

# **Between the World of Economics and the World of Physical Sciences There Would be a Link That is Anything but Hypothetical**

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## **ABSTRACT**

The compatibility between humanity and nature should be related to a trend that would lead us hopefully in a short time to the full neutrality between man and the planet we all live on. Along this trend, essentially due to the cooperation and help of science and knowledge, the humankind is able to collect news and information on the level of pollution we produce, not to be exceeded. Individually, the information on the pollution degree received from nature comes to us through the monetary system. Therefore, the community is warned that we are approaching a limit not to be exceeded in creating pollution inside the environment and the warning comes through the nominal price system, that is through inflation and deflation. These two are nothing more than messages, like ectoplasms, that is a sort of symbols taking shape due to the economic instability and, once inside the economic environment, they lose contact with the economic entourage. Nor could it be otherwise, because their task is for information purposes only, and they must create within the community the loss of confidence in the economic outlook. Due to this loss of trust, the economy slows down and takes a pause in favor of the environment quality, which improves thanks to the reduced economic activity. It's a sort of alert system with the same message function both for inflation and deflation. However, their fate is anyway different not for a natural reason but for the different response given by monetary policy upon arrival of inflation or deflation. In the case of inflation, the monetary policy response is the symmetry between nominal price increases and interest rates. This increase in rates is producing a cycle retreat that is consistent with the request for a pause of the natural system. While in the case of deflation, the symmetry between the decline in nominal prices and interest rates is in contrast with the economic system demanding for a pause. This potential opposition can cause some anomalies in the wealth and income distribution.

**Keyword:** conjunctural cycle, basic value of inflation, instability underworld, monetary messages

## **INTRODUCTION**

The most interesting feature concerning the emergence of inflation and deflation in the economic world, it's not so much their rationality or the singular indifference that essentially separates the two monetary phenomena from the events of the economy. Nor the apparent opposition between inflation and deflation, which induces the less careful observer to ask to

contrast one with the other, as if it were possible for the governments or communities to use or abuse of these monetary anomalies.

In practice, their singular anomaly lies only in the monetary character of the emergence of two phenomena, which are similar for this element, but instead are dissimilar for all the others.

The choice of a monetary characterization for the two phenomena may appear almost obvious, due to the general nature and the widespread and broad understanding of inflation and deflation meaning by the community. It's obvious to everyone that the presence of a recurring inflation means that the economic management is not going well and therefore the situation is somewhat critical regarding the economic management leaders. The same can be said when the monetary phenomenon becomes deflation.

Yet, despite the obviousness of the impact of the two phenomena on the monetary channel, we must say that this doesn't seem to be the basic motivation. Because the two monetary phenomena have their own characteristics in time and space that cannot be justified otherwise than for the autonomous determination of the economy itself. In the sense that phenomena such excess credit or disharmony between the economy and the natural path of our planet, can fuel the development of the inflation mechanism.

Basically, the phenomenon is repeated unchanged in its development mechanisms in time and space without someone to blame for its birth and development.

On the other hand, the inflation phenomenon repeats and evolves according to a constant procedure that links the state of the sick economy to the nominal price trend. The inflation is always an accelerated nominal phenomenon, with an acceleration varying in relation to the state of the sick economy. Until reaching the extreme limit experienced in Germany during the first post-World War: that is especially at the beginning, the phenomenon should be limited for some time to a minimum motion but always with a potential acceleration charge.

At this point it appears clear that the special feature of inflation is exactly the acceleration (or deceleration) of nominal prices, and this is also providing the detachment degree of the economic system from the stable economy course. The more accelerated (or decelerated), the greater will be the disharmony of the economic system.

## **PRESENTATION AND DISCUSSION**

### **The universal constant number close to 2%**

Looking the nominal but not symbolic inflation as also deflation movements, it seems evident that this representation offered by the movement of prices has a factor that shapes and increases the monetary message. Yes, because it is only a message, and nothing else as we will clarify later.

In the meantime, let's focus on the engine that is driving these monetary messages. Well, it seems acceptable that the complex mechanism of deflation and inflation is guided and evolves thanks to the guidance offered by a constant universal law. A law affecting economics and its progress just like all the other great constants of the world and physics. In other words, it's unacceptable to think about a repetitive motion in time and space without identifying a

constant and universal law which should protect the economy as much as possible from the deviations of the stable condition from the correct relationship with our planet natural course. Following this line of thinking, we could identify the constant of the balanced economic development in the special number identified by the Central Banks as the sign of a balanced and equilibrated economic state. With this number close to 2%, the Central Banks believe they can define an economy as balanced with stable prices and in line with the planet evolution.

In other words, a theoretical condition, nevertheless identifiable with the indefinite number close to 2%: throughout this condition, the price movement is fully balanced and therefore prices are essentially stationary. An ideal condition that cannot be found in the world of economics that uses this constant just as a trend point. In other words, it's a goal to be pursued through corrections that are nominally represented by the price movement.

But let's now try to be as accurate as possible on the subject of the relationship between the constant (stable and durable condition) and the normal situation of economic systems, more or less subject to continuous course adjustments in order to adapt to the theoretical balanced motion of the economic development.

How do economic systems adapt or keep the course? In other words, how can the constant of the economy act to make its messages as accurate as possible about the state of the economy?

To answer this question, first of all it's necessary to give a comprehensive character to the value and meaning of the constant close to 2%.

Well, we can admit that when an economic system is placed near the constant value, the price movement shall be zero. But we must be careful, because the absence of price movement does not mean that the economy wouldn't produce a "background noise" due to its inexorable and continuous activity. This background noise can be identified precisely in the constant number of the balanced economy. In other words, the background noise of the economy is not equal to zero but is placed instead near the 2% value.

In fact, if the background noise were zero, not only would the constant disappear but a null value of this number couldn't carry out any action related to the change of nominal values linked to inflation and deflation. Because it would be this basic value - theoretical symbol of the stability and adherence of economic development to the economic system path - that calibrates and gives substance to the accelerated regularity of inflation, that is to the calibrated deflation decrease.

To be as accurate as possible, the background noise would be altered in the event of direction uncertainty of the economy and its trend will become the rational engine of the development and evolution of the price movement for both inflation and deflation.

Hence, the underlying basic value in the condition of systems not aligned according to the natural equilibrium, which should be the common condition of the economy, will be altered and will grow directly related to the alteration degree suffered by the economic system deviating from the state of natural balance.

Based on this relationship between a constant number close to 2% and the process driving the nominal monetary system in case of inflation (or deflation), we can assume that the acceleration or deceleration driving the nominal monetary system would be moving and changing.

Now, as we stated, the constant number close to 2% cannot be zero so as not to compromise the relationship between this value and the messages offered by the deflation and inflation motion. Equally, we must argue that the constant number in its sequence is hiding the basic information for the inflation or deflation development and evolution. In the sense that the regularity moving the acceleration of inflation, relating to the alteration of the economy motion, should find its permanent rules in time and space inside a segment of mathematical law. A portion of mathematical law hidden in the background noise of the economic system or, to say better, in the folds of the universal constant number that modulates the nominal motion of prices.

In other words, the constant number close to 2% would have the function to point out the balance of the economic system and the compatibility with the evolutionary path of the planet. But this messenger function is not enough. Because it's not difficult to admit that this space reserved to the background noise of the system, under the instability action inside the economic systems, will be modified by expanding or narrowing in order to carry out its messenger task. In other words, to communicate to the community that the economy is not proceeding along the path of natural balance, that is in fact gradually altering.

Obviously, all this through the price curve drawn by the different inflation level marked by each economic system and by the economy as a whole. Once made this clarification, we must try to clarify - as far as possible - the reasons for the inflation rhythmicity that continuously evolves as shown by nominal prices, according to an acceleration related to the instability degree of the economy.

The main reason is the messenger character of inflation towards the community; but it remains to be explained the way of shaping inflation to ensure that it would be a neutral witness of the economic state for the community.

It seems correct to believe that the message transmitted through inflation is modulated by a constant acceleration that essentially would guarantee its progression over time in relation to the duration of the instability state of the economic system. On the other hand, we shouldn't forget that inflation arises with an acceleration potential that could grow over time so showing an ever-increasing nominal price curve. It's quite clear that the increasing character of inflation over time is a necessary character because the message that is given to the community is thus strengthened and creates the right concern of most about the state of the economy.

It should also be considered that when inflation has reached a nominal price speed of more than 20 - 30% per year and is therefore approaching the stage of hyperinflation, the same rapidity of nominal price development seems able to create new fuel for further increase of the rated speed.

In fact, the generalized increase in nominal prices creates a liquidity shortage that is filled with new issues of paper currency and with the increase of credit and electronic money. It can

therefore be said that in case of inflation the Fisher's law applies, according to which the increased circulating currency helps to accelerate the nominal price speed, though with some non-marginal differences.

According to the classical theory, circulation velocity of money  $V$  and quantity of goods produced are invariable and therefore the variation of  $M$  (money quantity) is reflected on prices ( $P$ ). According to the relationship that links  $MV = PT$  in fact, in hyperinflation case the growth of price speed accelerates also according to the same level reached by the speed of nominal prices, as well as the new availability of liquidity that the system is creating and the velocity of money circulation which depends on the growing trust or mistrust in the monetary medium.

In the case of deflation, instead, nominal prices are slowly falling, and the value reduction of goods is the signal that also in this case the economy management deserves to be criticized. Now, it appears evident that if the credit mass expansion driven by the near-to-zero reduction of the interest rate (to follow the downward fate of deflated prices) would create the conditions for a general rise of prices, the messenger mission of deflation would be nullified.

The relationship between currency and its circulating quantity is therefore even marginally invalid in the case of deflation, as it will be clear when we will talk later about the decreasing nominal prices.

### **We should believe that the natural skills of intelligent beings interact with the environment**

In the summer and autumn of 2021, the prices of many raw materials and intermediate products were affected by a significant increase. After the long and protracted stop of economic activity during the previous year due to the pandemic and the long battle against the virus development, a generalized revival of the economy started in the main industrialized countries. The sudden increase in demand for raw materials and semi-finished products in various sectors, particularly in the automotive sector, was reflected over an offer that was unable to fully satisfy the requests. This resulted in a generalized price increase of raw materials and many semi-finished products. Facing this sudden and partly unexpected recovery of the world economy, many operators spoke of the inflation danger in the 2000s. Or rather, of a return of the economic systems to the inflation phase after the deflation period.

So how are things really?

To clarify the differences between inflation and movement of the international prices, it's worth using an easy-to-read example. Well, let us compare inflation to the wave caused by a stone thrown into the quiet water of a pond. With a substantial difference, indeed, because the inflation wave never loses speed and acceleration but continues without end, or at least until the situation of the economic entourage is changed.

In the case of price movements triggered by the international prices, instead, the "wave in the pond" is transitory and after a while it's absorbed and disappears.

In addition, inflation follows an accelerated and continuously expanding course due to a typical own character of the movement which, once started, no longer seems to have any direct and continuous relationship with the economic trend. Economic trend which was the engine that

started the phenomenon of rising prices without, however, a functional link remaining after the initial boost.

The transitory movement of international prices is also different, because not only the phenomenon arising under the pressure of the economic world is quickly exhausted but it's furthermore intimately linked to the state of economic systems from which it takes strength, until dissolving when the price movement is exhausted.

As already said, the inflation mechanism, due to its character as a messenger for the community, is favored because the run of nominal prices is going on and then is tending to widen over time. The purpose of this movement, unstoppable if things within the economy do not improve, is purely informative and tends to warn the community that the direction taken by the country's economy is leading the economic system towards instability.

For this reason, namely the messenger character of the inflation phenomenon for the community, it is neither necessary nor appropriate that during the inflation development, the whole mechanism is connected to the unstable economy. In fact, if the alteration of the system continues, the alarm raised inside the community is amplified because over time the inflation speed tends to increase concurrently.

On the other hand, we said that it's to be believed that the acceleration of the inflation motion depends on a mathematical order hidden inside the constant number close to 2%, which signals the achieved economic stability. Furthermore, once a speed of more than 10 - 20% has been reached, it will be the debasement itself of the monetary means that will create the conditions for the increase of currency mass in circulation together with its circulation speed.

We should also consider that if we admit the hypothesis of a link between the monetary medium acceleration and the economy, we should ask ourselves: to what end? For which reason indeed - in a context of relations between the community and the economic world - should we believe that the two phenomena are mutually dependent? We could thus hypothetically argue that the inflation motion could have some purpose favorable to an evolution of the altered economic system towards a greater stability and compatibility with the environment. Well, it's easy to admit that this hypothesis is false and that the nominal movement of prices would in no way contribute to improve the altered performance of the economy. Indeed, we can admit the opposite hypothesis because the development of the phenomenon creates some damage to the value of wages and rents that will suffer a cut in their value in relation to the speed of nominal prices. Making it necessary, therefore, to use the indexing systems to limit the damage and inequalities created by the monetary phenomenon.

However, if we admit a relationship between the economic system and the nominal price movements during inflation, we should in any case ask ourselves again to what end, in a context of relations between the economy and the movement of inflated prices. To answer this question, it's firstly necessary to assume that there is some constant force connecting the economic state and the inflated motion conduct. Nevertheless, it's quite difficult to follow this hypothesis due to the excessive complexity connected to this ongoing relationship. Therefore, this dead-end scheme must be abandoned.

As already mentioned, the lack of liquidity created by an accelerating inflation becomes the primary cause for fueling, with new paper money and the expansion of credit, the same development speed in the phenomenon of accelerating nominal prices. In other words, it is the community itself that for its own needs in commercial relations becomes the engine for a new and greater acceleration of nominal prices when the hyperinflation is approaching.

So, that said, why not admit that it's the community itself – I mean, all of us - that creates the functional link between the economic state and the environment on our planet. To be even clearer, we can admit that the message, which is reaching the community through the accelerating nominal prices, is a signal deeply felt by everybody and, moreover, easily understood. An explicit and clear signal that things in the economy are not going well and that the orientation of most must change about how to judge the conduct of economic management. At the end, a critical judgment should arise within the community about the conduct of the economy by the government leading the country. Not only that, however, because within the community there are people who are able to assess the state of the economy and who are also able to formulate different and more consistent hypotheses for the government management. Obviously, this power of synthesis existing within the community - which is favored by the collective knowledge and culture - is largely independent of the power management model (democratic or not). In the sense that we can admit that this faculty exists in all communities, regardless of the degree of cultural and social development of the various groups. This statement shouldn't be surprising, because we are examining intrinsic and autonomous qualities of each community that are specific to human beings: that is, intelligent beings in continuous cultural and social development. This is just to say that this faculty of a collective tension must be considered proper to any kind of community: those living with advanced forms of democracy, but also the more backward and problematic ones that are instead subject to authoritarian regimes or even to tribal or clan rules.

From our point of view, in fact, we are not analyzing the cultural, social, and scientific evolution of communities, because these are goals that humankind achieved over time with the cultural, scientific and social development of all the groups of human family. We are examining, instead, the issues dealing with the leadership formation and the aggregation of consensus or dissent at a collective level, which we must believe to be all natural skills of every intelligent being interacting with the environment in which humanity lives and progresses.

According to the above, it must be admitted that this ability to select leaderships and to agree on points of common consensus is present inside the communities regardless of their civilization and social organization level. Just to say that it cannot be excluded that even in backward societies in terms of civil rights and social organization development, there is this collective capacity to criticize the established power, if the economic system tends towards instability thus increasing inflation and arousing criticism from the majority.

*Ergo* it's true that in democratic regimes, citizens have the collective power to make or break the leaderships that periodically take on the governance of society. And the citizens exercise this power by using tools - such as the inflation rate - to decide whether to reward or criticize the leadership that runs the economy at that time. However, this intrinsic and autonomous faculty of the community can and must be working even in the case of undemocratic regimes.

In the sense that sooner or later no dictator or potentate can remain in government when dealing with a growing and majority dissent from the community.

In short, the alarm system for the deviation of the economy from balance and compatibility relies on the primary and general innate characteristics of intelligent beings: that is, on the intrinsic and natural capacity of a community to select a leadership and to manifest a consensus or a dissent regarding the existing power system. In this way, the advances in social organization, which are acquired with the progress of sciences and social and political culture, can improve the efficiency of the mechanism which is anyway working and is able to work even in less civilized realities.

Because it should be clear that the relationship between humanity and the environment around us must be conceived as a primary relationship, so becoming essentially a parameter of this relationship. Therefore, should be avoided those abstruse and somewhat incomprehensible natural rules to monitor this relationship, which over time must anyway become optimal. But it's the humanity itself that, with the expression of trust or distrust in an economic management model, becomes the holder of the function of safeguarding his relationship with the external environment.

### **The alarm system and the relationship between humanity and environment**

With the premises set out above, we can make now a picture of the alarm system and the relationship between humanity and the environment around us. As we have already said, the universal constant close to 2%, mentioned by Central Banks as objective of a good management, describes the non-transitory but stable state of the economy balanced with the environment. An ideal and at present unattainable condition, requiring a compatibility with the planet conditions, well beyond the 'Carbon neutrality'. An ideal condition requiring the availability for humankind of unlimited energy and therefore of a far more advanced level of civilization than the present one. Therefore, at a statistical level, when the economic systems are reaching a price level close to 2% doesn't mean they have reached a compatibility ideal degree but more simply that the system is travelling in conditions close to deflation.

We must in fact believe that the civilization progress, intended as the development of social organization and knowledge in the widest possible sense, moves in accordance with the planet evolution. However, humanity is pursuing the knowledge (*"nati non foste a viver come bruti"*<sup>1</sup>), then is pursuing also (and not only) the full compatibility of its presence on the planet.

This doesn't mean that approaching the universal constant number couldn't mean an improvement in the economy management; nevertheless, the goal of the human compatibility with the planet will not be reached. A goal that can be represented as a trend line to be followed until the complete compatibility, reachable only when we will dispose of a much higher level of civilization and of energy unlimited availability.

We now have the opportunity to take a closer look at the compatibility warning system moving on the ideal line that will lead the humanity to neutrality and complete compatibility with the planet. It's evident now that this ideal line moves in sequence with the civilization development

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<sup>1</sup> "You were not made to live like brutes": Dante Alighieri – Inferno, Canto XXVI

of human beings and that every effort must be made to give space to the creativity of each individual subject and of every group, in addition to the research in all sectors. Because the health of this planet where we are living, is closely linked to knowledge and research.

While waiting for humanity to reach this stage of complete compatibility of our presence on the planet, we can consider the compatibility alert system as a last resort mechanism to protect the relationship with the planet. As already explained, the ultimate terminal of this relationship is the community of a country. It's the community that carefully watches the movement of prices because the value of its resources can depend on that movement. Therefore, the tension on prices aroused by the inflation nominal motion is immediately felt by the community, which therefore examines with a critical judgment the work of the ruling class engaged in the country government.

We can therefore think that the development of the inflation process is the malaise indicator inside the economic management, which follows a direction in stark contrast to the compatibility of economic system. More generally, the alarm phases arising with inflation indicate that there is a strong divergence between the economy management and the tendential balance we seek through the civilization level.

In these cases, therefore, we can say that to mitigate the gap in the balance with nature around us, the monetary message (inflation or deflation) signals that a period of general slowdown of the economic systems is needed. Slowdown that is produced not only and not so much due to the nominal monetary mechanism in motion but rather due to the loss of trust inside the community: and this loss of trust is caused by those warning signals. On the other hand, it's certainly no coincidence that the inflation we experienced in the two decades 1970-80 had a general character for the whole economy, just as a general character had the deflation we have experienced since 2000.

Instead, it's consistent with the approach we are giving to the alarm structure through nominal prices, in the sense that to be effective in the situation of great development of the world economy, the whole community or at least its largest part must be involved. On the one hand, this phenomenon is telling us that, for better or worse, we are approaching the goal of fully adapting the development to the real state of the planet. On the other hand, given this state of things, to make effective the economic slowdown in order to reduce the pollution situation of our environment, the deflation (current state) and inflation (previous century) phenomena need to be extended to the whole humanity or to most of it.

Beyond this mechanism that is triggered abruptly with the loss of confidence in the currency stability and in the certainty of personal resources, another mechanism emerges (though less automatic) which is linked to the community reaction when facing a phenomenon that cuts and reduces the value of wages and incomes. As already said, the phenomenon can be partially mitigated through wage or income indexation systems, but the penalization of a large part of the community remains, and therefore the criticism of the economic management system would be mitigated only partially.

In democratic regimes, where the power to designate the leadership of public affairs lies with the citizens, the growing criticism of a phenomenon that increases its intensity with the

acceleration of nominal prices, calls into question the criteria for managing the economy and the actual program to bring the altered system back on the road of a greater compatibility. In these cases, not only is put under critical analysis the government in office but also attempts are made to find an alternative economic management program. A new program then, not only to interrupt the price increases but also to try achieving a greater coherence in the management of available resources. Now, there's no guarantee that this objective would be achieved, due to the growing complexity of society which tends anyway to stability and compatibility. However, it's important for humanity to work in order to reach a greater coherence with the planet where we all live.

According to this last point of view, that is humankind moving towards greater civilization and coherence with our planet, we can also state that the emergence of inflation first and then of deflation has its own coherence when related to the increased pollution in recent years. In the second post-World War, the economy of the majority of industrialized countries marked unparalleled progress and growth. A development of the economy, however, not accompanied by any caution towards the environment that for this reason suffered a serious deterioration with high risks brought by phenomena related to planetary overheating.

Without entering into the issue of growing pollution, which is not part of this discussion, though is mentioned only to demonstrate the coherence of monetary phenomena, it seems easy to consider pollution and monetary phenomena connected and coherent. Now, it's clear that we can compare the phenomenon of growing post-war pollution with the monetary movement that emerged in the sixties and was apparently amplified by the unexpected and heavy increase of the oil price. I would like to say that the oil price only apparently played a role in supporting inflation in the seventies, because the accelerated inflation was actually pushed again by the exchange policies between higher raw material costs and sharply rising public spending.

In other words, if the higher price of the raw material had been entirely passed on consumers, then we would have witnessed a temporary rise in nominal prices under the pressure of higher international costs. After that, prices would return to prior acceleration. The attempt to offload onto consumers only part of the higher oil cost, it's true that reduced the initial push imposed by the increased oil price but unfortunately at the same time accelerated the inflation speed during the seventies.

Basically, an attempt to defend the economy through an increase in public spending can be contradictory related to the expectations of inflation control, which are based precisely on increased interest rates.

Following this line of reasoning, it could be argued that the strong awakening of the global economy after the long production stop due to the COVID-19 pandemic in 2020, can be interpreted as a sort of thanks that the natural system is offering to humanity. In the end, the long pause of the global production system, which represented damage and strong decline for the GDP, was instead a positive parenthesis in the relationship with nature, which benefited from a period of abrupt reduction of global pollution. This short but widespread natural advantage is returned through a development beyond expectations of the most advanced economic systems.

This could mean that the global economic development is increasingly linked to the environmental pollution trend. In the sense that a stable and lasting reduction of the pollution level can be linked to an acceleration of global development and vice-versa, while a worsening of the pollution level would lead instead to declining prospects of humanity's growth.

All this appears consistent with the thesis according to which humanity, in harmony with nature, aims to give strength and impetus to the development in every field of knowledge and science because along this trend line, in the future - hopefully near - we are approaching a growing neutrality of our presence on the planet, also involving positively the environment around us.<sup>2</sup>

## RESULTS

### **The interest rate maneuver in the case of deflation can cause an imbalance**

All the above confirms that nominal prices (inflation and deflation) are simple messages, they are a sort of ectoplasms, images that do not materialize and do not take shape in any factor of the real economy. Once the message has taken shape, it evolves according to a fixed or slightly variable acceleration that is completely independent of the economic affair, although this latter was the source of the message. The economic consequence for the inflation development, depends on the loss of trust pervading the community under the stimulus of this message (inflation). The concern for the economic difficulties create within the community the conditions for a slowdown in the economic cycle, which is soon established for the growing concern.

On the other hand, the slowing down of the cycle is to be considered a cure for the relationship with nature. A cure well shown by the pollution reduction that the pause of economic systems induces in the earth's atmosphere. Not only that. Because the cycle slowdown brings with it a more or less widespread discussion of the community on the issue of climate change and, moreover, brings a greater general attention to the environmental issues.

This first, I would say automatic, effect of curbing development could then be enhanced by the decisions of Central Banks. The Central Banks, in fact, react to the increase in nominal inflation rates, with an adjustment of interest rates, which are generally calibrated on the basis of inflation rate. The decision of the Central Banks is therefore focused on an adjustment of interest rates which, in turn, encourages and gives strength to the economic cycle weakened by the automatic slowdown due to the loss of confidence of operators on the prospects of economic activity.

At this point it seems appropriate to remember that the long story of global inflation in the 1960s and 1970s ended basically due to the drastic decisions adopted in the United States by the president of the Federal Reserve, Volker <sup>3</sup>, supported by the iron will of the president of the

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<sup>2</sup> Solomon prayed: "Therefore I prayed and prudence was given me; I pleaded and the spirit of Wisdom came to me. I preferred her to scepter and throne and deemed riches nothing in comparison with her, nor did I liken any priceless gem to her, because all gold, in view of her, is a bit of sand and before her, silver is to be accounted mire" *Book of Wisdom Sap 7.7-11*

<sup>3</sup> Paul Volcker, a Democrat, was appointed as chairman of the Federal Reserve in August 1979 by President Jimmy Carter and was reconfirmed in 1983 by President Ronald Reagan who will replace him with Alan Greenspan only in the middle of his seco

United States, Ronald Reagan. Therefore, the inflation was tamed and dropped to 5% and then to 3.2 in 1983 and, moreover, years of sustained growth followed. In the 1990s, inflation remained stable at 2% and the economy was paid with real cash, so marking during the Clinton presidency a development pace that was significantly higher than in the previous twenty years. The strategy of a rigid monetary policy not only produced good results for the USA of the 80s and 90s, but it also became an example to be imitated in the 90s in order to fight inflation. In particular, Italy followed the example but adopting a more flexible monetary policy, because worried about the effects on the economic situation. Nevertheless, results were quite different because inflation traveled around 5% throughout the 1990s in the “Bel Paese” (Beautiful Country) and growth halved compared to the 1970s.

However, the key to control inflation had been found, so the message that the natural system made evident through the accelerating development of nominal prices risked being nullified. It isn't certainly a coincidence that the global inflation of the sixties and seventies left the economic scene and, in a singular and perhaps unexpected way, was replaced by deflation. But this phenomenon shouldn't certainly be seen just as the opposite of inflation. Both (inflation and deflation) are equally messages that the natural system sends to communities to express the need to slow down the development pace.

Both are not related to the general economic trend but take shape during the initial phase of the procedure that accelerates or decelerates nominal prices according to the state of the economy; after that, they proceed according to a constant acceleration or deceleration. Then they proceed along their development with some substantial differences, which however do not depend on the character of the natural procedure but on the initiatives undertaken by the community to stem the spread of the nominal price movement.

We should consider at this regard that both ways, increasing or decreasing nominal prices, are messages and therefore there is no possibility to fight directly against them just because of their characteristic of inconsistency. Therefore, the monetary policy tries to stem the inflation emergency by the resort to increased interest rates in order to balance the values altered by running nominal prices. Let us note that with the increased interest rates, the monetary policy moves according to the natural condition, which is already starting the economic cycle inversion to give some rest to the unstable system. In other words, the monetary policy moves according to the slowdown needs of the economic situation which is facing a prospect reduction caused by raising interest rates.

Different is instead the defense adopted by the monetary policy in case of deflation. In this case, in fact, the rate maneuver moves downward in order to follow the decrease of nominal values caused by deflation. This maneuver, if and when necessary, will continue with the aim to reduce to zero or even to make negative the interest rates. It's obvious that also in this case the

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nd term in 1987. He was widely known for fighting the stagflation crisis of the 1970s caused by OPEC's decision to increase oil prices. Despite the difficult economic situation, Volcker implemented a restrictive monetary policy ('Volcker shock'), by increasing the interest rates in order to intervene on the very high inflation (which had been traveling for years at a rate of 10% per annum). After the inevitable initial negative consequences, which led the unemployment beyond 10%, protests were widespread due to the effects of high interest rates on the construction, agriculture and industry sectors; moreover, they also produced disastrous effects on Latin America's debt, which was largely at variable rate. Anyway, the Fed achieved its desired goal: the price stability was reached and the US economy began to grow again after easing the monetary policy in 1982. Inflation, which had reached 13.5% in 1981, after an increase in the prime rate to 21.5%, then dropped to 3.2% in 1983.

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monetary policy would follow the fate of nominal prices, with little influence anyway on the economy development, which is struggling with deflation.

In this difficult context, an anomaly can occur due to the very low cost of money which drops to zero and even below. That is, despite the substantial weakness of the economy that essentially fears deflation, investors are induced to increase their debt exposure due to the low or zero cost of money and the consequent possibility of doing business in the equity sector and in the stock exchanges. Thus occurs the strange phenomenon of a weak economy which is facing a lively and rapidly growing stock market sector. We don't have to go too far to find evidence of the market behavior duplicity in the case of low or very low cost of money.

The serious financial crisis of 2008-2009 is an episode recent enough to describe the situation of duplicity mentioned above, in which the economy is dragged by the overwhelming growth of real estate values that have come to a point of no relation to the real value of the assets but are growing under the impulse of cheap credit availability and easy earning possibility. The bubble that has inflated is destined to deflate because sooner or later the coherence of equity and stock market values with the real economy must be restored. This restore, however, will involve a high price to be paid by the whole economy, which has to bear the high cost to rebalance the asset values.

The responsibility for the serious financial crisis of the years 2008-2009 has often been attributed by the press and by experts as well, to the FED management, at the time led by Alan Greenspan and remained in office for over a decade.<sup>4</sup> According to these critical voices, Greenspan would have been responsible for keeping interest rates too low.

Although we can only agree with this statement, it should be added that under accusation for the unleashing of the 2000 financial crisis is also the methodology used by Central Banks to counter the crisis through the cost of money rebalancing according to nominal price decline. This rebalancing, launched to keep the economy steady despite the falling prices, is actually what should be blamed. In fact, this kind of intervention trying to follow the falling price trend, moves in contrast with the natural trend that would require instead a slowdown of the economy in order to improve the system instability and the poor compatibility with the environment.

In other words, the use of the same methodology of the rate maneuver in the case of both inflation and deflation would lead to some contradictions with the natural order. First of all, we have to admit without reservation that in the event that the economic system sends messages through the nominal prices, in any case the economy is expecting a slowdown in the economic situation to mitigate the disparities between economic growth and compatibility with the nature around us.

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<sup>4</sup> Alan Greenspan served as Chairman of the **Federal Reserve**, the central bank of the United States of America, from 1987 to 2006. Appointed to the top of the Federal Reserve by President Ronald Reagan in August 1987, he was reappointed until the day of his retirement on January 31, 2006. Greenspan, thanks to the drop in rates, led to a strong expansion of the financial markets, amplified by deregulation, up to the speculative stock bubble at the end of the millennium and the crisis of 2007-2008.

This can be deduced without a doubt from the trust decline involving the community in the same way for deflation and inflation. Well, in the case of inflation the response of the monetary authorities pushes to a rebalancing of the increasing interest rates, then essentially accentuating in this way the slowdown of the current cycle. Instead, in the case of deflation the rebalancing of rates according to the decrease of nominal prices basically sounds like an attempt to support the economy. Even if this attempt to revive the economic cycle is often unsuccessful, nevertheless the drop in the cost of money which is reduced to zero or even negative becomes a sort of siren call for the speculative operators, just like the siren song for Ulysses.

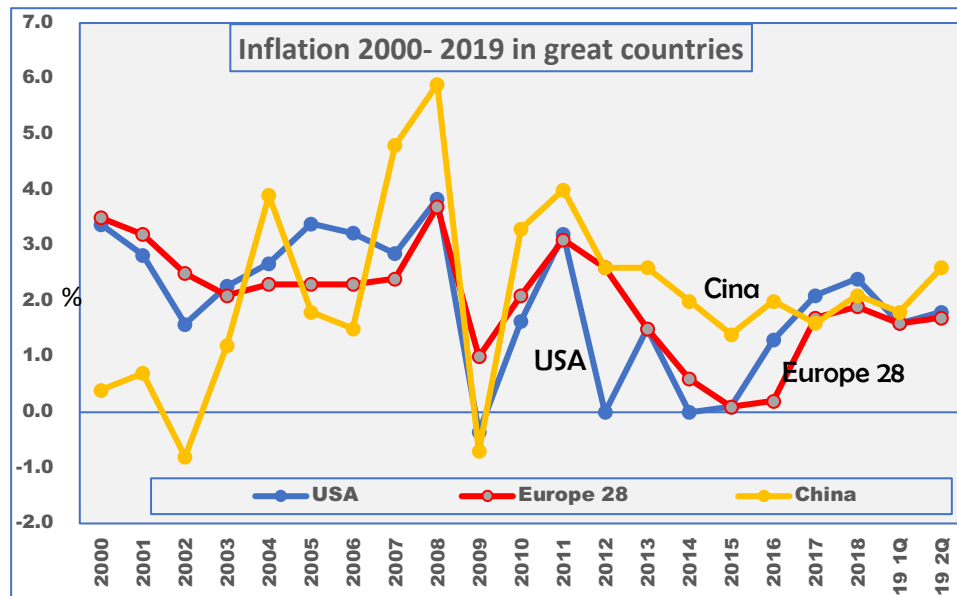


Figure n. 1 – Inflation in Great Countries 2000-2019

**The constant value near 2% is the base from which the nominal price acceleration or deceleration are starting**

Under this improper impulse, the speculation focuses on easy and cheap credit to increase the prices of assets and stock market, without there being any connection with the state of the real economy which remains weak or even worse. We experienced a characteristic example during the pandemic development in 2020. As can be clearly seen from the graph below (**Figure n. 2**), the block of economic activity in Spring 2020 brought deep and terrible damage to the economies of the main industrial Nations, which reported a sharp decline of gross product at the end of the year. Yet, in the same period of maximum negative impact of the virus on the global economy, the main US Stock Exchange reached an absolute maximum.

It's interesting to consider the evolution of the situation at the resumption of economic activity in the second half of 2020 and especially in 2021, when the spread of COVID-19 vaccines in developed countries allowed a strong recovery in industrial and commercial activities. We can now observe that the strong recovery of the economy took place in parallel with the stasis, that is with the decline towards more reasonable levels of the stock exchanges. In particular, we can observe that the two phenomena, economy and stock exchanges, are running almost indifferently from each other. Although the focus of investors is attenuated or nearly so, the strength of the economic cycle pushes up the international prices of raw materials and

intermediate products (not the inflation, anyway) as unexpected result of the increased international demand. This tension, however, is destined to run out with the temporary excess of demand.

We can therefore identify an anomalous cycle of stock exchanges and asset values, caused by an excess of cheap credit. With the recovery beyond expectations of the global economy, this anomalous cycle has stalled, also due to the need for new credit, this time coming from the real economy sector, which essentially stemmed the improper pressure exerted on the financial markets.

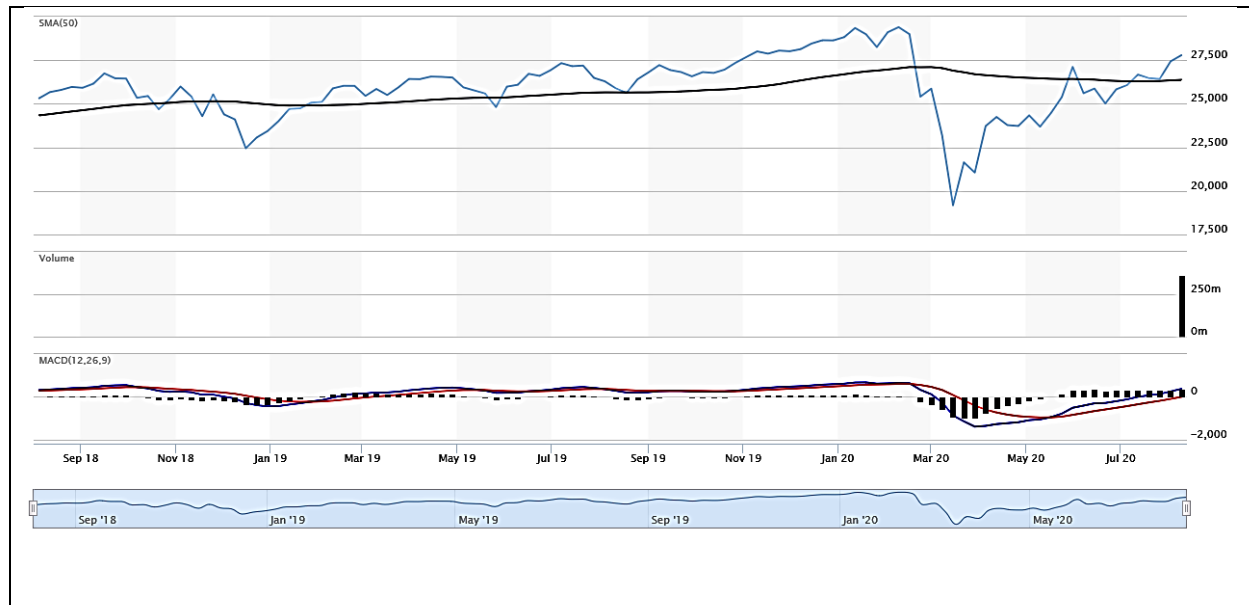


**Figure n. 2 - Dow Jones trend in the biennium 2018-2020**  
Source: chart from MarketWatch

It should be noted that the formation and subsequent development of the anomalous cycle of the stock exchanges is not linked to the economy, which remains weak under the pressure of deflation. Therefore, the excessive growth of assets has no effect on the economic cycle. This is a highly speculative cycle aiming for easy earnings through the pathological increase of values: a pathology that can grow until it becomes an unmanageable bubble that sooner or later is bound to burst.

This hypothesis of speculative anomalous development and the subsequent bubble burst, occurred in the second half of the 2000s and started the 2008-2009 financial crisis (the so-called subprime crisis), which then spread globally.<sup>5</sup> It can be added that the hypothesis of a

<sup>5</sup> The United States subprime mortgage crisis was a multinational financial crisis occurred between 2007 and 2010, that contributed to the 2007–2008 global financial crisis. It was triggered by a large decline in the US house prices after the collapse of a housing bubble, leading to mortgage delinquencies, foreclosures, and the devaluation of housing-related securities. Declines in residential investment preceded the Great Recession and were followed by reductions in household spending and then also in business investment. Spending reductions were more significant in areas with a combination of high household debt and larger housing price declines.

The housing bubble preceding the crisis was financed with mortgage-backed securities and collateralized debt obligations (CDOs), which initially offered higher interest rates (i.e. better returns) than government securities, along with attractive

new speculative event, like those we experienced in the first decade of the 2000s, is anything but unlikely. In fact, the conditions leading in the recent past to the bubble and then to its burst may arise again. The condition making possible this new adverse event, depends on the discontinuity between the speculative evolution of the financial market anomalous cycle and the downward trend of the real economy which is instead affected by the ongoing deflation. The real economy, therefore, remains weak even if the speculative rise of assets and capital goods continues, because the deflationary situation does not change and therefore doesn't change the possibility of using cheap or zero-cost credit that feeds the parasitic cycle. Hence, if this condition of imbalance continues, the conditions that originated the speculative crises of the first decade can be recreated again.

The problem is the relative independence of the two markets, the financial and the real economy. In addition, the wealth effect generated by the growing value of the financial markets is not reflected on the community. Most of which, on the other hand, is affected by the weak trend of economy and employment, while is increasing the wealth of the privileged classes that profit from differentials produced in the value of speculative goods. We should also add that, at the financial crisis outbreak, the rapid turnaround of the stock exchanges creates serious liquidity problems which are reflected on banks and credit. Thus, the final damage will once again fall on the real economy, with the employment cut and the deterioration of prospects.

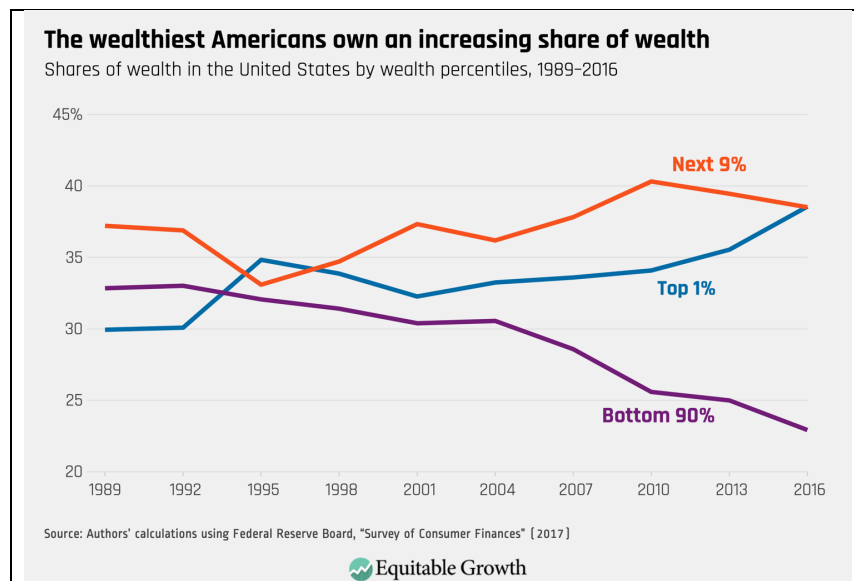


**Figure n. 3 - Wealthiest Americans increasing share of wealth 1989 – 2016**

At this point it seems very appropriate to point out that the financial crises like those of the 2000s, but also the speculative increases in stock exchanges and assets followed by a more or less rapidly declining prices, contribute to creating the conditions to widen the gap in the wealth and income availability. It's then reasonable to admit that within an economic environment relatively balanced, the income and wealth distribution in the community tends to a greater equity due to the increase in job opportunities and the offer of good wages. On the

risk ratings provided by the rating agencies. While elements of the crisis first became more visible during 2007, several major financial institutions collapsed in September 2008, with significant disruption in the credit flow to businesses and consumers and the onset of a severe global recession.

other hand, in a context of healthy economy, the value of assets and stock market prices remain anchored to the market values and especially to the actual utility they produce.

An economic system almost balanced does not generate and does not accentuate the wealth unequal gap damaging most of the community. Quite the opposite, an economy that develops in relative compatibility with the environment tends to favor the development of knowledge and sciences that have the advantage of making the economy converge towards a balanced growth, compatible with the environment.

Therefore, the unfortunately widespread phenomenon of the growing and disproportionate wealth gap within a community is a serious alteration of the correct relationships in the income production and also in the wealth accumulation. This phenomenon negatively affects the real economy and causes alterations in the social and political relations.

As already said, the formation of speculative bubbles is to be included among the prevalent causes of the negative phenomenon of wealth and income concentration in a few hands. Now, since the formation of speculative bubbles is linked to the low-cost credit availability, it's clear that "all evil comes from the top".

The hypothesis to be analyzed is if it's useful for the real economy to adapt interest rates to the prices decreasing due to deflation. This hypothesis - which then acts as a driver during the formation of speculative bubbles - is wrong. And not only because the assumption is not realized, with the real economy remaining weak during the rise of speculative bubbles. Weakness that is coming from the attraction of investors to the speculative market, to seize the opportunity of available and low-cost credit. Moreover, the distorted effervescence of the financial market should not be mistaken for an aspect of the real economy, because instead it's an antagonist. That is, the distorted effervescence of the markets becomes a competitor that takes resources away from the real economy that remains weak.

Therefore, the speculation not only takes resources away from the real economy so slowing down its *momentum*, but it also diverts the income and wealth distribution with increasing political and social damage.

As we have said, all evil comes from the top, that is the response of monetary policy to the slow decline in nominal prices appears to be in contrast with the natural trend of the economy. In a deflationary environment, the natural trend is in any case a slowdown or a reversal of the economic cycle. That is, with both deflation and inflation, the message that the community receives is the declining confidence in the economy management. Confidence decline in the prospects that leads to a slowdown in the economy. Now, in the case of inflation the decision of monetary authorities to move interest rates upwards, in symmetry with the movement of nominal prices, essentially follows the line of a trend reversal of the economic cycle. In the case of deflation, instead, the choice is to favor the reduction of rates in symmetry with the movement of nominal prices: in this case, then, the decision of monetary authorities moves against the natural trend that favors the inversion of the economic situation. The attempt is to support the economy on the assumption that by doing so it would be possible to contrast the downward motion of nominal prices. Hypothesis, however, not confirmed by the facts.

We certainly don't want to say that in the case of deflation, the maneuver of downward rates in sync with the trend in nominal prices is to be avoided. On the contrary, we want just to state that on the declining course of interest rates should be indicated a fixed point beyond which it is no longer advisable to continue, but it's necessary to stop. And how to establish this stop point of interest rates in the deflation case, even when the decline in nominal prices is going on? Well, it should be immediately stated that the point where the speculative maneuver starts and tends to progress, can be generically indicated as the time when interest rates are very low, at zero or even at a negative level.

In this regard, it should be remembered that the constant and universal number that signals the ideal compatibility state between nature and humanity is close to 2%. This indicates the background noise caused by the continuous movement of the economy in a condition of stable and lasting balance, hence when the movement of prices is absent.

Humankind moves towards this ideal condition along the ideal line traced by the development of knowledge and science.

This constant number close to 2% is to be considered in any case the basis from which will start the acceleration or deceleration of nominal prices in the event of inflation or deflation. This space, which is immutable in the case of stability and compatibility, undergoes an accelerated expansion in the case of inflation and a slow contraction in the case of deflation. Nevertheless, this doesn't mean that this constant space disappears or loses its characteristics.

Therefore, when nominal prices fall between 0 and 2%, they enter into an indeterminate space measured only by the background noise of the economic system. In this segment, by the way, the symmetry between deflation development and interest rate maneuver cannot be valid for nominal prices. Therefore, the interest rates shouldn't fall below 2%, if we want to avoid that the rates below that threshold become essentially equal to zero. In this case, however, would start the prospect of a speculative process with its accompanying social tensions.

In other words, in the case of nominal prices between 0 and 2% it should be assumed that the economy is in deflation and that it's appropriate to bring the real value of nominal prices to zero, since the interval between 0 and 2% is not computable for the purposes of nominal prices and then remains undetermined.

Therefore, the constant number close to 2% is also to be considered a limit for the possibly decreasing interest rates, if we want to avoid the inevitable start of speculative actions, attracted by the available and low-cost (or even zero) credit.

## CONCLUSION

Deflation and inflation are just messages. Messages directed to the community that responds to these warnings with a declining trust in its own resources and in the prospects of the economy. In this way, a setback of the conjuncture cycle would begin, which is the primary purpose of these communications. In longer and indefinite times, the instability - which creates accelerations or decelerations of nominal prices - sets in motion inside the communities a critical feeling towards the management of the economy and then is starting the search for an alternative program to the current one, guilty of initiating the movement of nominal prices.

In any case, the explicit objective of these communications is to impose a pause on the economic growth to reduce the incompatibility load between the environment evolution (slow) and the not coherent development of humankind.

As already mentioned, there is no difference in the reasons of messages, which are always to slow down the unstable growth. The problem of the differences between the two nominal price manifestations arises from the way these messages are received. In fact, the response action by the monetary policy in the case of inflation is quite clear. It essentially moves in the direction indicated by the natural message, with the progressive increase in interest rates in relation to the speed of nominal prices.

In case of deflation, instead, the intervention of monetary policy follows the declining nominal prices in symmetry. With poor results, anyway, on the economic strength, which remains low, and with the possibility of an anomalous excitement of the value of stock exchanges and assets when the cost of money falls below 2%: this very low value is suggesting the possibility of credit at a cost near to zero.

It's now clear that the declining interest rates beyond the minimum of 2% is contradictory with the implicit request of the economic system which instead aims to an economic setback to allow a pause in the relationship between humanity and the natural environment.

It must be said at this point that monetary policy, after the experience that involved all countries struggling against inflation during the 1980s and 1990s and especially after the turning point imposed by the Volker's Fed at the beginning of 1980, has defined a standard procedure to stop the inflation, although with economic damage for the inflated economic systems. It should be added that the natural system, with its periodic crises announced by nominal prices, plays the role of direction in order to prevent a pollution damage too high. So, it's essentially helping to maintain the evolution of economic systems in conditions of relative balance and compatibility with the environment around us. In any case, we can argue without any doubt that there is a mutual interest of humanity and nature to widespread the economic well-being together with the diffusion of knowledge and sciences. For the obvious reason that the scientific research and knowledge in general move on the line of a greater compatibility of the human presence on the planet.

Well, a question arises at this point. Wouldn't it be convenient to apply, with the necessary adjustments, the procedure adopted for inflation to the case, now of general diffusion, of deflation? In other words, it could be convenient to take a decision according to natural indications and therefore setting an economic slowdown even for the economic systems in deflation. Also considering, of course, the experience that made it possible to remove the inflation recurrence and prolongation.

In practice, it would be a question of leaving out the symmetry logic between nominal prices falling below 2% and interest rates, then following instead the opposite logic of a slow and measured decline in interest rates: in this way the economic system would be allowed to retreat accordingly and in relation to deflation, according to the logic that inspired monetary policy on the right way to finally beat the inflation.

As in the case of inflation, there will be a cost relating to a setback of the economic situation but really much less painful and expensive than what affects the economy due to the speculative overvaluation of stock exchanges and real estate values. Values that sooner or later must return to the real market prices, with serious consequences on the condition of the economy that is bearing all the burden of credit crisis, too abused and outside the logic of market balance.

On the other hand, the damage is not limited to the repercussions on the economic condition but also and above all invades the social and political areas, because - as has been noted - they create a distortion in the income distribution that increases in favor of the privileged social areas.

The most serious fact - I would say - is that the speculative tensions periodically developed, create the conditions for this unstoppable concentration of wealth and income, thus marking over time a continuous retreat of real resources available for wages and working incomes. Well, this motion apparently for now unstoppable is not touched or demolished even during the more or less violent crises, which usually tend to bring the values of assets and stock exchanges closer to reality. As stated in the table of **Figure n. 4** on the distribution of wealth, the phenomenon of concentration does not stop even during the serious financial crises of the 2000s. Obviously, the excess debt created during the formation of speculative bubbles then falls on the economy, which is severely marked by these periodic and necessary returns to reality. In short, the damage to the economy is enormous.

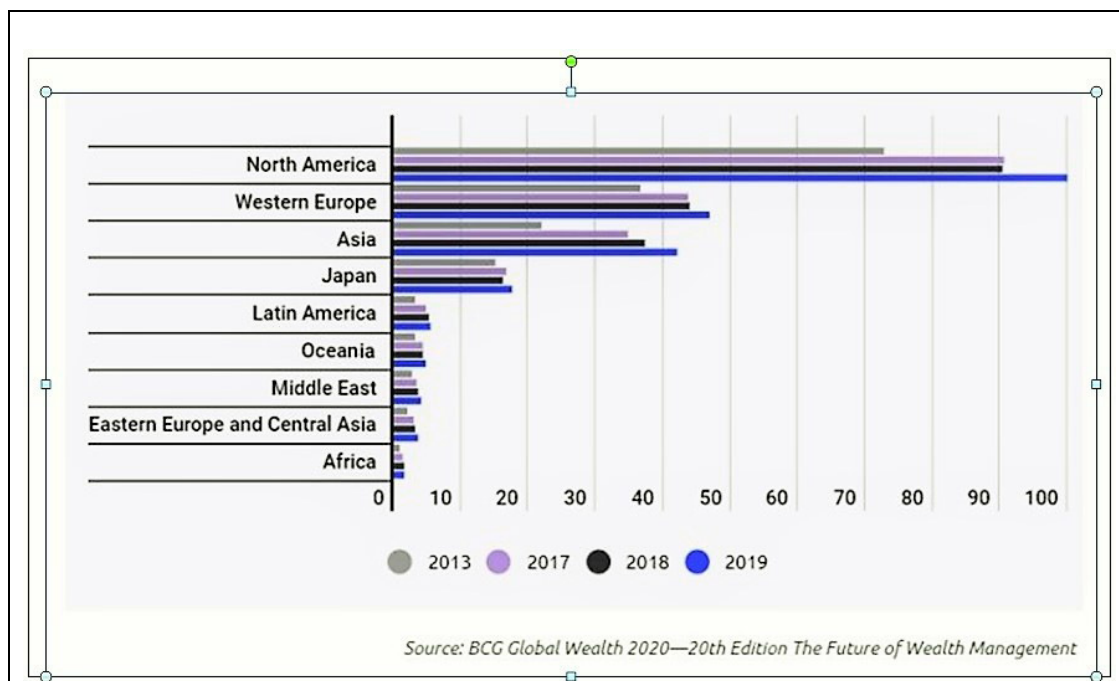


**Figure n. 4 – Worldwide value of private wealth 2013-2020**

Therefore, adverse circumstances arise during which we can talk about inconsistency between real economy and patrimonial values: these values are driven by the speculation towards an undifferentiated rise, while the economic systems struggling with the formation of bubbles are generally weak. Then, when the speculative wave is reversed, the weight of the credit not honored falls almost entirely to the detriment of economic activities and then to the detriment

of money reserve needed for wages, which is therefore reduced. On the other hand, the social and political damage of the unstoppable trend of wealth and income concentration in a few hands doesn't seem to be remediable if we don't find a way to end the formation of speculative bubbles which are the most responsible for that unequal concentration.

Therefore, we should leave the idea that when the Stock Market flies high, the real economy flies high as well. Simply because this is not true. For the obvious reason that since the 2000s there have been recurring waves interesting assets and stock exchanges which in most cases were started for speculative motivations, in an economic climate generally characterized by deflation. All of this, with the mentioned negative and antisocial effects.

To avoid these serious inconveniences, it's necessary to follow the guidelines of nature which requires some pauses to contain and eventually to process whenever possible the recurrent incompatibilities that humanity creates; of course, the required sacrifice will be returned by putting the economy on hold to favor a new season of more balanced and compatible growth. Certainly, this kind of action is requiring courageous decisions aimed at the common good. But the community in its majority is to be considered a sensitive terminal regarding the natural choices in terms of compatibility and therefore we should expect this majority to take the side of natural choices, without prejudice but with determination.

We must never forget that humanity and nature move in unison, seeking ever greater well-being for the whole humankind, and this development is required for the knowledge increase and the scientific diffusion. Precisely because it is on this ideal development line, that is the greater knowledge and understanding of creation, that humankind will be able to finally find the complex and somewhat daring path of compatibility with the natural environment all around us.

## References

Bernanke, B. S. -*Essays on the Great Depression*. Princeton University Press – Princeton, New Jersey, 2000

Cardoso, E. - *Inflation and Poverty*. in NBER Working Paper # 4006, year 1992

Cossiga, G. A. - *Stability and Instability of an Economic System: Considerations*. Review of European Studies -vol. 9, no. 3, 2017 - doi:10.5539/res.v9n3p8

Cossiga, G. A. - *The Search for Inflation on a Constant Basis at 2%*. International Journal of Science, Social Sciences. vol. X, no. X, 2018 - doi:10.11648/j.ss.20180704.13

Cossiga, G. A. - *The Economy and Sustainability: Some Consequences on the Economic Theory* – Theoretical Economics Letters vol.9 no.8, December 2019 - DOI: 10.4236/tel.2019.98187

Cossiga, G. A. -*According to the sustainability theory, the natural rebalance of resources and wealth may continue in global scenario*. Advances in Social Sciences Research Journal, 7(7), 927-957 (2020).  
<https://doi.org/10.14738/assrj.77.8761>

Geithner, T. F. - *STRESS TEST – Reflections on Financial Crises* - RH Business Books, 2014

Krugman, P. R. -*The return of depression economics and the crisis 2008*. W.W. Norton & Company, Inc. New York, 2009

Inquiry Report - THE FINANCIAL CRISIS – Final report of the National Commission on the causes of the financial and economic crisis in the United States – Official Edition 2011

Roubini, N.; Mihm, Stephen-*Crisis Economics: A crash in the Future of Finance* – Penguin Books, 2011

Raines, J. P.; Leathers, C. G. -*Debt, Innovation and Deflation: The Theories of Veblen, Fisher, Schumpeter and Minsky*. Edward Elgar, Massachusetts, 2008

Reinhart, C.; Rogoff, K. S. -*The Time Is Different – Eight Centuries of Financial Folly*. Princeton University Press - Princeton and Oxford, 2009

Shilling, A. G. -*Deflation. How survive and thrive in coming wave of deflation*. 2001

OECD-OECD Stat Database, various years

IMF-*International Financial Statistics* - Database, various years

IMF-*World Economic Outlook Update*, July 2018