George Soros remarks at Trento 2 June 2012

Ever since the Crash of 2008 there has been a widespread recognition, both among economists and the general public, that economic theory has failed. But there is no consensus on the causes and the extent of that failure.

I believe that the failure is more profound than generally recognized. It goes back to the foundations of economic theory. Economics tried to model itself on Newtonian physics. It sought to establish universally and timelessly valid laws governing reality. But economics is a social science and there is a fundamental difference between the natural and social sciences. Social phenomena have thinking participants who base their decisions on imperfect knowledge. That is what economic theory has tried to ignore.

Scientific method needs an independent criterion, by which the truth or validity of its theories can be judged. Natural phenomena constitute such a criterion; social phenomena do not. That is because natural phenomena consist of facts that unfold independently of any statements that relate to them. The facts then serve as objective evidence by which the validity of scientific theories can be judged. That has enabled natural science to produce amazing results.

Social events, by contrast, have thinking participants who have a will of their own. They are not detached observers but engaged decision makers whose decisions greatly influence the course of events. Therefore the events do not constitute an independent criterion by which participants can decide whether their views are valid. In the absence of an independent criterion people have to base their decisions not on knowledge but on an inherently biased and to greater or lesser extent distorted interpretation of reality. Their lack of perfect knowledge or fallibility introduces an element of indeterminacy into the course of events that is absent when the events relate to the behavior of inanimate objects. The resulting uncertainty hinders the social sciences in producing laws similar to Newton's physics.

Economics, which became the most influential of the social sciences, sought to remove this handicap by taking an axiomatic approach similar to Euclid's geometry. But Euclid's axioms closely resembled reality while the theory of rational expectations and the efficient market hypothesis became far removed from it. Up to a point the axiomatic approach worked. For instance, the theory of perfect competition postulated perfect knowledge. But the postulate worked only as long as it was applied to the exchange of physical goods. When it came to production, as distinct from exchange, or to the use of money and credit, the postulate became untenable because the participants' decisions involved the future and the future cannot be known until it has actually occurred.

I am not well qualified to criticize the theory of rational expectations and the efficient market hypothesis because as a market participant I considered them so unrealistic that I never bothered to study them. That is an indictment in itself but I shall leave a detailed critique of these theories to others.

Instead, I should like to put before you a radically different approach to financial markets. It was inspired by Karl Popper who taught me that people's interpretation of reality never quite corresponds to reality itself. This led me to study the relationship between the two. I found a two-way connection between the participants' thinking and the situations in which they participate. On the one hand people seek to understand the situation; that is the cognitive function. On the other, they seek to make an impact on the situation; I call that the causative or manipulative function. The two functions connect the thinking agents and the situations in which they participate in opposite directions. In the cognitive function the situation is supposed to determine the participants' views; in the causative function the participants' views are supposed to determine the outcome. When both functions are at work at the same time they interfere with each other. The two functions form a circular relationship or feedback loop. I call that feedback loop reflexivity. In a reflexive situation the participants' views cannot correspond to reality because reality is not something independently given; it is contingent on the participants' views and decisions. The decisions, in turn, cannot be based on knowledge alone; they must contain some bias or guess work about the future because the future is contingent on the participants' decisions.

Fallibility and reflexivity are tied together like Siamese twins. Without fallibility there would be no reflexivity – although the opposite is not the case: people's understanding would be imperfect even in the absence of reflexivity. Of the two twins, fallibility is the first born. Together, they ensure both a divergence between the participants' view of reality and the actual state of affairs and a divergence between the participants' expectations and the actual outcome.

Obviously, I did not discover reflexivity. Others had recognized it before me, often under a different name. Robert Merton wrote about self fulfilling prophecies and the bandwagon effect, Keynes compared financial markets to a beauty contest where the participants had to guess who would be the most popular choice. But starting from fallibility and reflexivity I focused on a problem area, namely the role of misconceptions and misunderstandings in shaping the course of events that mainstream economics tried to ignore. This has made my interpretation of reality more realistic than the prevailing paradigm.

Among other things, I developed a model of a boom-bust process or bubble which is endogenous to financial markets, not the result of external shocks. According to my theory, financial bubbles are not a purely psychological phenomenon. They have two components: a trend that prevails in reality and a misinterpretation of that trend. A bubble can develop when the feedback is initially positive in the sense that both the trend and its biased interpretation are mutually reinforced. Eventually the gap between the trend and its biased interpretation grows so wide that it becomes unsustainable. After a twilight period both the bias and the trend are reversed and reinforce each other in the opposite direction. Bubbles are usually asymmetric in shape: booms develop slowly but the bust tends to be sudden and devastating. That is due to the use of leverage: price declines precipitate the forced liquidation of leveraged positions.

Well formed financial bubbles always follow this pattern but the magnitude and duration of each phase is unpredictable. Moreover the process can be aborted at any stage so that well formed financial bubbles occur rather infrequently.
At any moment of time there are myriads of feedback loops at work, some of which are positive, others negative. They interact with each other, producing the irregular price patterns that prevail most of the time; but on the rare occasions that bubbles develop to their full potential they tend to overshadow all other influences.

According to my theory financial markets may just as soon produce bubbles as tend toward equilibrium. Since bubbles disrupt financial markets, history has been punctuated by financial crises. Each crisis provoked a regulatory response. That is how central banking and financial regulations have evolved, in step with the markets themselves. Bubbles occur only intermittently but the interplay between markets and regulators is ongoing. Since both market participants and regulators act on the basis of imperfect knowledge the interplay between them is reflexive. Moreover reflexivity and fallibility are not confined to the financial markets; they also characterize other spheres of social life, particularly politics. Indeed, in light of the ongoing interaction between markets and regulators it is quite misleading to study financial markets in isolation. Behind the invisible hand of the market lies the visible hand of politics. Instead of pursuing timeless laws and models we ought to study events in their time bound context.

My interpretation of financial markets differs from the prevailing paradigm in many ways. I emphasize the role of misunderstandings and misconceptions in shaping the course of history. And I treat bubbles as largely unpredictable. The direction and its eventual reversal are predictable; the magnitude and duration of the various phases is not. I contend that taking fallibility as the starting point makes my conceptual framework more realistic. But at a price: the idea that laws or models of universal validity can predict the future must be abandoned.

Until recently, my interpretation of financial markets was either ignored or dismissed by academic economists. All this has changed since the crash of 2008. Reflexivity became recognized but, with the exception of Imperfect Knowledge Economics, the foundations of economic theory have not been subjected to the profound rethinking that I consider necessary. Reflexivity has been accommodated by speaking of multiple equilibria instead of a single one. But that is not enough. The fallibility of market participants, regulators, and economists must also be recognized. A truly dynamic situation cannot be understood by studying multiple equilibria. We need to study the process of change.

The euro crisis is particularly instructive in this regard. It demonstrates the role of misconceptions and a lack of understanding in shaping the course of history. The authorities didn't understand the nature of the euro crisis; they thought it is a fiscal problem while it is more of a banking problem and a problem of competitiveness. And they applied the wrong remedy: you cannot reduce the debt burden by shrinking the economy, only by growing your way out of it. The crisis is still growing because of a failure to understand the dynamics of social change; policy measures that could have worked at one point in time were no longer sufficient by the time they were applied.

Since the euro crisis is currently exerting an overwhelming influence on the global economy I shall devote the rest of my talk to it. I must start with a warning: the discussion will take us beyond the confines of economic theory into politics and the dynamics of social change. But my conceptual framework based on the twin pillars of fallibility and reflexivity still applies. Reflexivity doesn't always manifest itself in the form of bubbles. The reflexive interplay between imperfect markets and imperfect authorities goes on all the time while bubbles occur only infrequently. This is a rare occasion when the interaction exerts such a large influence that it casts its shadow on the global economy. How could this happen? My answer is that there is a bubble involved, after all, but it is not a financial but a political one. It relates to the political evolution of the European Union and it has led me to the conclusion that the euro crisis threatens to destroy the European Union. Let me explain.

I contend that the European Union itself is like a bubble. In the boom phase the EU was what the psychoanalyst David Tuckett calls a "fantastic object" – unreal but immensely attractive. The EU was the embodiment of an open society –an association of nations founded on the principles of democracy, human rights, and rule of law in which no nation or nationality would have a dominant position.

The process of integration was spearheaded by a small group of far sighted statesmen who practiced what Karl Popper called piecemeal social engineering. They recognized that perfection is unattainable; so they set limited objectives and firm timelines and then mobilized the political will for a small step forward, knowing full well that when they achieved it, its inadequacy would become apparent and require a further step. The process fed on its own success, very much like a financial bubble. That is how the Coal and Steel Community was gradually transformed into the European Union, step by step.

Germany used to be in the forefront of the effort. When the Soviet empire started to disintegrate, Germany's leaders realized that reunification was possible only in the context of a more united Europe and they were willing to make considerable sacrifices to achieve it. When it came to bargaining they were willing to contribute a little more and take a little less than the others, thereby facilitating agreement. At that time, German statesmen used to assert that Germany has no independent foreign policy, only a European one.

The process culminated with the Maastricht Treaty and the introduction of the euro. It was followed by a period of stagnation which, after the crash of 2008, turned into a process of disintegration. The first step was taken by Germany when, after the bankruptcy of Lehman Brothers, Angela Merkel declared that the virtual guarantee extended to other financial institutions should come from each country acting separately, not by Europe acting jointly. It took financial markets more than a year to realize the implication of that declaration, showing that they are not perfect.

The Maastricht Treaty was fundamentally flawed, demonstrating the fallibility of the authorities. Its main weakness was well known to its architects: it established a monetary union without a political union. The architects believed however, that when the need arose the political will could be generated to take the necessary steps towards a political union.

But the euro also had some other defects of which the architects were unaware and which are not fully understood even today. In retrospect it is now clear that the main source of trouble is that the member states of the euro have surrendered to the European Central Bank their rights to create fiat money. They did not realize what that entails – and neither did the European authorities. When the euro was introduced the regulators allowed banks to buy unlimited amounts of government bonds without setting aside any equity capital; and the central bank accepted all government bonds at its discount window on equal terms. Commercial banks found it advantageous to accumulate the bonds of the weaker euro members in order to earn a few extra basis points. That is what caused interest rates to converge which in turn caused competitiveness to diverge. Germany, struggling with the burdens of reunification, undertook structural reforms and became more competitive. Other countries enjoyed housing and consumption booms on the back of cheap credit, making them less competitive. Then came the crash of 2008 which created conditions that were far removed from those prescribed by the Maastricht Treaty. Many governments had to shift bank liabilities on to their own balance sheets and engage in massive deficit spending. These countries found themselves in the position of a third world country that had become heavily indebted in a currency that it did not control. Due to the divergence in economic performance Europe became divided between creditor and debtor countries. This is having far reaching political implications to which I will revert.

It took some time for the financial markets to discover that government bonds which had been considered riskless are subject to speculative attack and may actually default; but when they did, risk premiums rose dramatically. This rendered commercial banks whose balance sheets were loaded with those bonds potentially insolvent. And that constituted the two main components of the problem confronting us today: a sovereign debt crisis and a banking crisis which are closely interlinked.

The eurozone is now repeating what had often happened in the global financial system. There is a close parallel between the euro crisis and the international banking crisis that erupted in 1982. Then the international financial authorities did whatever was necessary to protect the banking system: they inflicted hardship on the periphery in order to protect the center. Now Germany and the other creditor countries are unknowingly playing the same role. The details differ but the idea is the same: the creditors are in effect shifting the burden of adjustment on to the debtor countries and avoiding their own responsibility for the imbalances. Interestingly, the terms "center" and "periphery" have crept into usage almost unnoticed. Just as in the 1980's all the blame and burden is falling on the "periphery" and the responsibility of the "center" has never been properly acknowledged. Yet in the euro crisis the responsibility of the center is even greater than it was in 1982. The "center" is responsible for designing a flawed system, enacting flawed treaties, pursuing flawed policies and always doing too little too late. In the 1980's Latin America suffered a lost decade; a similar fate now awaits Europe. That is the responsibility that Germany and the other creditor countries need to acknowledge. But there is now sign of this happening.

The European authorities had little understanding of what was happening. They were prepared to deal with fiscal problems but only Greece qualified as a fiscal crisis; the rest of Europe suffered from a banking crisis and a divergence in competitiveness which gave rise to a balance of payments crisis. The authorities did not even understand the nature of the problem, let alone see a solution. So they tried to buy time.

Usually that works. Financial panics subside and the authorities realize a profit on their intervention. But not this time because the financial problems were reinforced by a process of political disintegration. While the European Union was being created, the leadership was in the forefront of further integration; but after the outbreak of the financial crisis the authorities became wedded to preserving the status quo. This has forced all those who consider the status quo unsustainable or intolerable into an anti-European posture. That is the political dynamic that makes the disintegration of the European Union just as self-reinforcing as its creation has been. That is the political bubble I was talking about.

At the onset of the crisis a breakup of the euro was inconceivable: the assets and liabilities denominated in a common currency were so intermingled that a breakup would have led to an uncontrollable meltdown. But as the crisis progressed the financial system has been progressively reordered along national lines. This trend has gathered momentum in recent months. The Long Term Refinancing Operation (LTRO) undertaken by the European Central Bank enabled Spanish and Italian banks to engage in a very profitable and low risk arbitrage by buying the bonds of their own countries. And other investors have been actively divesting themselves of the sovereign debt of the periphery countries.

If this continued for a few more years a break-up of the euro would become possible without a meltdown – the omelet could be unscrambled – but it would leave the central banks of the creditor countries with large claims against the central banks of the debtor countries which would be difficult to collect. This is due to an arcane problem in the euro clearing system called Target2. In contrast to the clearing system of the Federal Reserve, which is settled annually, Target2 accumulates the imbalances. This did not create a problem as long as the interbank system was functioning because the banks settled the imbalances themselves through the interbank market. But the interbank market has not functioned properly since 2007 and the banks relied increasingly on the Target system. And since the summer of 2011 there has been increasing capital flight from the weaker countries. So the imbalances grew exponentially. By the end of March this year the Bundesbank had claims of some 660 billion euros against the central banks of the periphery countries.

The Bundesbank has become aware of the potential danger. It is now engaged in a campaign against the indefinite expansion of the money supply and it has started taking measures to limit the losses it would sustain in case of a breakup. This is creating a self-fulfilling prophecy. Once the Bundesbank starts guarding against a breakup everybody will have to do the same.

This is already happening. Financial institutions are increasingly reordering their European exposure along national lines just in case the region splits apart. Banks give preference to shedding assets outside their national borders and risk managers try to match assets and liabilities within national borders rather than within the eurozone as a whole. The indirect effect of this asset-liability matching is to reinforce the deleveraging process and to reduce the availability of credit, particularly to the small and medium enterprises which are the main source of employment.

So the crisis is getting ever deeper. Tensions in financial markets have risen to new highs as shown by the historic low yield on Bunds. Even more telling is the fact that the yield on British 10 year bonds has never been lower in its 300 year history while the risk premium on Spanish bonds is at a new high.

The real economy of the eurozone is declining while Germany is still booming. This means that the divergence is getting wider. The political and social dynamics are also working toward disintegration. Public opinion as expressed in recent election results is increasingly opposed to austerity and this trend is likely to grow until the policy is reversed. So something has to give.

In my judgment the authorities have a three months' window during which they could still correct their mistakes and reverse the current trends. By the authorities I mean mainly the German government and the Bundesbank because in a crisis the creditors are in the driver's seat and nothing can be done without German support.

I expect that the Greek public will be sufficiently frightened by the prospect of expulsion from the European Union that it will give a narrow majority of seats to a coalition that is ready to abide by the current agreement. But no government can meet the conditions so that the Greek crisis is liable to come to a climax in the fall. By that time the German economy will also be weakening so that Chancellor Merkel will find it even more difficult than today to persuade the German public to accept any additional European responsibilities. That is what creates a three months' window.

Correcting the mistakes and reversing the trend would require some extraordinary policy measures to bring conditions back closer to normal, and bring relief to the financial markets and the banking system. These measures must, however, conform to the existing treaties. The treaties could then be revised in a calmer atmosphere so that the current imbalances will not recur. It is difficult but not impossible to design some extraordinary measures that would meet these tough requirements. They would have to tackle simultaneously the banking problem and the problem of excessive government debt, because these problems are interlinked. Addressing one without the other, as in the past, will not work.

Banks need a European deposit insurance scheme in order to stem the capital flight. They also need direct financing by the European Stability Mechanism (ESM) which has to go hand-in-hand with eurozone-wide supervision and regulation. The heavily indebted countries need relief on their financing costs. There are various ways to provide it but they all need the active support of the Bundesbank and the German government.

That is where the blockage is. The authorities are working feverishly to come up with a set of proposals in time for the European summit at the end of this month. Based on the current newspaper reports the measures they will propose will cover all the bases I mentioned but they will offer only the minimum on which the various parties can agree while what is needed is a convincing commitment to reverse the trend. That means the measures will again offer some temporary relief but the trends will continue. But we are at an inflection point. After the expiration of the three months' window the markets will continue to demand more but the authorities will not be able to meet their demands.

It is impossible to predict the eventual outcome. As mentioned before, the gradual reordering of the financial system along national lines could make an orderly breakup of the euro possible in a few years' time and, if it were not for the social and political dynamics, one could imagine a common market without a common currency. But the trends are clearly non-linear and an earlier breakup is bound to be disorderly. It would almost certainly lead to a collapse of the Schengen Treaty, the common market, and the European Union itself. (It should be remembered that there is an exit mechanism for the European Union but not for the euro.) Unenforceable claims and unsettled grievances would leave Europe worse off than it was at the outset when the project of a united Europe was conceived.

But the likelihood is that the euro will survive because a breakup would be devastating not only for the periphery but also for Germany. It would leave Germany with large unenforceable claims against the periphery countries. The Bundesbank alone will have over a trillion euros of claims arising out of Target2 by the end of this year, in addition to all the intergovernmental obligations. And a return to the Deutschemark would likely price Germany out of its export markets – not to mention the political consequences. So Germany is likely to do what is necessary to preserve the euro – but nothing more. That would result in a eurozone dominated by Germany in which the divergence between the creditor and debtor countries would continue to widen and the periphery would turn into permanently depressed areas in need of constant transfer of payments. That would turn the European Union into something very different from what it was when it was a “fantastic object” that fired peoples imagination. It would be a German empire with the periphery as the hinterland/

I believe most of us would find that objectionable but I have a great deal of sympathy with Germany in its present predicament. The German public cannot understand why a policy of structural reforms and fiscal austerity that worked for Germany a decade ago will not work Europe today. Germany then could enjoy an export led recovery but the eurozone today is caught in a deflationary debt trap. The German public does not see any deflation at home; on the contrary, wages are rising and there are vacancies for skilled jobs which are eagerly snapped up by immigrants from other European countries. Reluctance to invest abroad and the influx of flight capital are fueling a real estate boom. Exports may be slowing but employment is still rising. In these circumstances it would require an extraordinary effort by the German government to convince the German public to embrace the extraordinary measures that would be necessary to reverse the current trend. And they have only a three months’ window in which to do it.

We need to do whatever we can to convince Germany to show leadership and preserve the European Union as the fantastic object that it used to be. The future of Europe depends on it.