on TV shows included, where these analysts become vectors of opinion in this matter) to name inflation, meaning the decrease of the marginal monetary power at the current average price (or, with a more familiar expression, the decrease of the purchasing power of the monetary unit) is wrong, in accordance with the "canons" determined in the previous paragraph. If inflation signifies the rate of prices (their relative variation), then the inflation rate would mean the relative variation of the relative variation of prices, which is something completely different.

Here is what the syntagm "inflation rate" would mean *ad litteram*: be it three moments in time, 1, 2, 3, at which we measure the average prices p_1, p_2, p_3. We will therefore have two intervals ($[t_1,t_2]$ and $[t_2,t_3]$) in which we may determine the marginal monetary power at the current average price, which is the inflation (we can, of course, have deflation too, but we ignore this aspect for the sake of a simple demonstration, since it doesn't bring any significant changes, anyhow); we will therefore have two inflations: $i_2 = \frac{dp_2}{p_1}$, and $i_3 = \frac{dp_3}{p_2}$. The inflation rate [note it with R(i)] would mean the relative variation of the inflation, namely:

$$R(i) = \frac{di_3}{i_2} = \frac{i_3 - i_2}{i_2} = \frac{\frac{dp_3}{p_2} - \frac{dp_2}{p_1}}{\frac{dp_2}{p_1}} = \frac{p_1 \cdot (p_1 \cdot dp_3 - p_2 \cdot dp_2)}{p_1 \cdot p_2 \cdot dp_2},$$

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[10] *It is understood that there cannot be inflation at a particular moment (as there cannot be movement, in general, at a particular moment), rather it is the movement of the average price, movement measured at moment „t" compared to the previous moment. Usually, one step intervals are taken into consideration depending on the nature of the specific moment, for instance, if the moment of observation (measuring) is the year, then inflation in year „t" is measured against year „t-1", , if the moment of observation is the month, then inflation in month t is measured against month „t-1" etc. (statistically, measurements are possible for any interval for which systematic records are available; depending on the purpose of the analysis, inflations for longer intervals – multiples of the considered moment – can be observed – measured, calculated).*

therefore something quite far from the usual concept of inflation (we will see that the inflation rate will of great use, as concept, for some typologies of inflation, to be analyzed subsequently). Those using the syntagm of inflation rate instead of inflation probably think that that the notion of inflation names the economic phenomenon as such, while the notion of inflation rate quantifies that phenomenon (obviously, things are not at all like this, in this case the phenomenon and the quantification indicator simply coincide). Other people, more “sophisticated” consider that they simply translate the English *inflation rate* (serious error, which occurs in Romanian with other syntagmas too, such as *wage rate, value added tax, customs tax* etc.).

This very concept of inflation rate will help us subsequently to identify a full typology (at the conceptual, abstract level) of the marginal monetary power variations in terms of direction, speed and amplitude.

Let us resume the expression of the inflation rate: $R(i)=\frac{di_t}{i_{t-1}}$. Let us examine the possible algebraic values of this relation for three successive moments in time, 1,2,3, that is to say, for the two time intervals. The general relation between the three prices, p_1, p_2, p_3 is expressed by two real, strictly positive, parameters, α , β, as follows: $\frac{p_1}{p_2}=\alpha$, $\frac{p_2}{p_3}=\beta$[11]. Obviously, $\frac{p_1}{p_3}=\alpha\cdot\beta$.

In this case, we can calculate the following dimensions:

$$dp_2=p_2-p_1=\frac{p_1}{\alpha}-p_1=p_1\cdot\frac{1-\alpha}{\alpha}; \quad (1)$$

$$dp_3=p_3-p_2=\frac{p_2}{\beta}-p_2=p_2\cdot\frac{1-\beta}{\beta}; \quad (2)$$

$$i_2=\frac{dp_2}{p_1}=\frac{1-\alpha}{\alpha}\text{[12]}; \quad (3)$$

$$i_3=\frac{dp_3}{p_2}=\frac{1-\beta}{\beta}; \quad (4)$$

$$di_3=i_3-i_2=\frac{1-\beta}{\beta}-\frac{1-\alpha}{\alpha}=\frac{\alpha-\beta}{\alpha\cdot\beta} \quad (5)$$

$$R(i)=\frac{\alpha-\beta}{\alpha\cdot\beta}\cdot\frac{\alpha}{1-\alpha}=\frac{\alpha-\beta}{\beta\cdot(1-\alpha)}\text{[13]}. \quad (6)$$

As $\frac{\partial(i_2)}{\partial\alpha}=-\frac{1}{\alpha^2}<0$, and $\frac{\partial(i_3)}{\partial\beta}=-\frac{1}{\beta^2}<0$, it results that there is an increase of inflation (meaning there is reflation) any time $\propto$, and β decrease and that there is a decrease of inflation (meaning there is deflation) in the opposite case. The graphical representation of this case is shown in figures 1 (theoretical representation)[14] and 2 (numerical simulation).

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[11] *Let us notice that these parameters actually are relative prices, but not in the ordinary meaning of the word (relation of the monetary prices of different goods), rather inter-temporal relative prices, meaning the relation between the prices at different moments in time, but for the same product.*
[12] *Metaphorically, inflation might signify the speed of variation of the average price.*
[13] *Metaphorically, the inflation rate might signify the acceleration of the average price variation.*
[14] *For moment, the negative values of parameters α and β don't have, of course, economic significance, rather mathematic significance; their graphical representation only has the methodological role of revealing the signification of the strictly positive values (however, generally, a negative inflation is a deflation, as we will see below).*

Figure 1 - Functional dependence of the inflation on the relative price (α or β). Theoretical representation

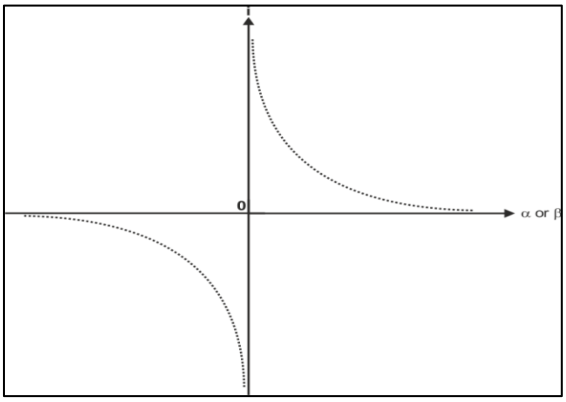
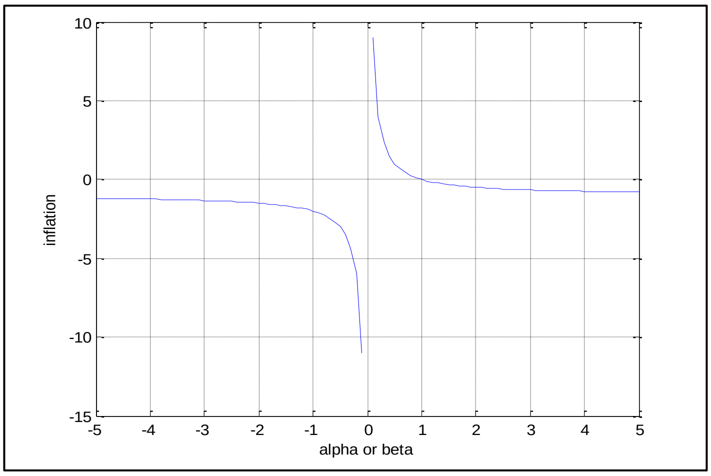
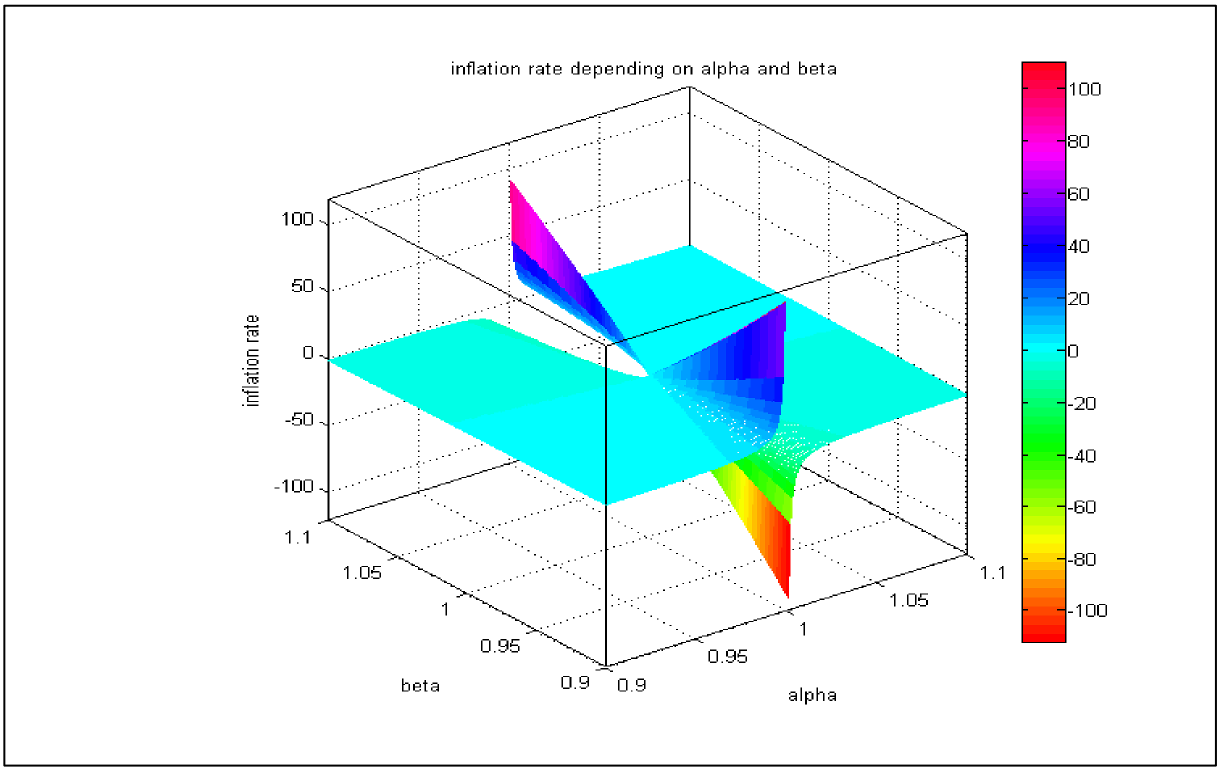


Figure 2. Functional dependence of the inflation on the relative price (α or β). Numerical simulation



The concomitant functional dependence of the inflation rate on the two parameters, α, and β, is shown in figure 3.

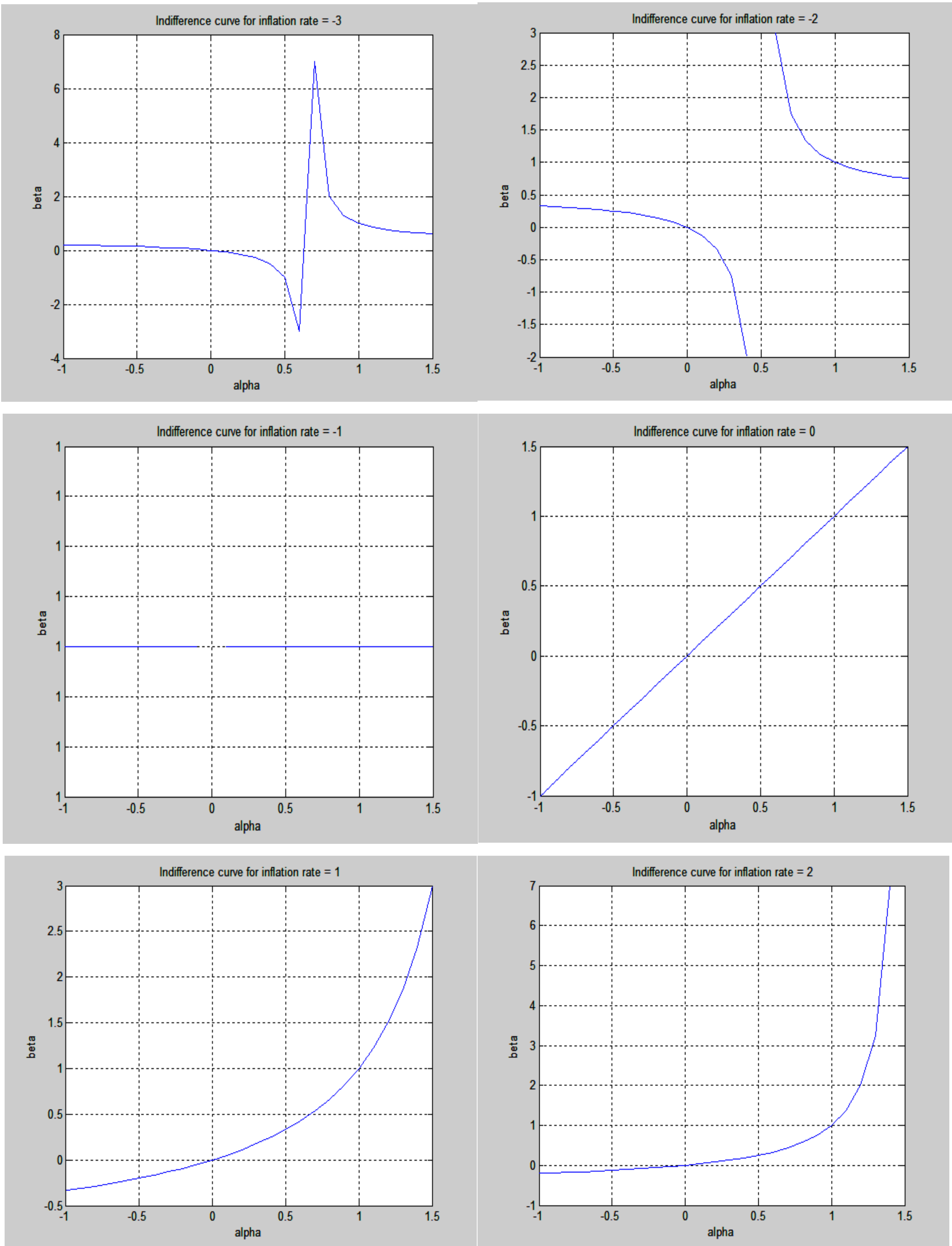
Figure 3 - Functional dependence of the inflation rate on the relative price (α and β)

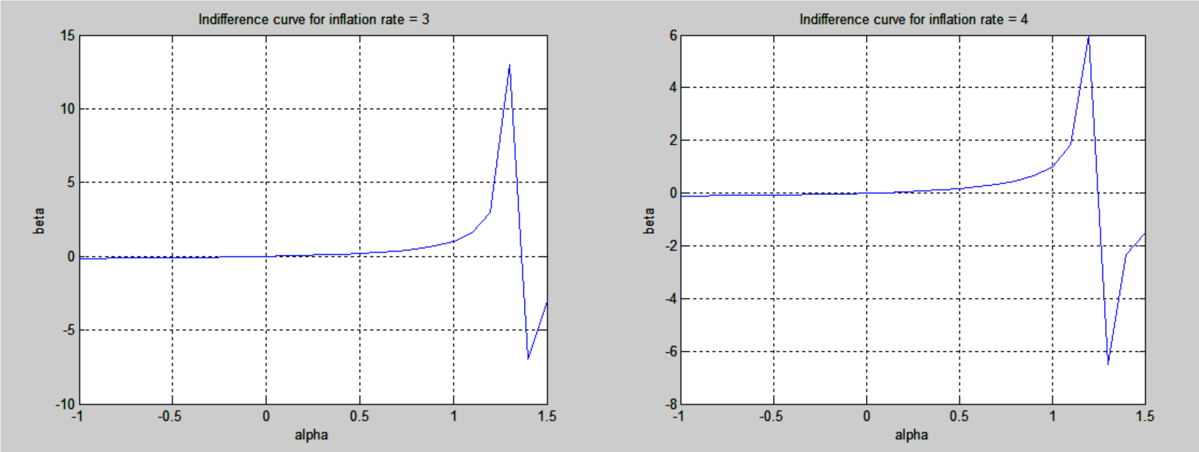


Let us determine the family of the indifference curves for the inflation rate depending on parameters α and β. Suppose that the expected value of the inflation rate is k. Then, from relation (6) we can write: $\beta = \dfrac{\alpha}{1 + k \cdot (1 - \alpha)}$. This is the equation of the indifference curve for the inflation rate of measure k, i.e. the set of pairs (α β) for which the inflation rate is constant, k.

The graphic representation of the curves of indifference for k = -3, k = -2, k = -1, k = 1, k = 2, k = 3 is shown in Figures 4-10 (a null rate of inflation, k = 0, presumes α = β).

Figures 4-10 - Indifference curves of the inflation rate for k∈{-3,-2,-1,0,1,2,3,4}





The marginal substitution rate between α and β is determined by putting the condition of null inflation rate differential (the inflation rate must remain constant, for instance, equal to k). The calculations required to determine the marginal substitution rate are:

$$dR(i) = 0 \Rightarrow \frac{\partial R(i)}{\partial \alpha} \cdot d\alpha + \frac{\partial R(i)}{\partial \beta} \cdot d\beta = 0 \Rightarrow R_m^{\alpha}(i) \cdot d\alpha + R_m^{\beta} \cdot d\beta = 0,$$

where:

- $R_m^x(i)$ - marginal inflation rate depending on parameter „x”.

Then the marginal substitution rate is:

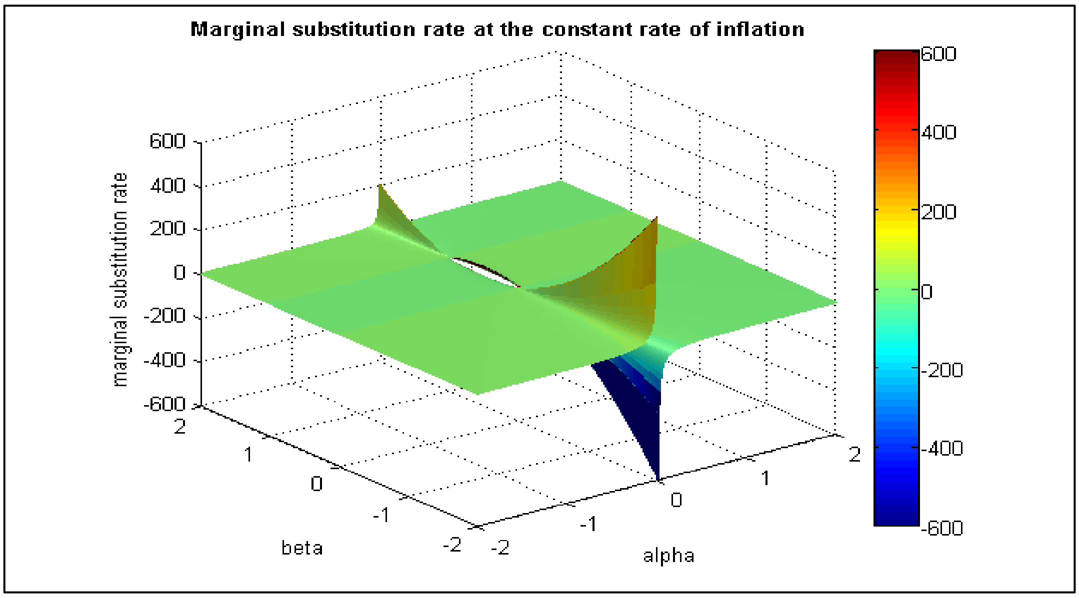
$$S_m^{\alpha\beta} = \frac{d\beta}{d\alpha} = -\frac{R_m^{\alpha}(i)}{R_m^{\beta}(i)}.$$

This is the substitution condition[15] between parameters α and β so that the inflation rate doesn't change. Let us determine concretely this marginal substitution rate. We have successively:

$$R_m^{\alpha}(i) = \frac{1-\beta}{\beta \cdot (1-\alpha)^2},\; R_m^{\beta}(i) = \frac{-\alpha}{\beta^2 \cdot (1-\alpha)},\; S_m^{\alpha\beta} = \frac{\beta \cdot (1-\beta)}{\alpha}.$$

The graphical representation of the marginal substitution rate (function of parameters α and β) is shown in figure 11.

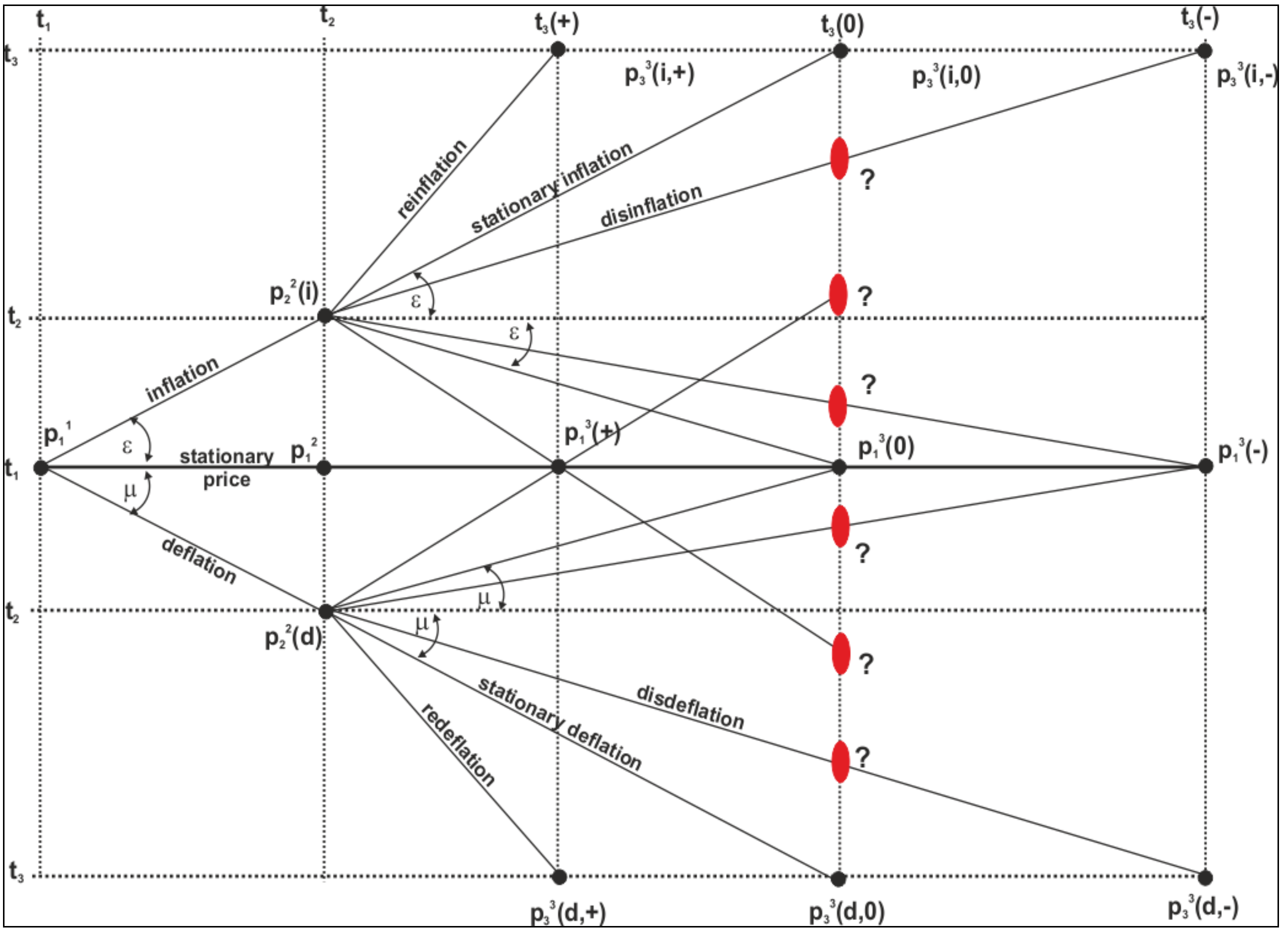
Figure 11 - Inter-temporal marginal substitution rate between α and β for a constant inflation rate



[15] *As it can easily be noticed, this is a species of inter-temporal substitution, because the two parameters which are the object of substitution refer to different time intervals (see the definitions of these parameters).*

In order to identify the typological "family" of the inflation rate, let us first consider the graphic image of all the possibilities of price evolution on two successive time intervals (figure 12).

Figure 12 - General diagram of the typology of the relative variation of the average price, on two successive intervals



Let us make the necessary calculations to see which are the algebraic conditions for α and β so that we obtain the species of marginal monetary power shown in Figure 12.

Let us note with $\pi_{12}(i)$ the slope of the line connecting p_1^1 with $p_2^2(i)$, which is the inflation slope during the first interval. We can then write: $\pi_{12}(i) = tg(\varepsilon) = \frac{dp_2}{dt_2} = dp_2 = p_2 - p_1 = p_2 \cdot (1-\alpha)$, because $dt_2 = t_2 - t_1 = 1$, by definition, in the discrete case. Let us notice, in Figure 13, that when the slope of the line joining $p_2^2(i)$ with the price possible during the second interval ($p_3^3(i,+)$, $p_3^3(i,0)$, $p_3^3(i,-)$) is higher than $\pi_{12}(i)$ we have reflation; when it is equal with $\pi_{12}(i)$ we have stationary inflation, and when it is smaller than $\pi_{12}(i)$ there is deflation. Noting with $\pi_{23}^{+}(i)$ the slope „between" $p_2^2(i)$ and $p_3^3(i,+)$, with $\pi_{23}^{0}(i)$ $\pi_{23}^{+}(i)$ the slope „between" $p_2^2(i)$ and $p_3^3(i,0)$, and with $\pi_{23}^{-}(i)$ $\pi_{23}^{+}(i)$ the slope „between" $p_2^2(i)$ and $p_3^3(i,-)$, we obtain the following necessary algebraic conditions:

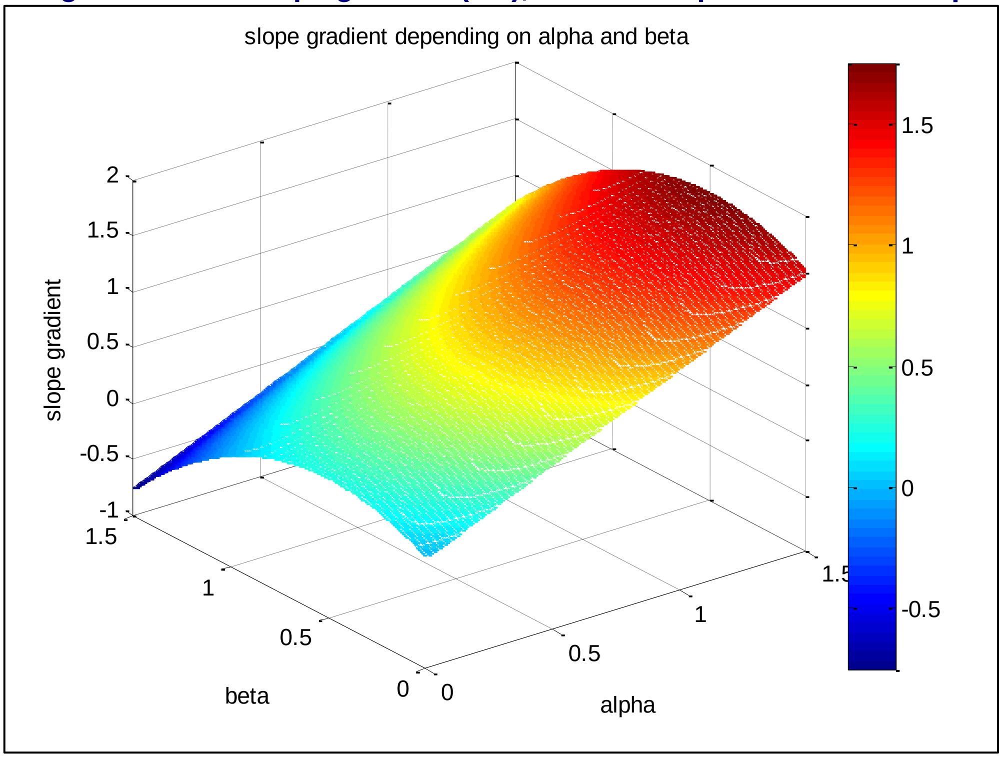
For reflation: $\pi_{23}^{+}(i) > \pi_{12}(i)$, which means $p_3^3(i,+) \cdot (1-\beta) > p_2^2(i) \cdot (1-\alpha)$, hence: $\beta \cdot p_3^3(i,+) \cdot (1-\beta) > p_3^3(i,+) \cdot (1-\alpha)$, thus: $\beta \cdot (1-\beta) + \alpha > 1$; we note expression $SG = \beta \cdot (1-\beta) + \alpha$ and name it *slope gradient*. Therefore, to have reflation, the condition is $SG > 1$;

For stationary inflation: based on the condition of equality of the slopes, $\pi_{23}^{0}(i) = \pi_{12}(i)$, we obtain the algebraic condition: $SG = 1$;

For deflation: based on the condition $\pi_{23}^{-}(i) < \pi_{12}(i)$, we obtain the algebraic condition: $SG < 1$.

The graphic expression of the slope gradient is shown in figure 13.

Figure 13 - The slope gradient (SG), function of parameters α and β



We will make an analogous reasoning for deflation too. Note with $\pi_{12}(d)$ the slope of the line connecting p_1^1 with $p_2^2(d)$, which is the deflation slope during the first interval. We can then write: $\pi_{12}(d) = tg(2\pi - \mu) = -tg(\mu) = -\frac{dp_2}{dt_2} = -dp_2 = -p_2 + p_1 = -p_2 \cdot (1-\alpha) = p_2 \cdot (\alpha - 1)$, because $dt_2 = t_2 - t_1 = 1$, by definition, in the discrete case. Let us notice, in Figure 13, that when the slope of the line joining $p_2^2(d)$ with the price possible during the second interval ($p_3^3(d,+)$, $p_3^3(d,0)$, $p_3^3(d,-)$) is higher, in absolute value, than $\pi_{12}(d)$, we have re-deflation; when it is equal with $\pi_{12}(d)$ we have stationary deflation, and when it is smaller than $\pi_{12}(d)$ there is de-deflation. Noting with $\pi_{23}^{+}(d)$ the slope „between" $p_2^2(d)$ and $p_3^3(d,+)$, with $\pi_{23}^{0}(d)$ the slope "between" $p_2^2(d)$ and $p_3^3(d,0)$, and with $\pi_{23}^{-}(d)$ the slope "between" $p_2^2(d)$ and $p_3^3(d,-)$, we obtain the following necessary algebraic conditions:

1. For re-deflation: $\pi_{23}^{+}(d) > \pi_{12}(d)$, which means $p_3^3(d,+) \cdot (\beta - 1) > p_2^2(d) \cdot (\alpha - 1)$, hence: $\beta \cdot p_3^3(d,+) \cdot (\beta - 1) > p_3^3(d,+) \cdot (\alpha - 1)$, thus: $\beta \cdot (1-\beta) + \alpha < 1$, meaning $SG < 1$;

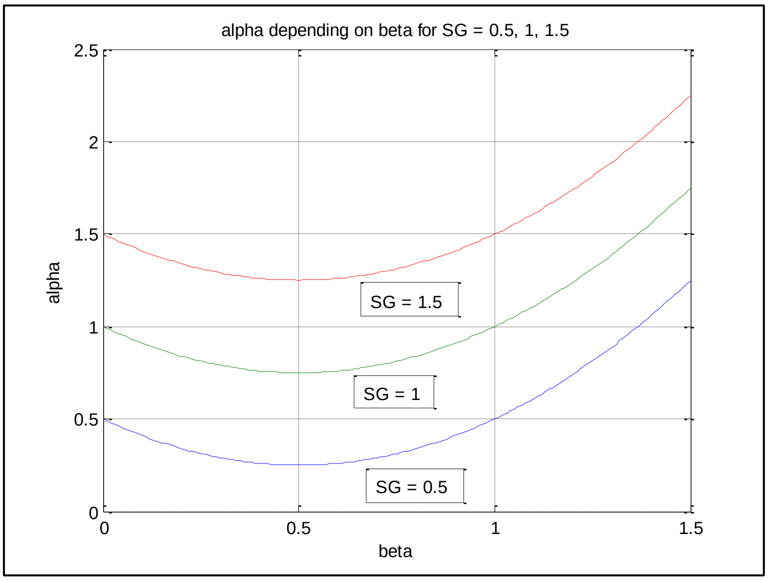
2. For stationary deflation: based on the condition of equality of the slopes, $\pi_{23}^{0}(d) = \pi_{12}(d)$, we obtain the algebraic condition: $SG = 1$;

3. For de-deflation: based on the condition $\pi_{23}^{-}(d) < \pi_{12}(d)$, we obtain the algebraic condition: $SG > 1$.

Let us observe that the reflation–de-deflation pair lies under the same algebraic condition ($SG > 1$). The same can be observed for the deflation-re-deflation pair ($SG < 1$), as well as for the stationary inflation-stationary deflation pair ($SG = 1$).

The indifference curves of SG (for the three empirical values: 0.5, 1 and 1.5) are shown graphically in figure 14.

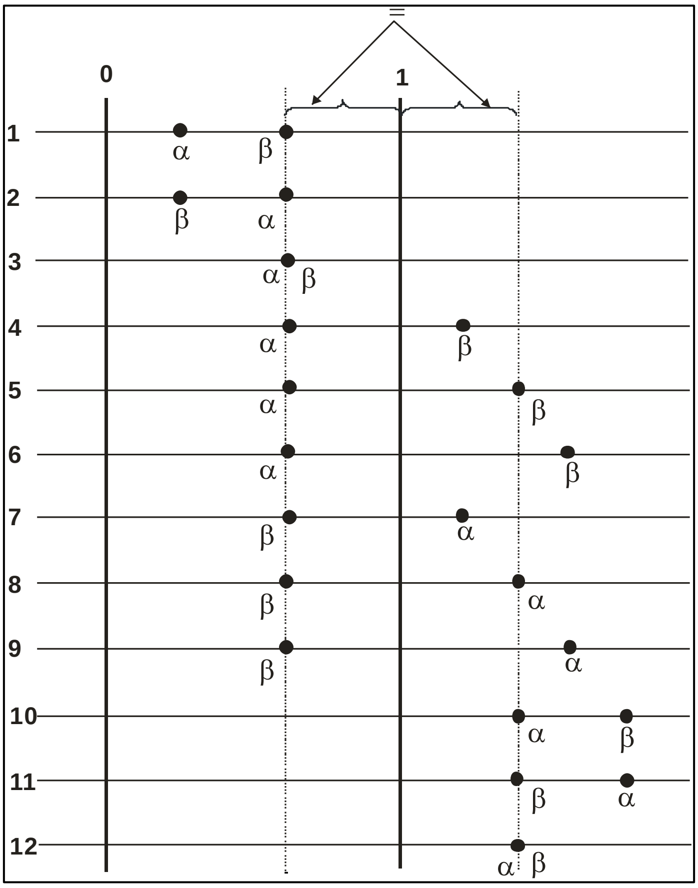
Figure 14 - Indifference slope of the slope gradient (exemplification for three empirical values)



Therefore, from Figure 14 it results that we have reflation or re-deflation on the indifference slope SG=1.5, that we have deflation or re-deflation on the indifference slope SG=0.5, and that we have stationary inflation or stationary deflation for the indifference curve SG=1.

The possible cases of relative classification of parameters α and β on the strictly positive axis of the real numbers are shown in figure below.

Figure 15 - Possible relative states, economically significant, of parameters α and β



We will make here a qualitative reasoning: as it can be noticed, the elongation of the two parameters from the value „1" is important. If we note with δ_α the elongation of α from „1" (either to the left, or to the right) and with δ_β the elongation of β from „1" (either to the left, or to the right), then we can write successively: $|1-\alpha| = \delta_\alpha$, $|1-\beta| = \delta_\beta$. Then, we have the following formal results for the cases shown in Figure 15:

(1) $\delta_\alpha > \delta_\beta \Rightarrow 1-\alpha > 1-\beta$, meaning $\alpha < \beta$;

(2) $\delta_\beta > \delta_\alpha \Rightarrow 1-\beta > 1-\alpha$, meaning $\alpha > \beta$;

(3) $\delta_\beta = \delta_\alpha \Rightarrow 1-\beta = 1-\alpha$, meaning $\alpha = \beta$;

(4) $\delta_\alpha > -\delta_\beta \Rightarrow 1-\alpha > \beta-1$, meaning: $\alpha+\beta-2 < 0$;

(5) $\delta_\alpha = -\delta_\beta \Rightarrow 1-\alpha = \beta-1$, meaning: $\alpha+\beta-2 = 0$;

(6) $\delta_\alpha < -\delta_\beta \Rightarrow 1-\alpha < \beta-1$, meaning: $\alpha+\beta-2 > 0$;

(7) $\delta_\beta > -\delta_\alpha \Rightarrow 1-\beta > \alpha-1$, meaning: $\alpha+\beta-2 < 0$;

(8) $\delta_\beta = -\delta_\alpha \Rightarrow 1-\beta = \alpha-1$, meaning: $\alpha+\beta-2 = 0$;

(9) $\delta_\beta < -\delta_\alpha \Rightarrow 1-\beta < \alpha-1$, meaning: $\alpha+\beta-2 > 0$;

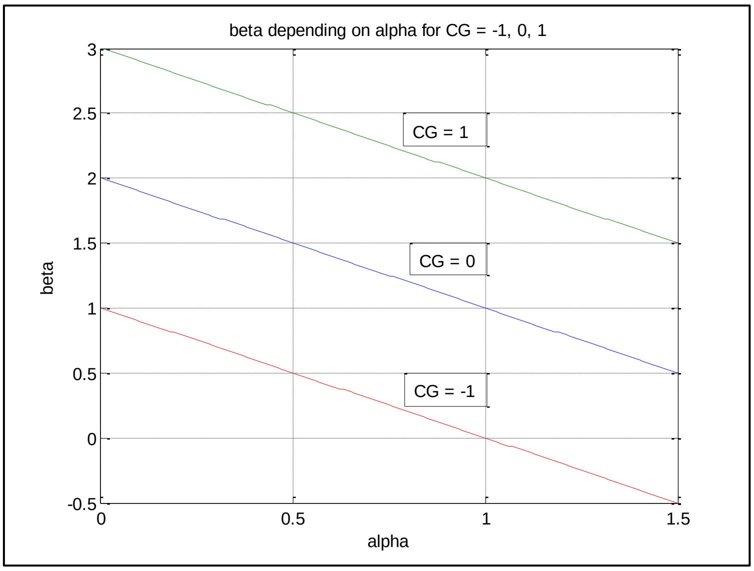
(10) $-\delta_\alpha < -\delta_\beta \Rightarrow \delta_\alpha > \delta_\beta \Rightarrow 1-\alpha > 1-\beta$, meaning: $\alpha < \beta$;

(11) $-\delta_\alpha > -\delta_\beta \Rightarrow \delta_\alpha < \delta_\beta \Rightarrow 1-\alpha < 1-\beta$, meaning: $\alpha > \beta$;

(12) $-\delta_\alpha = -\delta_\beta \Rightarrow \delta_\alpha = \delta_\beta \Rightarrow 1-\alpha = 1-\beta$, meaning: $\alpha = \beta$.

The expression $CG = \propto + \beta - 2$ will be named *commutation gradient*. As will be seen below, it is „accountable" for the under-complete (under-commutation), complete (full commutation) or over-complete (over-commutation) commutations from inflationist processes to deflationist processes and vice versa. The indifference curve of CG is shown in figure 16.

Figure 16 - Indifference slope of the commutation gradient



On the basis of the diagram from Figure 12, of the algebraic conditions determined above and of the possible topology shown in figure 15, we can systematize the possible phenomena function of parameters α and β, in the two polar processes referring to the marginal monetary power: the inflationist and the deflationist processes (figure 17):

Figure 17 - Significance of the inflation rate for the possible states of the pair of parameters α and β [16]

Case	Parameters $\propto$ and β	In the first interval	In the second interval	R(i) (algebraic value)	Economic significance of the inflation rate	Symbol of the economic phenomenon	„Name" assigned to the economic significance of the inflation rate
1	$0<\alpha<\beta<1$	inflation	inflation	negative	ii – decrease	i.i ↓	Disinflation[17]
2	$0<\beta<\alpha<1$	inflation	inflation	positive	ii – increase	i.i ↑	Reinflation[18]
3	$0<\beta=\alpha<1$	inflation	inflation	null	ii – constancy	i.i0	Stationary inflation
4	$0<\beta<1<\alpha$ CG < 0	deflation	inflation	negative	di – under-commutation	d.i <	?
5	$0<\beta<1<\alpha$ CG = 0	deflation	inflation	negative	di – full commutation	d.i0	?
6	$0<\beta<1<\alpha$ CG > 0	deflation	inflation	negative	di – over-commutation	d.i >	?
7	$0<\alpha<1<\beta$ CG < 0	inflation	deflation	negative	id – under-commutation	i.d <	?
8	$0<\alpha<1<\beta$ CG = 0	inflation	deflation	negative	id – full commutation	i.d0	?
9	$0<\alpha<1<\beta$ CG > 0	inflation	deflation	negative	id – over-commutation	i.d >	?
10	$1<\alpha<\beta$	deflation	deflation	positive	dd – increase	d.d ↑	Re-deflation
11	$1<\beta<\alpha$	deflation	deflation	negative	dd – decrease	d.d ↓	Disdeflation
12	$1<\alpha=\beta$	deflation	deflation	null	dd – constancy	d.d0	Stationary deflation

From figure 17 one may notice an interesting aspect: we may have phenomena of reflation and de-deflation both within an inflationist process and within a deflationist process. If, for the inflationist process, the names of reflation and deflation describe the phenomena of acceleration and deceleration of the average price variation (the phenomena of increase, respectively decrease of inflation), for the deflationist process we need to introduce similar concepts. We will do it immediately. Thus, a reduction of deflation would mean the decrease of the average price variation, which is a deceleration at decrease. Since the deceleration at increase was named deflation, a mirror concept for the deceleration at decrease might be called *disdeflation*. Similarly, as the acceleration at increase was named reflation, a mirror concept for the acceleration at decrease might be named *re-deflation*. When adequate (and, of course, justified and suggestive) denominations will be found for the other six theoretically possible cases, we might have, as it looks to us, the complete notional family of the concept of marginal monetary power. The basic notions[19] concerning the concept of marginal monetary power are presented graphically in figure 18.

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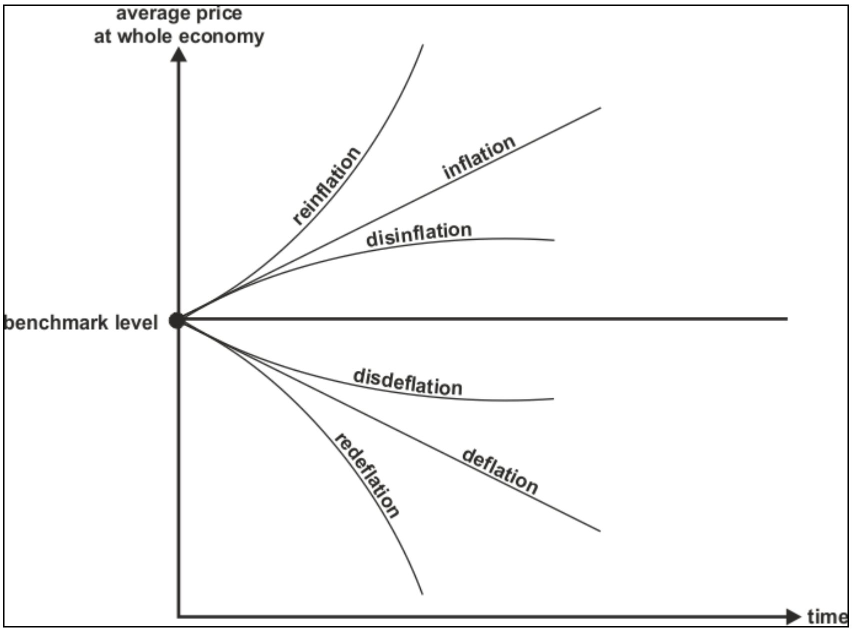
[16] As it can be noticed, we still have to "invent" six notions in order to describe completely the theoretical phenomenology of the inflation rate. We leave this pleasant task of "Godfather" to our fellow scientists who are also concerned with the conceptual matters related to the inflationist/deflationist processes from the economy.

[17] Therefore, conceptually, deflation signifies the decrease of inflation (or, if we assimilate, metaphorically, inflation to the speed of price increase – which is not mathematically rigorous – deflation signifies the deceleration of the average price variation).

[18] Therefore, conceptually, reflation signifies the increase of inflation (or, if we assimilate, metaphorically, inflation to the speed of price increase – which is not mathematically rigorous – reflation signifies the acceleration of the average price variation).

[19] It is readily noticeable that the six notions waiting to be endowed with the adequate terminology are derived notions (thus, non-fundamental), in relation with the six notions already presented in Figure 15.

Figure 18 - Notional family of the concept of marginal monetary power



If we would want to continue the metaphor regarding the definition of inflation/deflation and of the basic notional species using the notions of speed/acceleration in relation with the time (time is considered here as non-causal benchmark variable), then we might have the following analytical description (figure 19).

Figure 19 - Derivative conditions of the inflationist/deflationist phenomena

No.	Process	Phenomenon	Algebraic sign of the first derivative of the average price in relation with the time	Algebraic sign of the second derivative of the average price in relation with the time
1	Inflationist	Reinflation	+	+
2		Inflation	+	
3		Disinflation	+	-
4	Inertial	Stationary state	0	
5	Deflationist	Disdeflation	-	+
6		Deflation	-	
7		Re-deflation	-	-