# In Full Crisis: An Attempt of Analytical Recomposition

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## Introduction

LTHOUGH by August 2007 it had become clear that something potentially very serious underlay the sudden constriction of interbank markets, stock exchanges all over the world shook of the dust of the big scare and carried on, imperturbably, until early 2008. It was an understandable reaction in face of the mindset that had been developing for decades, namely, that central banks would always be there rescue the economy from eventual problems. The fact that the American Federal Reserve (Fed) drastically reversed its interest rates policy in September 2007, with an exceptional reduction of the prime rate, was interpreted not as a sign of problems on the horizon, but as a confirmation of the Fed's decades-long paternalistic attitudes. The drop in assets prices were seen as a correction (a somewhat intense correction, to be sure, but nevertheless no more than a correction) that would not interrupt the systematic increase in stock and asset prices in general.

It is precisely this overconfidence – in the development of macroeconomic policies and in the proper functioning of markets – that explains both the excesses of the last decades and the present inability to understand the risks being incurred. I believe this overconfidence also explains why the situation was allowed to become so serious and to spread so widely, threatening the entire world economy. I don't intend to reexamine the chronology and unfolding of the crisis, but just point out that today, more than a year and a half after its onset, we are still far from glimpsing its end.

This crisis was surprising. Although many analysts had called attention to the dangerous imbalances sprouting all over the world economy, the truth is that only a few rare exceptions – such as Nouriel Roubini and George Soros – had warned and spelled out beforehand that something of great magnitude was about to happen. This crisis is different or, as Paul Krugman (2008) said so appropriately, it is simultaneously equal to every other one. Its driving factor was the exhaustion of the real estate boom in the United States; but why did it take on such dramatically global proportions? Why wasn't it possible – if not to anticipate or prevent it – at least to impede it from acquiring such magnitude?

Why is there still some perplexity at the speed with which things deteriorated? Why is there no consensus on the measures that must be taken to curb the crisis and reverse the doom and gloom scenario?

In face of the veritable avalanche of facts and numbers that bombard us daily about how the crisis is evolving, I believe we should take a mid-crisis break and make an attempt at its analytical recomposition.

## Synthesis of the Last Decades

In the three last decades of the  $20^{\text{th}}$  century, a relative consensus was reached regarding the constitutive elements of good macroeconomic management, namely:

- A proactive monetary policy, implemented by an independent central bank, based on inflation targets.
- Free international movements of capital.
- Floating exchange rates, with minimum intervention.
- A fiscal policy that stabilizes the debt-to-GDP ratio at a level not much above 50% of GDP.

The mortar upon which depends the proper functioning of these four synthetic macroeconomic pillars is the confidence of international investors – confidence that simultaneously derives from the adoption of these four points and is essential to make them feasible. A "reflexive" process, as those who share George Soros' philosophical outlook would say. These four pillars are, therefore, a necessary condition for confidence, but are not a sufficient condition . The crises of the last decades were all caused by variable degrees of the lack of confidence, even when the four pillars of the macroeconomic synthesis were in place (because they become inherently unstable in face of conditional confidence).

The reason for this instability is that theory determines that having the two first elements – that is, having simultaneously an active monetary policy and free movement of capital – necessarily implies the adoption of the third: floating exchange rates. However, and especially in economies where confidence is limited, floating exchange rates are also a source of instability and disturbances. The ideal situation would be to have managed exchange rates to assure low volatility, greater predictability and fewer disturbances, both to control prices and inflation and to properly arrange the fluxes of international trade. Yet, simultaneously adopting the first three pillars is incompatible stable foreign exchange rates. Floating exchange rates are a necessary concession, whereas fixed exchange rates would be everyone's wish.

If this synthetic macroeconomic quartet is potentially unstable and if without these pillars there can be no confidence, the inevitable result will be recurrent crises. It is possible to explain every crisis of the last decades – from the first one in Mexico in the 1970s and all the crises of Latin American economies until the late 1990s to the crises of the Asian economies and Russia – as

consequences of the inherent instability of implementing the four macroeconomic pillars in peripheral countries.

## Instability without Unlimited Confidence

The unfolding of crises caused by the instability of the macroeconomic quartet can be sketchily described as follows. When the four pillars are in place, confidence is established and the economy thrives. Investments appear, the economy grows and unemployment falls. As in a virtuous circle, the process feeds upon itself. Accelerated growth, however, leads to external deficits and inflationary pressures. At first, these are interpreted as signs of health; after all, dynamic economies attract external savings to finance their current account deficits. Then, to prevent inflation from spinning out of control, monetary policy becomes more restrictive. The higher interest rates attract short-term capital. The country's currency is valued, which helps to control inflation but worsens the external deficit. After a certain point, the current account deficit starts to be seen as unsustainable and the currency as overvalued. Confidence withers and the flow of short-term capital is reversed. Finally, an abrupt and inevitable currency devaluation puts a definite end to the period of prosperity.

Once the crisis is unleashed, the inherent instability of the macroeconomic quartet reveals its perverse character, intensifying the recessive elements at the end of the expansion cycle. The sudden devaluation of the currency exceeds what is necessary to recompose external balance and intensifies inflationary pressures. The macroeconomic synthesis requires restrictive monetary and fiscal policies, whose main goal is to contain inflationary pressures and reestablish confidence; but the economy, in disarray, faces a recession, often a rather serious one.

The instability of the macroeconomic synthesis is aggravated by the fact that economic cycles are not synchronized around the world. Different countries face different problems at different times and would like to be free to put into practice the most advisable policies. The restrictive monetary policy (implemented to control domestic inflationary pressures in a scenario of low international interest rates) appreciates the country's currency until the external disequilibrium is perceived as unsustainable. Expansionary monetary policies, implemented to avoid a domestic recession in an international high interest rate environment, leads to loss of confidence and currency depreciation.

The result is a disturbing pressure on foreign exchange rates, leading eventually to a brutal devaluation. The need to restore confidence requires that monetary and fiscal policies be restrictive and pro-cyclical instead of countercyclical to attenuate the recessive effects of the crisis. The procyclical character of the macroeconomic quartet is particularly perverse immediately after the onset of a crisis in peripheral countries.

## The Broadening Limits of Unrestricted Confidence

With regard to the central countries, for which confidence is assured, the situation is different. This is particularly the case of countries with reserve currencies – e. g, United States, Japan, Europe under the euro and, in lesser measure, England and Switzerland. With unrestricted confidence, the macroeconomic synthesis sheds its instability traits. Floating exchange rates are not a disturbing factor, are not a concession to make proactive monetary policies feasible; rather, they are part of endogenous stabilizing mechanisms of an economy managed according to the canons of modern macroeconomic policy. Currency depreciation is not an aggravating factor in an eventual crisis; quite on the contrary, it becomes part of the solution to the problem.

When a peripheral country suffers from excessive external deficit, the loss of confidence and the devaluation of the currency are abrupt. The overriding goal of economic policy becomes recovering the missing confidence, which leads to the adoption of restrictive fiscal and monetary policies – contrary to those that would be required to minimize the recessive effects of the crisis. Central countries have no such problem. The limits of external financing are broader, giving ample space and time for domestic interest rates policies to exert their moderating effect on excess demand. The appreciation of the currency – which sometimes derives from the positive interest rate differential that favors the central economy – is never perceived as unsustainable or disruptive. On the contrary, it helps to control inflationary pressures by reducing the prices of tradable goods. Once inflationary pressures are kept at bay and monetary policy becomes more expansionistic, confidence is never threatened and the depreciation of the currency is not abrupt, but gradual – it is less disturbing and part of the solution, because it stimulates the reduction of the external deficit.

The practical result is that the central countries, and especially those that issue reserve currency, face no external restriction on increasing demand. The only effective restriction is the risk of inflation. Whereas in the peripheral countries effective restrictions are external (balance of payments), in the central countries effective restrictions are internal (Phillips Curve).

Expectations are at the core of the inflationary predicament. The theoretical debate on the limits of non-inflationary growth, centered on the Phillips Curve, has evolved as expectations are better understood. Originally, the boundary was fixed and one had the possibility of choosing the desired employment or growth rate. The price to pay for lower unemployment was to accept higher inflation. The first blow to such optimistic outlook, at least in terms of proactive macroeconomic management, was given by the so-called Expanded Phillips Curve, which took the formation of expectations into account. If expectations match measured inflation, as one would suppose, it is not possible to maintain unemployment below the natural rate – or, likewise, to maintain a growth rate above the potential of the economy – without accepting not only higher inflation, but also increasingly higher inflation. The tradeoff was not

between growth and inflation, as suggested by the original Phillips Curve, but between growth and acceleration of inflation.

The evolution of the theoretical debate on how expectations are formed led to the so-called Rational Expectations Hypothesis. Extremely attractive for its formal elegance, it restricted even more the limits of what is possible in macroeconomic activism. All that one can ask from macroeconomic policy is to reduce growth and employment volatility to levels somewhere near their natural rates. The concept of inflation targets to guide the actions of a Central Bank emerges then as the most adequate policy to reduce the impact of shocks on inflation, production and employment. The success of inflation targets policies was extraordinary. Long-term inflationary expectations are anchored when there is overall confidence that the Central Bank can keep inflation under control even in the presence of short-run adverse shocks. The success of anchoring expectations with inflation targets significantly expanded the limits to growth that had been imposed by the threat of losing control over inflation.

#### Inflation of Asset Prices

Although the Fed never formally adopted a policy of inflation targets, after Paul Volker's mandate it became clear that the institution was implicitly following a targets driven policy and would not allow inflation to escape its control. With well-behaved expectations, unrestricted internal confidence and its money as the world's reserve currency, the United States managed to suppress the classical internal and internal limits to the growth of demand. Neither exchange rate crises nor inflation effectively restricted the growth of the American economy during the last three decades.

The concept of core inflation and the acceptance that the increase in asset prices does not constitute inflation – two concepts adopted by the Fed under Greenspan – assured that the limits to the growth of demand imposed by the threat of inflation were kept even more at bay. The only limit for the American economy over the last decades has been productive capacity. Unemployment remained below the natural rates for many years, with no sign of inflation. The current account deficit, however, indicated that the economy was growing beyond its means. It reached more than 7% GDP, but foreign confidence never wavered and the economy gave no signs that a crisis was imminent and the dollar might be depreciated. Without the classical internal and external limits, the American economy indulged in three decades of unprecedented prosperity.

Yet, even with the elimination of the classical limits, there were several indications that other limits persisted, beginning with the size of the external deficit. With no claim to such unrestricted confidence and not being the issuer of the world's main reserve currency, any other country would have been severely punished with investor loss of confidence and an abrupt and disorganized devaluation of its currency. Regardless of the unconditional confidence in America, in a country as weighty as the United States in the world economy,

a current account deficit of such great magnitude began to raise doubts that it would be possible to carry out needed adjustments without causing major disruptions.

From the mid-1990s, the unemployment rate approached the natural rate – that is, the rate below which inflationary pressures should begin to be felt. And then it remained its natural levels for many years. Although many analysts believed the Fed should raise interest rates, Alan Greenspan refused to move in any direction without concrete signs that inflation might be accelerating. As usual, new propositions emerged to explain why things were different this time. Greenspan advocated the notion that extraordinary productivity increases had shattered the historical relationship between low unemployment (i. e., below natural rates) and the acceleration of inflation. It is true that conventional inflation – the inflation of goods and services – did not accelerate. Something had indeed changed: the credibility achieved by the Fed gave it breathing room to keep inflation (as conventionally measured) and especially the core inflation (excluding energy and foodstuffs) under control, even as the economy dangerously approached what was the threshold of the inflation acceleration zone.

While the American economy enjoyed a period of unparalleled prosperity since the 1960s, with unemployment below the natural rate and a well-behaved inflation of goods and services, another type of inflation, less conventional, gave signs that the limits of the possible had not yet been completely rewritten. The prices of assets rose extraordinarily. The so-called irrational exuberance was an unmistakable indication that other limits were about to be revealed. First, the hike in tech companies shares. Next, the entire stock market, the business real estate market, the residential real estate market, the price of energy, the price of commodities... all these gave signs that the economy was under the spell of Irrational Exuberance. The Fed, aided by a brief recessive hiatus that followed the bursting of the speculative bubble in high-tech shares and the attacks of September 11, 2001, continued to practice its expansionist monetary policy, with exceptionally low interest rates. With the credibility attained in the 1970s and thanks to a new aura of infallibility and omniscience acquired in the mid 1990s, conventionally-measured inflation remained under control.

The United States had not had conventional inflation since the 1970s, although it did have an inflation of asset prices. Inflation of asset prices is different from inflation of goods and services. Classical inflation (of goods and services) is a generalized process, with no discontinuities, that does not cease by itself. Asset inflation is a localized, discontinuous phenomenon that ends abruptly regardless of any economic policy action. Whereas inflation of goods and services is a process, a long and generalized disease that requires medical intervention to stanch its progression, the inflation of assets is a short, localized malaise. It resembles bubbles that expand and, if left to follow their own course, eventually implode on their own. This does not mean that asset inflations – and the use of the plural form is more than justified – are any less dangerous than inflation of

goods and services. We seem to be learning this the hard way.

The Fed, under Greenspan, lulled by the credibility it had attained, forgot the maxim of William McCheney Martin Jr., who chaired the institution from 1951 to 1970 and said the role of a central bank is to "take away the punch bowl just when the party is getting good". The role of the Fed under Greenspan (and the reason for his extraordinary popularity) was, if not to cheer the party on directly, at least to guarantee that the guests suffered no hangover and were ready and willing to seek the next party.

## **International Contagion**

In spite of the evidence that something was wrong (namely, the successive inflations of assets), Greenspan's position remained that central banks should not judge whether the increase of asset prices was excessive or not. Since asset price inflations are localized phenomena, bound to be reversed through their own dynamics, the Central Bank should limit itself to attentively observe the phases of euphoria. After the inflations exhausted themselves, macroeconomic policy would set in to minimize the damage. In favor of Greenspan, it should be said that if this was not a unanimous opinion among economists, it surely was the predominant one.

The conviction that the Fed could be counted upon to relax monetary policy and lower interest rates (in order to reduce damages after the excesses) became known as "The Greenspan Put". After a certain point, however, the process of going from bubble to bubble universalizes. So many asset inflations start happening at the same time that the phenomenon is modified, losing its localized character and spreading to every type of asset. So many parties are going on that the entire economy becomes one great feast. But when the whole economy is partying, there is nowhere else left to revel when the music stops.

It is only natural that the long period of unheard-of prosperity in America would have a positive impact around the world. Indeed it had, and not only through the traditional channels of international trade. The main mechanism that transmitted American prosperity and euphoria was the new globalized world financial system. The financial expansion and internationalization of the last decades became a powerful driver that synchronized asset inflations in economies the world over.

Under the benevolent watch of authorities everywhere, the world financial system underwent a great transformation. The classical banking model, based on relationships with customers, was replaced by a depersonalized system based on market transactions. Credit suffered a veritable metamorphosis, ceasing to be a direct contract between creditor and debtor to acquire a new and extraordinary flexibility. The securitization of every kind of receivable allowed debts to be sliced and rearranged and marketed in a wide variety of forms. Contingent financial contracts, generically known as derivatives and originally conceived to limit the impact of uncertainties, had a similar development. Securitization and derivatives

were the pillars from which innovations gained such speed that they gave rise to a parallel financial system – one which, having no institutional character, had neither transparency nor national limits.

The United States are at the epicenter of the crisis, but clearly the problem is not restricted to the American economy. It is certain that the emerging economies will also wither as the crisis evolves. Contrary to what had been advocated until mid-2008, none of the large economies aspiring to the role of the new world locomotive, not even China, was able to maintain its vigor in face of the decline of the central economies.

The American party spread throughout the world; likewise, the end of the party also put an end to more distant feasts. Everyone wanted to go to the United States and join in the festivities; those who were already there needed to find new frontiers to initiate other parties. In principle, participating in simultaneous parties around the world should act as a form of warranty: there would always be a lively party going on somewhere if yours seemed to be waning. The problem is that all the parties eventually became synchronized. As has become evident, when the big party ends, peripheral parties, no matter how incipient or well-organized, are also brutally interrupted. And the guests beat a retreat, called upon to gather the debris in their own homeland.

# The Quagmire of Deflation

In late 2002, during a visit to Japan, Ben Bernanke (2002), a member of the Fed's board at the time, spoke about the risks of deflation. The time and place were more than adequate, for Japan had been facing the threat of deflation for years. In the United States, after the end of the dotcom bubble in 2000 and the 9/11 attacks, it was feared something similar might happen. Bernanke is a respected scholar, whose research area has always been macroeconomic policy, and he has a special interest in the Great Depression of the 1930s. In 2004, with two colleagues from the Fed, he coauthored a technical paper on alternatives to monetary policy when the nominal interest rate drops to near zero (Bernanke et al, 2004). The article explores the alternatives outside the orthodox arsenal of central banks to avoid deflation and prolonged recessions. Bernanke's conclusion, summarized in his speech in Japan, is that the best way to get out of deflation is to never get into it.

This assertion may sound surprising, especially for those who, like us Brazilians, suffered during so many years with the difficulties of controlling inflation. Generating inflation never seemed very complicated to us. Quite on the contrary, increases in public spending without corresponding increases in tax collection, expansion of credit and carte blanche for the Central Bank to issue money at will (with a theoretical justification to do so!) seems like a dream recipe for every government official.

Deflation is dangerous because it makes it difficult to digest the overindulgences of the time of plenty. What paralyzes the financial system is

the excess of assets (that is, all sorts of loans) over equity. When the winds are favorable, in order to increase profitability, the order of the day is to maximize the assets-to-equity ratio. When the winds change and a large part of the loans are defaulted on, the order of the day becomes "no more loans" until the assets-to-equity ratio – the leverage – is reduced to a more comfortable level. Deflation increases the value of assets vis-à-vis the income and wealth of debtors, hinders leveraging and prolongs the indigestion. The case of residential real estate, where this crisis began, is a good illustration of the problems created by deflation. Even if mortgage rates were reduced to zero, the systematic falling prices would make homes be worth less than their mortgage after a certain point. Deflation universalizes this phenomenon by increasing the debt-to-wealth ratio. It is not exactly what a world mired in debt needs.

But how is it possible that, in spite of the Fed's extraordinary monetization effort since the onset of the crisis and of interest rates reduced to practically zero, inflation has not been created and, on the contrary, deflation continues to be feared? The best known macroeconomic relationship is, without doubt, between inflation and the volume of money issued, the so-called Quantitative Theory of Money. It is a simplification of the complex drivers of the inflationary process, one that befuddles more than enlightens, and in the current circumstances the Quantitative Theory loses completely its already meager power to explain the directions of the general level of prices.

When such a degree of uncertainty, bordering panic, is established, the demand for liquid, risk-free assets increases remarkably. The United States dollar is the quintessential liquid and safe asset. In these circumstances, monetization does not lead to an excess supply of money. It only meets the demand (which has grown prodigiously). Since there is no excess supply, in spite of more money being in circulation, there are no inflationary pressures. There are no pressures on prices because no one wants to spend the higher money balances; on the contrary, people everywhere feel scared and want to save much larger amounts of money than in normal times. In the terms of the Quantitative Theory, there was a reduction in the speed of circulation of money, which is normally assumed to be stable.

In the current circumstances, issuing money does not cause inflation because it only meets the increase in demand; however, when the panic is over and the uncertainties are reduced, the exceptional demand for money will cease. In principle, this is also not a problem. All the Fed has to do is reverse the process, reselling the assets it bought from the public. If, during the panic, the Fed had bought only Treasury bills, the process could be reversed with no further ado. When the situation returned to normal, the Fed would resell the bonds it had purchased and would remove from circulation the transferred currency to meet the needs of the system. This is a classical example of a central bank acting as a lender of last resort. When the private sector needs liquidity, the central bank increases liquidity by purchasing government bonds from the financial system.

The current situation, however, is different. The system's illiquidity is much greater than some liquidity gap caused by some circumstantial factor in normal times. The American financial system, which was already facing all sorts of problems for over a year, with ramifications in financial systems all over the world, was completely paralyzed by the bankruptcy of the Lehman Brothers investment bank in September 2008. The Fed, which had been taking steps to restore liquidity to the markets, was forced to abandon the Central Bank's Rule Book and adopt an arsenal of heterodox measures in an attempt to resuscitate the financial system and the economy.

Increasing liquidity simply by purchasing government securities held by the financial system would be insufficient to make the system work again, and the Fed also began to purchase private sector bonds. This also proved insufficient. Unable to restart the flow of credit, the Fed then started to fund directly the non-financial private sector by acquiring commercial papers.

By offering liquidity in every possible way to the financial system (as well as directly to the non-financial private sector), the Fed inflated its balance sheet with private securities. The counterpart of these private securities among the Fed's assets was the expansion of its monetary liabilities, comprising money in the hands of the public and the reserves of the banking system – in a word, money creation.

Whenever there is uncertainty, the demand for money increases. With interest rates so close to zero, the opportunity cost of holding cash is irrelevant. The public prefers hard currency and the banking system prefers reserves in the Fed to any other asset – even more than Treasury bills, which yield practically nothing. The demand for money has become unlimited: every purchase of securities by the Central Bank, through monetary expansion, simply increases the amount of money held by the public. This configures what John Maynard Keynes called a "liquidity trap", when monetary policy loses its ability to stimulate aggregate demand. Unable to stimulate demand, monetary policy is also rendered incapable of reversing a deflationary process and of generating inflation.

Given that monetary policy is the instrument available to central banks, one can understand better Bernanke's statement that the best way to fight deflation is by avoiding to get into it. The fact that we are now in a situation where deflation is a definite possibility is not comforting at all. The American economy runs the risk of finding itself in the same situation as the Japanese – stagnated for more than fifteen years.

# The Limits of Taking Over Private Debts

The United States does not share Japan's tolerance. Accustomed to opulence and growth, it is very hard to imagine that the American society will accept the perspective of a decade of stagnation. The American reaction, by the Fed and the Treasury as well as by Congress, has been markedly aggressive, with various measures to avoid deflation and a prolonged recession. Today, the

almost unanimous opinion is that efforts to avoid a worldwide collapse must be coordinated internationally. There are, however, broad differences between more daring countries, willing to bet all their chips to fight deflation, and more conservative ones, reticent of resorting to measures that may have an excessive fiscal cost. In one extreme we find the United States; in the other, Germany. In spite of the chorus of criticism over Germany's position, seemingly and untimely attached to the risks of the past and insensitive to those of today, the truth is that this is no trivial matter (Buitter, 2008).

There is no need to emphasize once again the costs and risks of a deep and prolonged world recession. Whey, then, shouldn't one use all of one's cards and run every risk to avoid deflation? Was it not precisely an attachment to monetary and fiscal orthodoxy and an inability to adjust its policies to the circumstances of 1929 that led to the Great Depression of the 1930s? Keynes' great contribution was precisely to show that a market economy can face instances of "ignition problem" that require an increase in public spending to push-start it. The time seems to warrant leaving aside any qualm about eventual fiscal imbalances and doing everything possible to avoid a new worldwide economic depression.

There is no doubt that coordinated public spending programs, preferably those involving direct investment and a high multiplier effect on aggregate demand, should be implemented when the economy is on the threshold of deflation. With monetary policy rendered ineffective by the liquidity trap, fiscal policy remains the only instrument to revive the economy. When deflation is on the horizon, one must discuss how to increase the impact and reduce the (normally long) time lag of public spending so it can have an effect on demand and on income. The preliminary set of measures announced by president Barack Obama's team agrees with this type of fiscal policy – about which there is nothing to question in times of peril such as the one American economy now faces.

More complicated to assess – and potentially riskier – is the decision to make the government (through the Treasury or the Fed) absorb the toxic assets of the private sector. If the Fed expands the amount of money in circulation by purchasing Treasury bills held by the private sector, thus satisfying an exceptional demand for liquidity, the reversion of this policy is simple and without fiscal costs. Once the drivers of insecurity that led to the exceptional demand for liquidity hark back, the Fed can resell those Treasury bills and reduce the amount of money in circulation. Demonetization is semiautomatic. This is a classical open market operation. However, when a central bank, as happened with the Fed now, gains autonomy to directly fund the financial and non-financial private sectors by purchasing private bonds, the situation acquires a different dimension. It is believed that, unlike private bonds, U.S. Treasury bills pose no credit risk, and by expanding the monetary base through classical open market operations with government securities, the Central Bank incurs no credit

risk, has no need to assess the "private risks" of the bonds it purchases and, quite probably, will be able to resell them without much effort or loss when the situation changes.

On the other hand, by acquiring private debt, the Central Bank is putting into practice an expansionist monetary policy that has an embedded fiscal policy component. Imagine an extreme situation, that of a Central Bank purchasing private debt with no residual value. In this case, monetary expansion cannot be reversed by reselling the bonds to the private sector because they are valueless and, therefore, will find no buyers. To reverse the monetary expansion, it would be necessary to issue a volume of government securities equivalent to what was paid for the private bonds with no residual value. All money spent on valueless private bonds is, in effect, a donation, that is, an exchange of good Treasury bills for toxic private sector bonds. It is a way to reduce private debt by increasing public debt. Even if the private bonds purchased by the Central Bank have some residual value, albeit lower than the price for which they were purchased, the situation is essentially the same. Every time the Central bank purchases private bonds for more than what they are worth there is a fiscal component associated with the monetary policy. This fiscal component is different from the policy of increasing public spending (as consumption or investment) because it has no direct effect on aggregate demand and merely transfers private debts to the government. The power of this type of fiscal policy to revive the economy is lower than a direct increase in public spending – especially when the private sector, mired in deflation, is determined to save and cherish each and every increase of its net wealth.

The aim of this type of policy is not to revitalize the economy directly, as Keynes recommended, but rather to try to prevent the collapse of the financial system and reestablish a completely obstructed credit market. It is indispensable to avoid a deepening of the recession but, if poorly carried out, may simply transfer toxic assets to the Treasury to the point of making the Treasury itself insolvent and unable to revive the economy. An extreme and illustrative example is Iceland. That country's highly internationalized banking system was rendered insolvent by the crisis. The government was forced to put its weight behind the system to avoid its failure. However, by taking on the banking system's liabilities and transforming them in public debt, the country itself went bust. Iceland's banking system was way too large for the size of the country.

Whatever the size of the economy, there is always a limit to how much private debt the government can take on. What is intended by both the Fed's new attributions and the rescue fund sanctioned by the U.S. Congress is a revitalization of the financial system long before the volume of private debt taken on by the Treasury approaches this limit. The assumption of private debt, either by the Central Bank or directly by the Treasury, should give liquidity to a market choked by excessive leveraging, and stanch the falling prices caused by the forced selling of assets when there are no buyers willing to take the risk. Once the

situation of illiquidity, panic and paralysis is reversed, the markets would start moving again and the price of the bonds would recover.

The Central Bank and the Treasury could later resell later the assets purchased from the private sector with little loss or perhaps even at a profit. And this would very likely happen if this were merely a crisis of illiquidity; however, it is now evident that the present crisis is also one of solvency. A large part of the private sector's assets have extremely low or nonexistent residual value. Thus, most of the assets that the government purchases, via Fed or Treasury, have effectively no value at all and the operation is purely a transfer of wealth to the private sector, resulting is an increase in public debt that cannot be reversed in the short run.

## The Risks of Gradualism

For a program that aims to transfer dubious private debts to the government to be successful, the economy must recover before the government itself becomes insolvent. It is essential, therefore, that the program be perceived as effectively capable of reversing the situation. Gradualism here is dangerous. If the speed with which the government absorbs toxic assets is lower than the speed with which private assets become toxic, the situation will obviously never be reversed. At the moment, the recession and the lack of credit are increasingly making perfectly healthy assets insolvent. Carried on for long, this state of things can result in transferring so much toxic assets to the government that not even the Treasury will be able to digest.

The United States still has some room to increase public debt before the country faces problems. Yet, it is important to understand the risks of a significant increase in American public debt. After a certain point, the growth of public debt will start to be perceived as worrisome. The intertemporal fiscal restrictions may become difficult to manage. The government always has the option to monetize a large portion of its debt and today this would not be a problem – and might even be convenient. As long as there is a perceived risk of deflation and the prime rate continues hovering on zero, monetization is not a source of concern. As long as the world economy remains relatively synchronized in recession, the problem is not serious, because the demand for American currency and bonds continues to be exceptionally high. However, as soon as other economies give any sign of recovery, as soon as new investment opportunities appear, while the American economy stagnates with the indigestion of toxic assets, the demand for American currency and debt will tumble.

The result – especially if the Fed-controlled prime rate remains near zero to avoid hampering the recovery of the economy – will be a devaluation of the dollar and the increase in the debt's long-term interest rates. The Fed, chockfull of private bonds of questionable value, would face a sudden reduction in the demand for the dollar. Between raising interest rates to contain the falling demand for American currency (thus prolonging the recession) and accepting the devaluation of the dollar and the ensuing inflation (as people attempt to reduce

their stock of dollars), the Fed would surely choose the second alternative. A little bit of inflation is all the Fed could wish for to speed up its digestion of debt.

The key issue is whether it's possible to pass gradually, without discontinuities, from deflation to low inflation. The more disorganizing the recession, the farther the process of exchanging private toxic assets for public debt has gone, the faster the growth of the debt-to-GDP ratio, the greater the Fed's resistance to raise the prime rate in the presence of a falling demand for the dollar, then the greater will be the risk of discontinuity. The result can by a sudden depreciation of the dollar – the only prediction of those who foresaw this crisis that has still not come about.

#### In Conclusion

This crisis was underestimated. Today, there is a general awareness of its gravity. It is evident that this is the most serious crisis since the Great Depression of the 1930s. The fact that it was not anticipated, that it was underestimated, that it was disregarded as a mere correction in asset prices, as an adjustment that would not last more than one or two quarters, has meant that the measures taken to combat it have been slow and overdue. Always too little, too late. The paralysis of the credit market, in September 2007, was not a reversible accident as imagined at the time. The fall of the equity markets was not caused by an irrational reaction that opened up buying opportunities. The emerging economies have not decoupled themselves from the recession of the central countries and have not become the new locomotives of the world economy. Brazil is not "armor-plated" and has already been affected.

Actually, Brazil is reasonably well-off. The country did its homework in the last years and was lucky to arrive late for the party. Far from the epicenter of the crisis, we will be hit less intensely and, above all, with a lag. For Brazil, the crisis began in the last quarter of 2008, when the bankruptcy of Lehman Brother interrupted the flow of international commercial credit. But we should not fool ourselves: we will also be affected – and hardly affected. Prognoses are always difficult, even if only because they depend on our ability to understand and react. Realistic analyses, without which it is impossible to do the right thing, should not be discarded in the name of an optimism that, at least for now, is more incompetent than naive. The ability to understand the world scenario and our role in it is more important than any attempt to forecast.

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